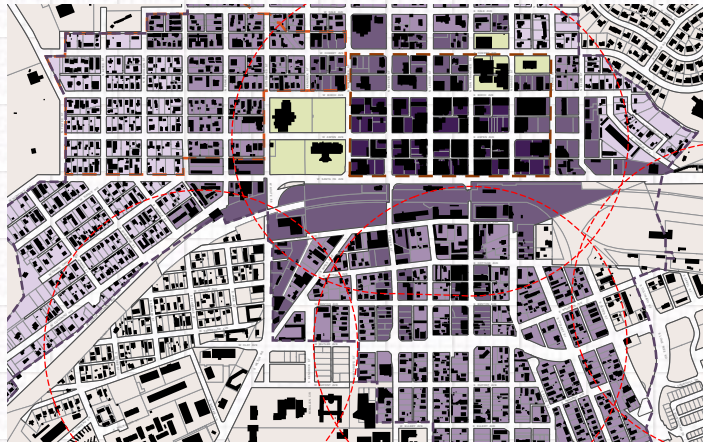


Form-Based Code 101



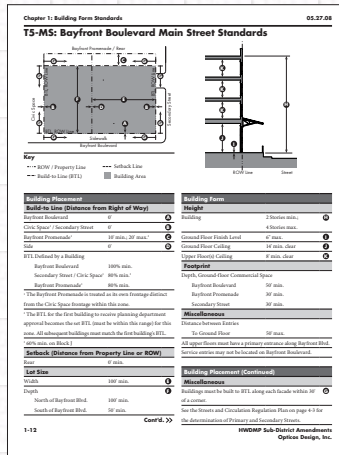
Sound Check

Dan Parolek
Principal, Opticos Design, Inc.



Brown Bag Lunch

November 17, 2015



Form-Based Codes



A Guide for Planners, Urban Designers,
Municipalities, and Developers

Daniel G. Parolek, AIA • Karen Parolek • Paul C. Crawford, FAICP

Euclidean Zoning is an Out-of-Date Operating



Conventional Zoning Summarized

- Emphasis on regulation by use

19. Baths, Turkish

25. Boxing arena

28. Chinchillas, retail sales

41. Eleemosynary institutions

42. Embalming business

95. Physical culture institution

109. Potato chip manufacturing

127. Tombstones, retail sales

135. Turkish bath

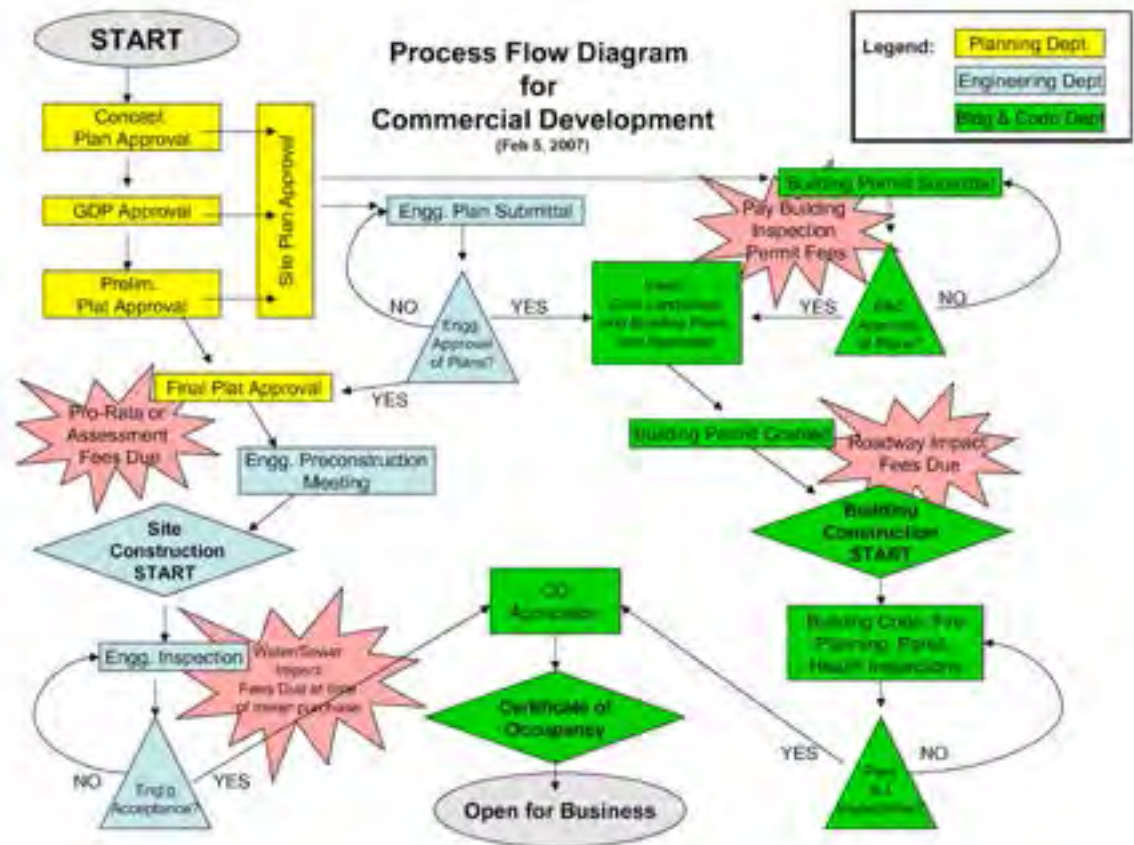
- Disconnect between land use, urban form, and design

- Exceptions become the rule

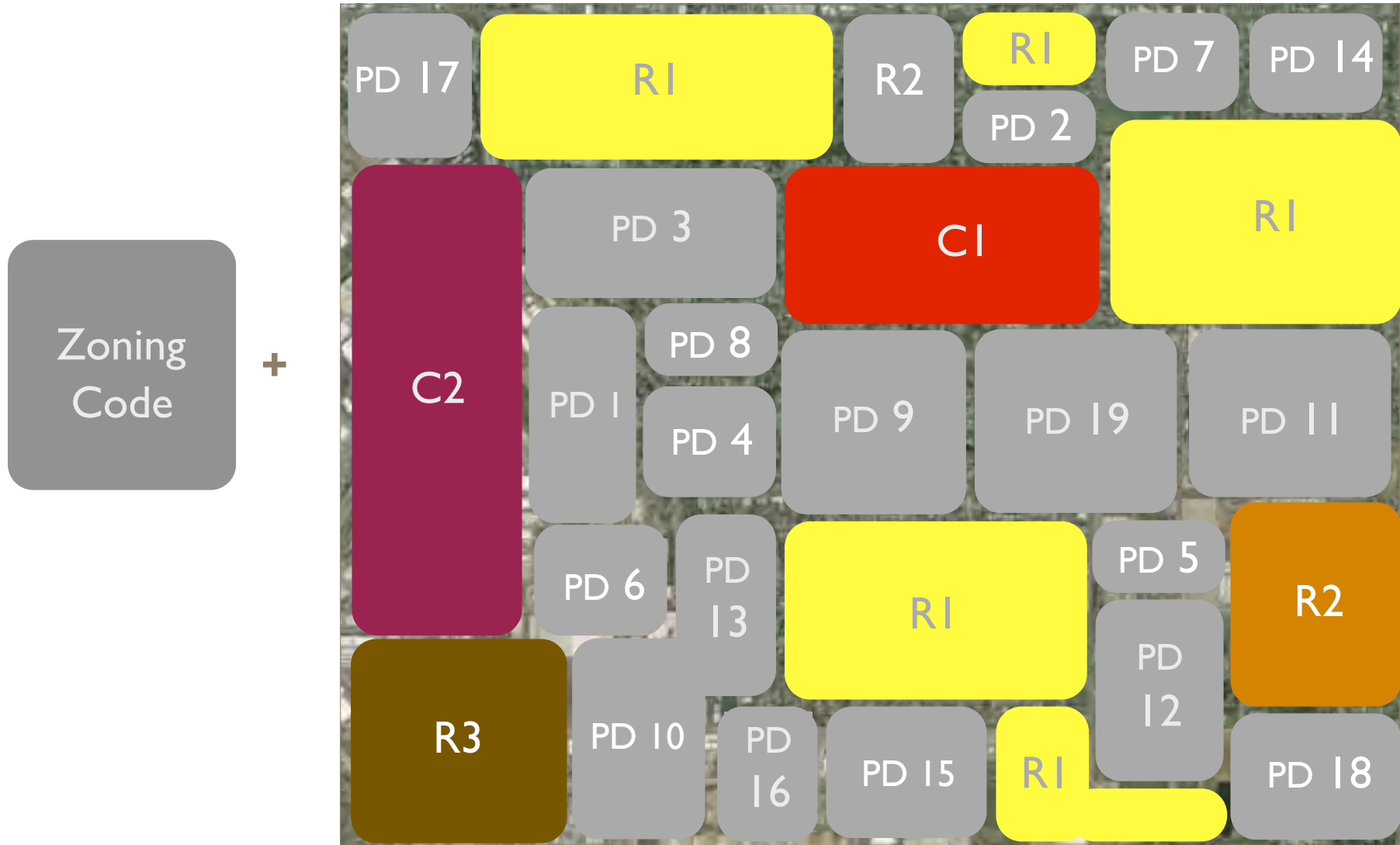
Well *more* process will fix it

Zoning
Code

Then



Well the PD process will fix it



The New Operating System

Different zoning tools for difference types of places

What's in common?



Conventional zoning says they're the same

0.60 FAR



0.60 FAR



3 at 3 stories and 1 at 12 stories



2 story building on 2/3 of site

The 21st Century Operating System is Form

Form-Based Approach

Walkable Urban Places



Lower parking requirements
(More walking, access to transit)

Public realm = Public space

Blended density (variety of types)

Mixed use environments

Uses more flexible based on
operational characteristics

Conventional Use-Based Approach

Drivable Suburban Places



Higher parking requirements
(Less walking and access to transit)

Larger public and private open space
required due to isolation

“Podded” densities and uses

Specific Uses allowed

Different Neighborhoods Require Different Solutions



Beaufort County, South Carolina Multi-Jurisdictional Code: Place Types

Different Types of Places in Austin



Walkable Urban



Transitional



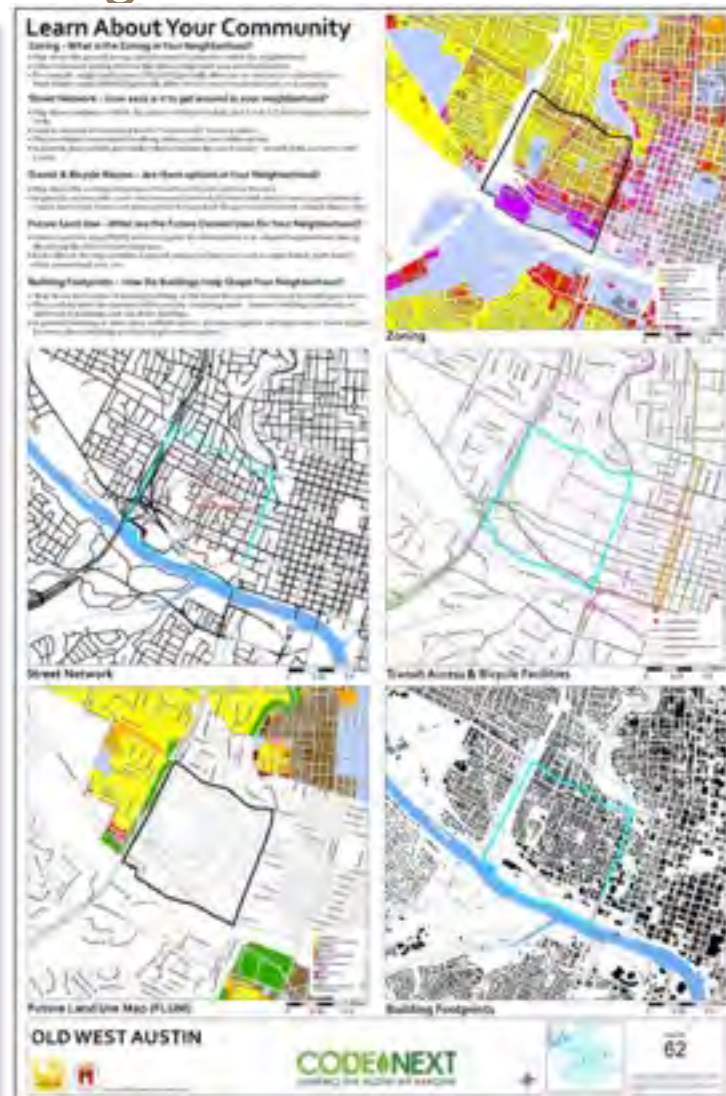
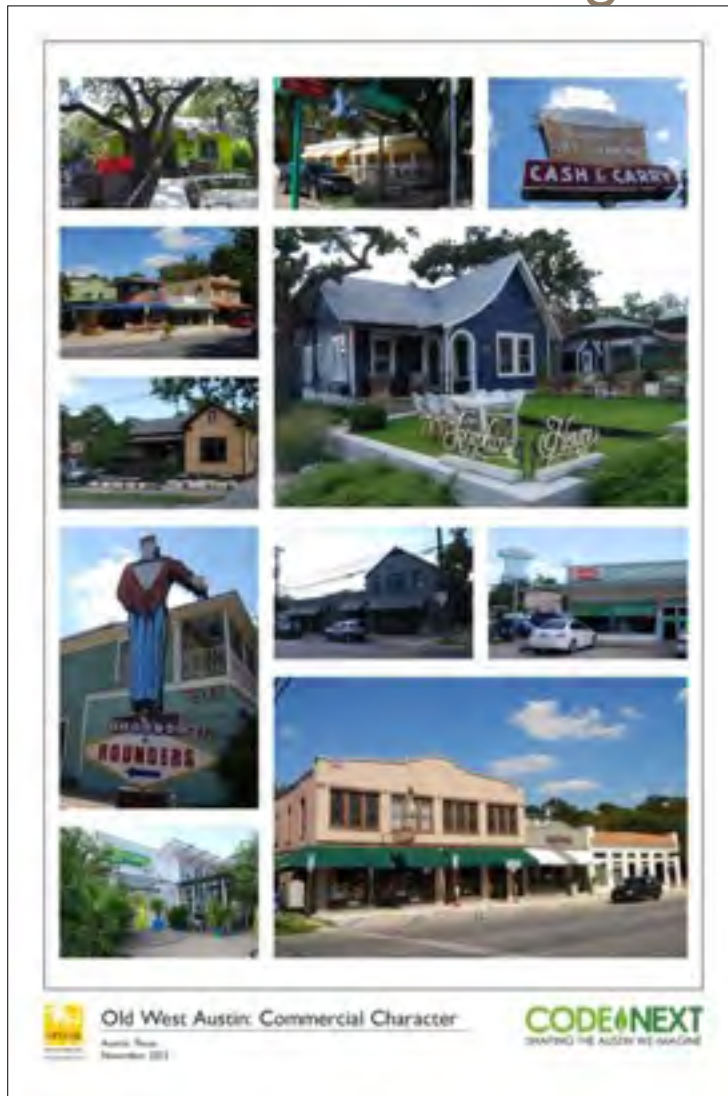
Suburban



Conventional/Euclidean Zoning: Suburban Places



Form-Based Coding: Existing Walkable Urban



Hybrid Code is Selected Approach

PLANNING PRACTICE

Going Hybrid

How one city overhauled its zoning code while combining form-based and conventional elements.

By Roger E. Eastman, AICP, with Daniel Parolek and Lisa Wise

FLAGSTAFF, ARIZONA, entered an exclusive club in November. It is now one of the few cities in the U.S. that have adopted a hybrid zoning ordinance with both form-based components and conventional Euclidean elements as part of a complete code rewrite. “Simplified, streamlined, predictable” raved an editorial in the *Arizona Daily Sun* while praising both the code and the process used to adopt it. Getting the new code adopted wasn’t easy, but many city residents think the effort will be repaid in a more efficient, more equitable, and easier-to-use zoning system. The adoption of the new zoning code also caps off a successful public engagement process that has changed the generally negative perception of city planners.

TIME FOR AN UPDATE

An important first step in approaching a new code was differentiating between what Christopher Leinberger calls “walkable urban” areas from “drivable suburban” areas (*The Option of Urbanism*, Island Press, 2008). By making this distinction, Flagstaff could apply a form-based code in the walkable areas of the city while generally leaving the existing conventional code in place in the

Thus, a new transect-based hybrid code resulted that defaults to promoting and allowing for walkable urbanism while seamlessly incorporating refined yet otherwise conventional Euclidean zoning tools for the drivable suburban areas. Because the regulations for the two different types of areas are not muddled together, the form-based code could be kept intact—and development opportunities could emerge in a manner con-

Flagstaff (pop. 62,000), at an elevation of about 7,000 feet, is the regional hub of northern Arizona. Established as a stop on the early transcontinental railway in 1882 and later Route 66 and Interstate 40, Flagstaff quickly grew as a logging and ranching town, and as a gateway for tourists visiting the Grand Canyon and other national parks and monuments. Residents appreciate the natural beauty of the area and enjoy outdoor pursuits such as hiking, skiing, hunting, fishing, and camping.

The downtown and oldest neighborhoods were planned with small blocks and lots, and today are valued for their historic buildings and inherently walkable urban character. Typical of many American cities, Flagstaff’s urban form changed after World War II as auto-oriented suburban developments were added to the periphery of the city. Until recently Flagstaff’s zoning ordinances have actively promoted these driveable suburban development patterns.

The need for a comprehensive update of the city’s land development code had been apparent for some time as developers, contractors, design professionals, and residents complained about the code’s complexity and inconsistency. Some even blamed the cumbersome nature of the code for contributing to the high cost of development and the failure of big projects and economic develop-



Form-Based Code Definition

"Form-based codes foster predictable built results and a high-quality public realm by **using physical form (rather than separation of uses) as the organizing principle** for the code. They are regulations, not mere guidelines. They are adopted into city or county law. Form-based codes are an alternative to conventional zoning."

Form-Based Code Institute

The Rural to Urban Transect as the New Operating System

Place-based operating system



Historic Humboldt-Chimborazo

This first transect was conceived by Alexander Von Humboldt in 1793. It is taken across the southern tip of South America, from the Atlantic to the Pacific and is vertically exaggerated. This curious document has notations on the surface of the earth, beneath the surface, and also, the atmospheric conditions.

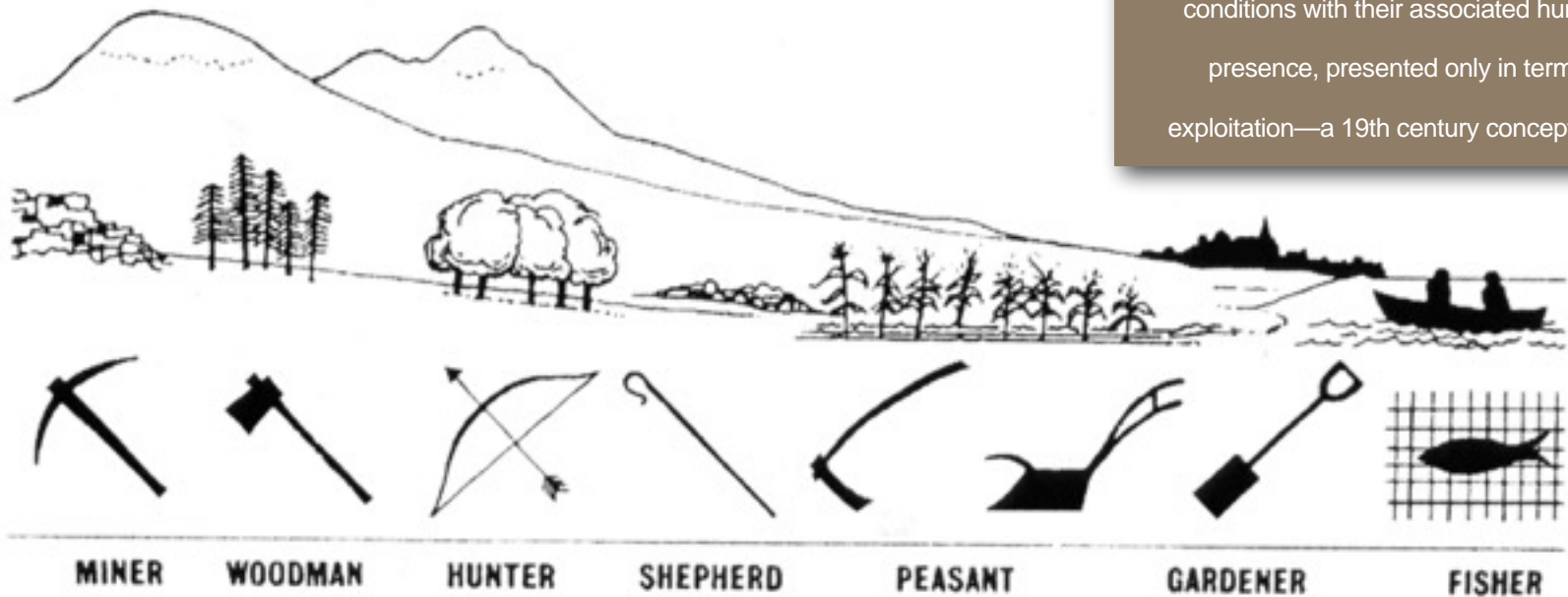
Die der Pflanzen in den Tropen-Ländern;
 ein Naturgemälde der Anden,
 welche vom 10.^{ten} Grade nördlicher bis zum 10.^{ten} Grade südlicher Breite angestellt worden sind, in den Jahren 1793
 von ALEXANDER VON HUMBOLDT und A. G. BO...

1790's

Geddes' Valley Section

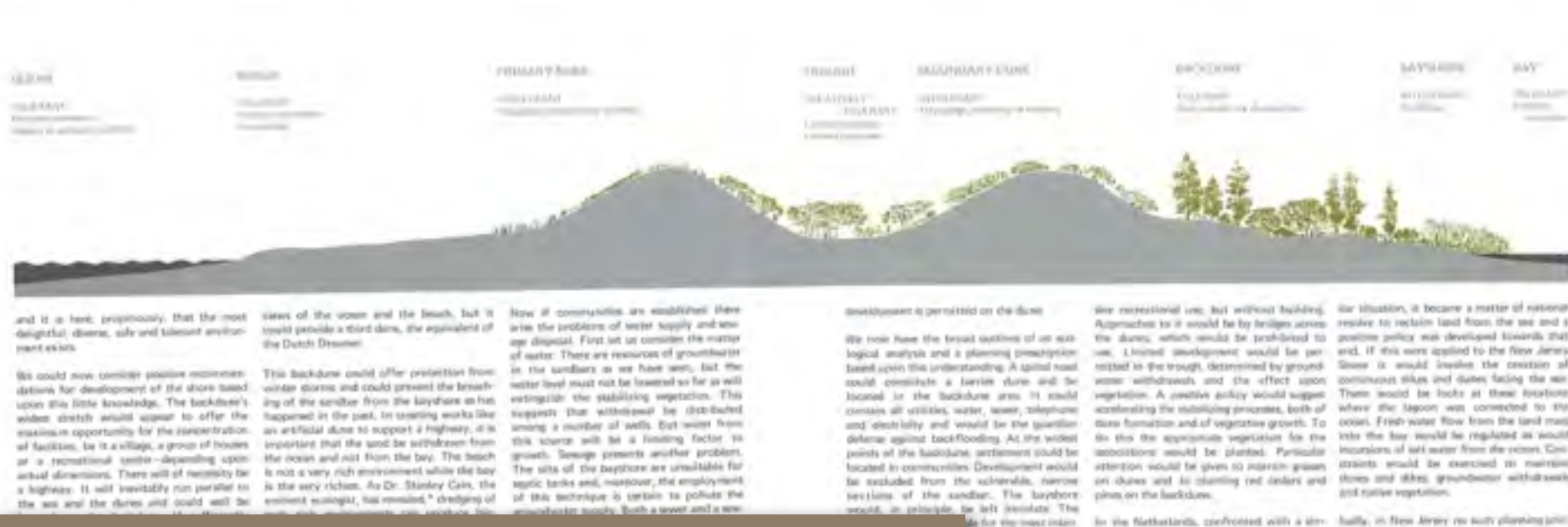
A century after the Humboldt transect, the Scotsman Patrick Geddes drew the "valley section," taken from ridgeline to shoreline.

It is the first transect to show natural conditions with their associated human presence, presented only in terms of exploitation—a 19th century conception.



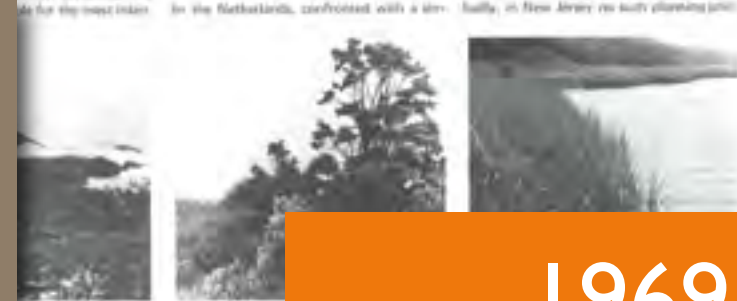
1909

Transect Concept's Initial Use in the Natural Environment

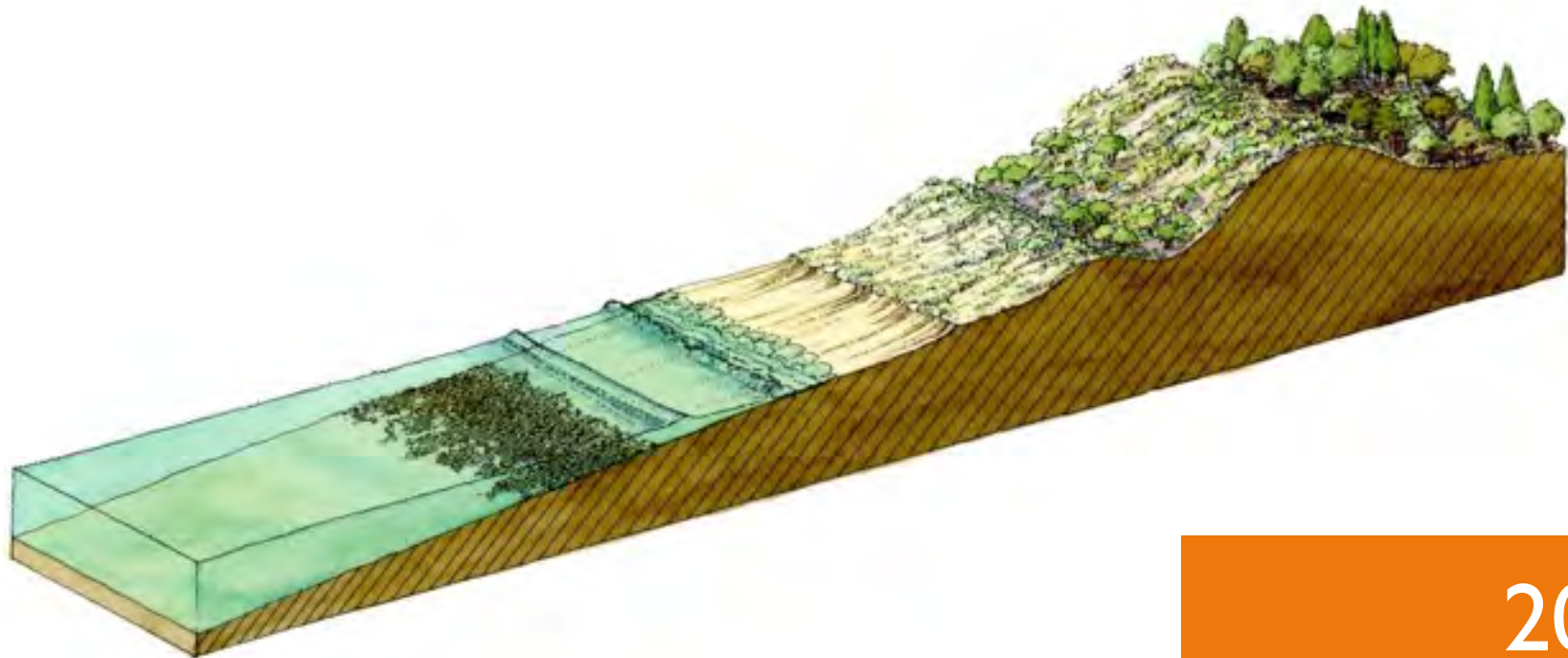
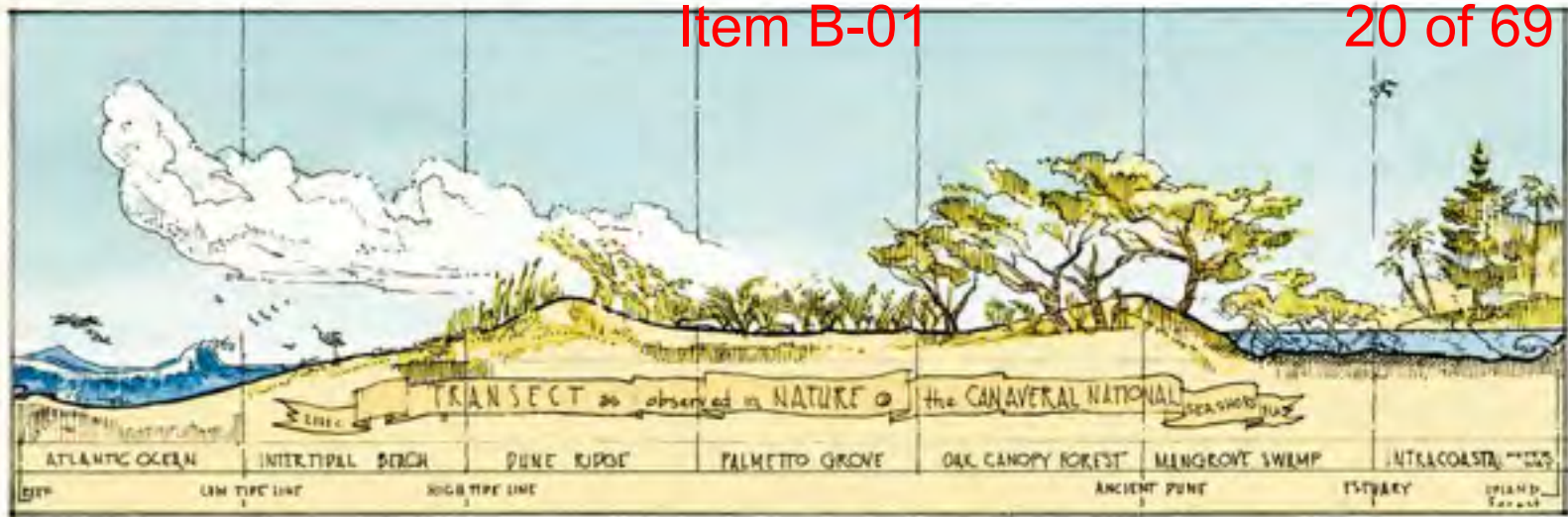


Ian McHarg, Design with Nature

The famous landscape architect documented the variety of distinct environments and their individual components and species that needed those environments to thrive.

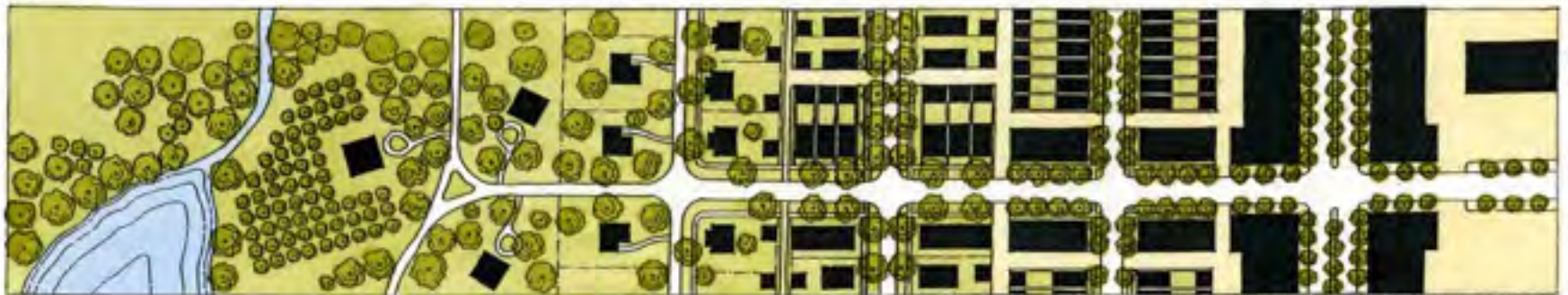


1969



2000

In 2000 It Was Adapted to the Built Environment



T1

T2

T3

T4

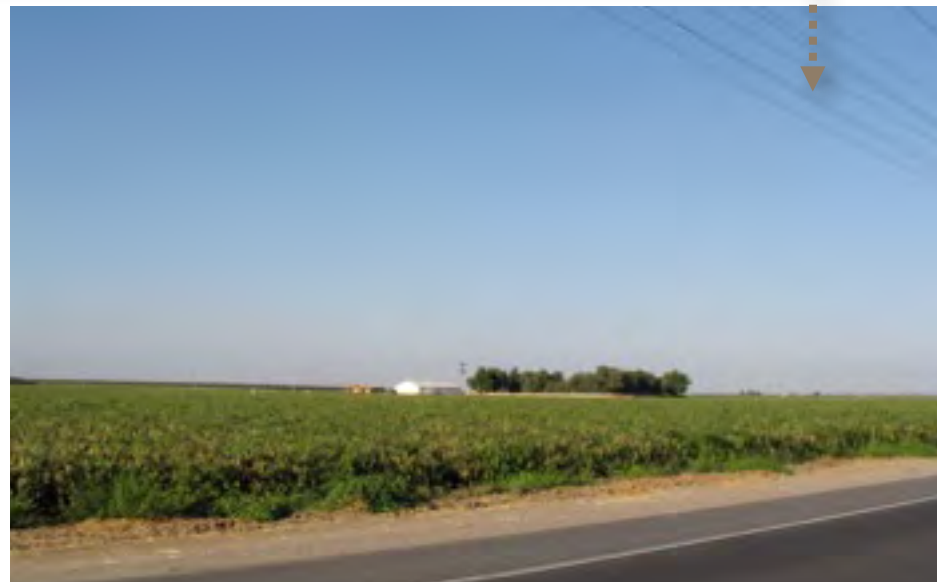
T5

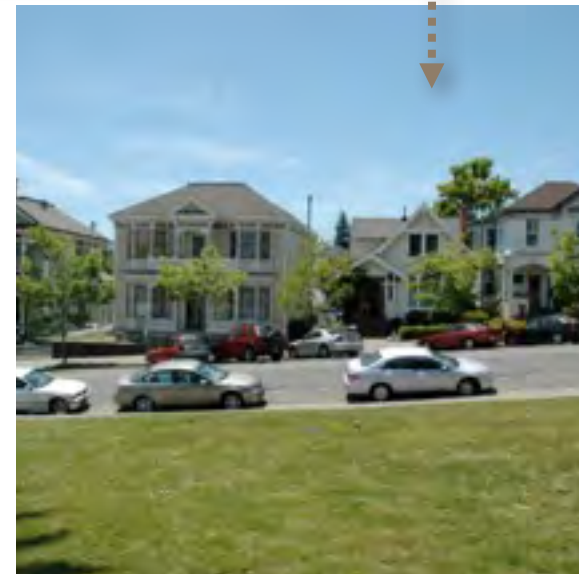
T6

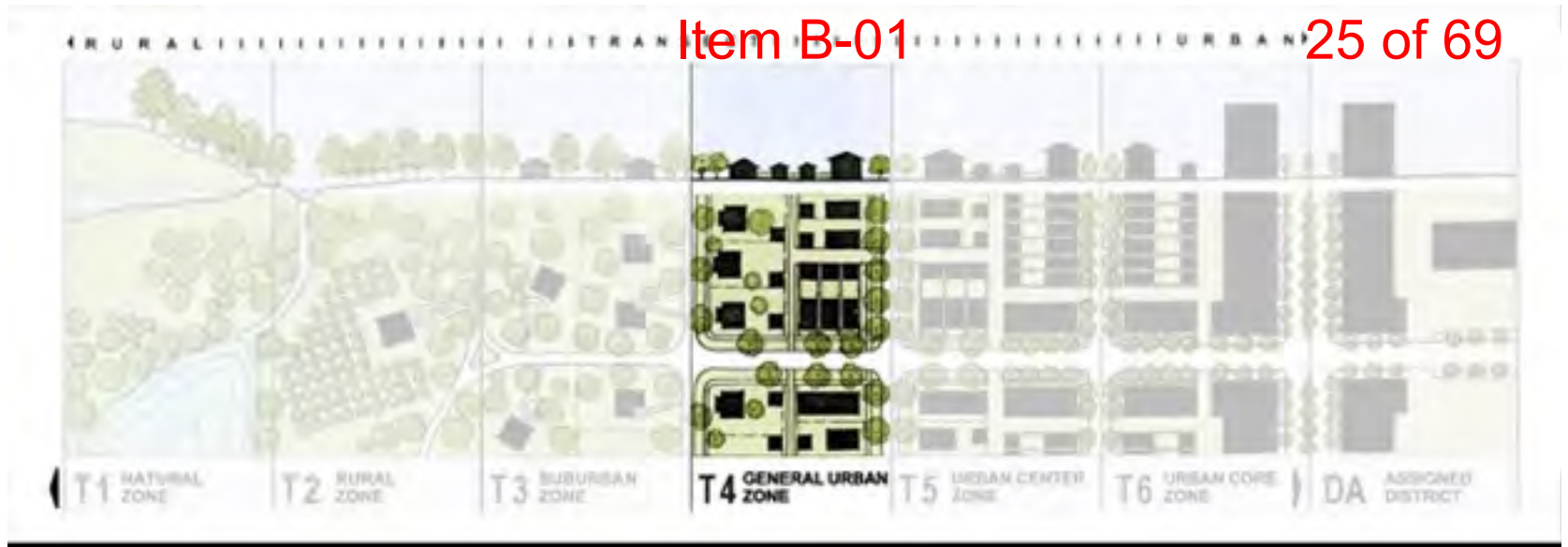
SD

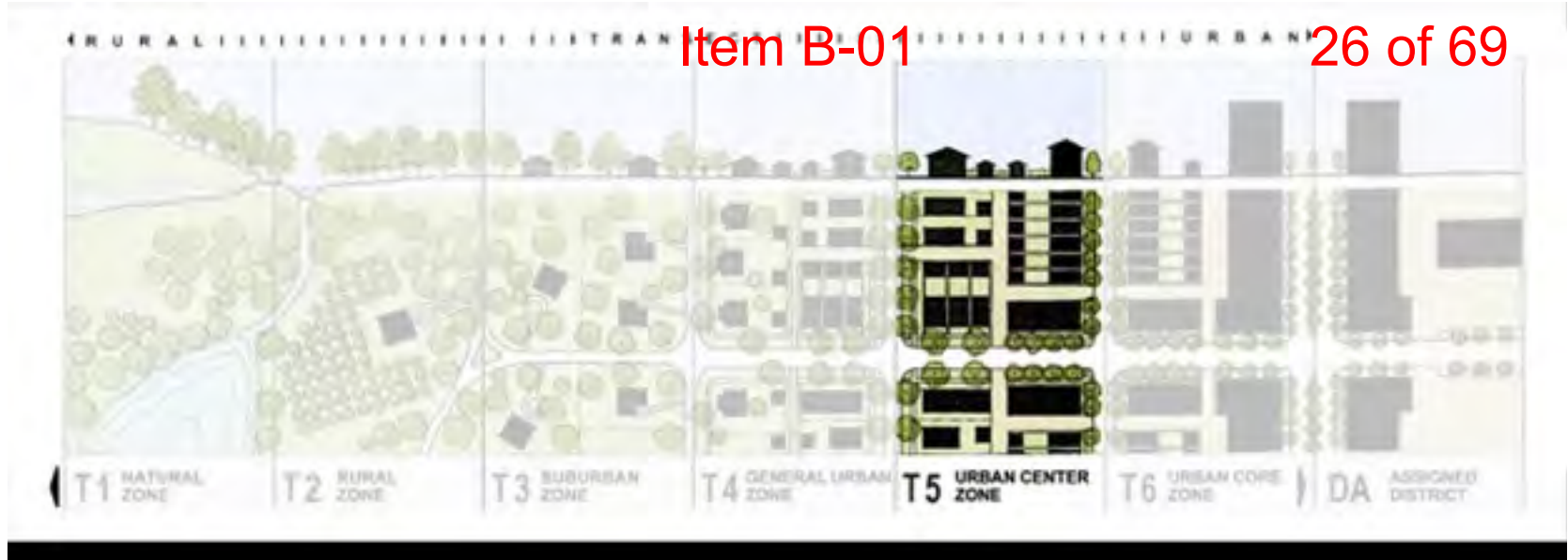
© DUANY PLATER-ZYBERK & COMPANY











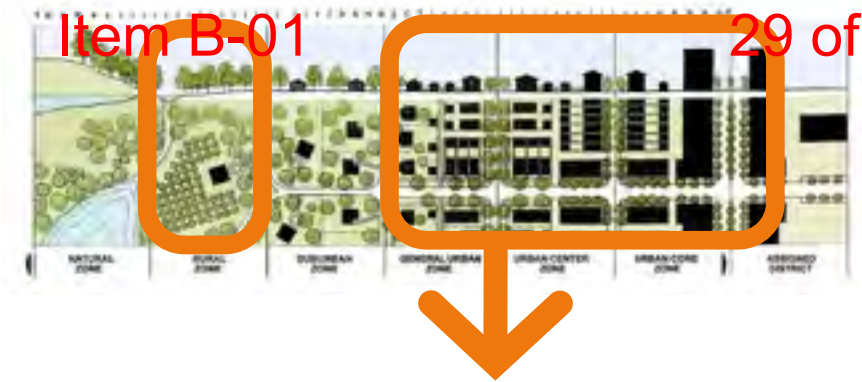




4 Environments

Item B-01

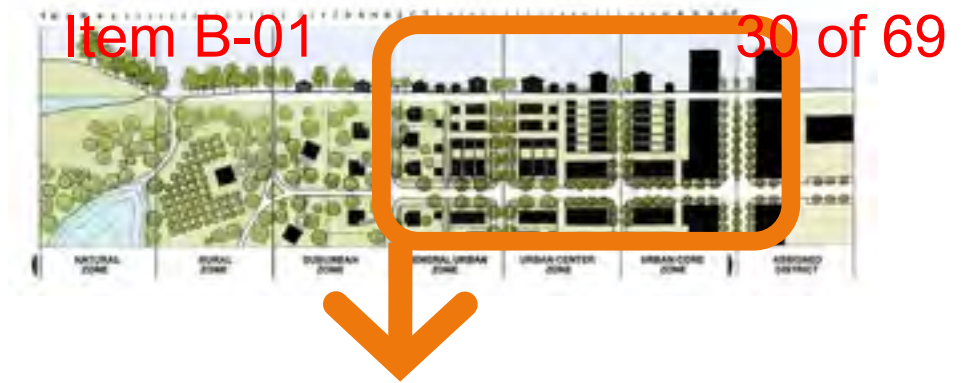
29 of 69



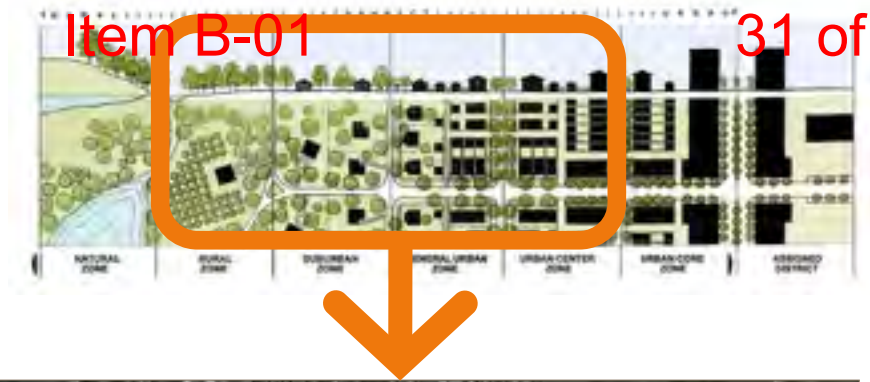
New York, NY T2, T4 – T6



3 Environments



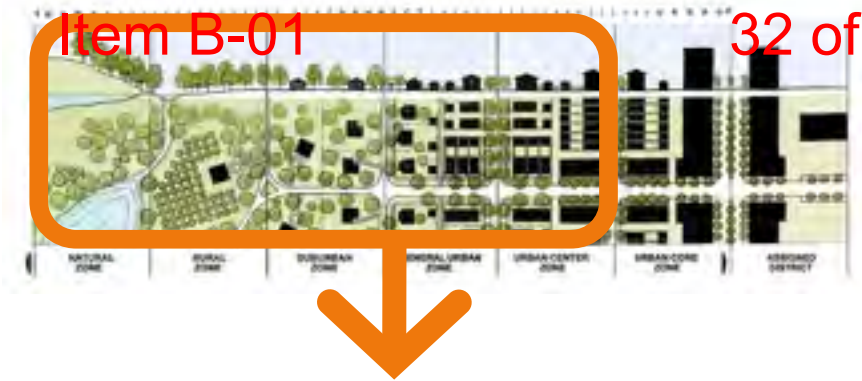
4 Environments



5 Environments

Item B-01

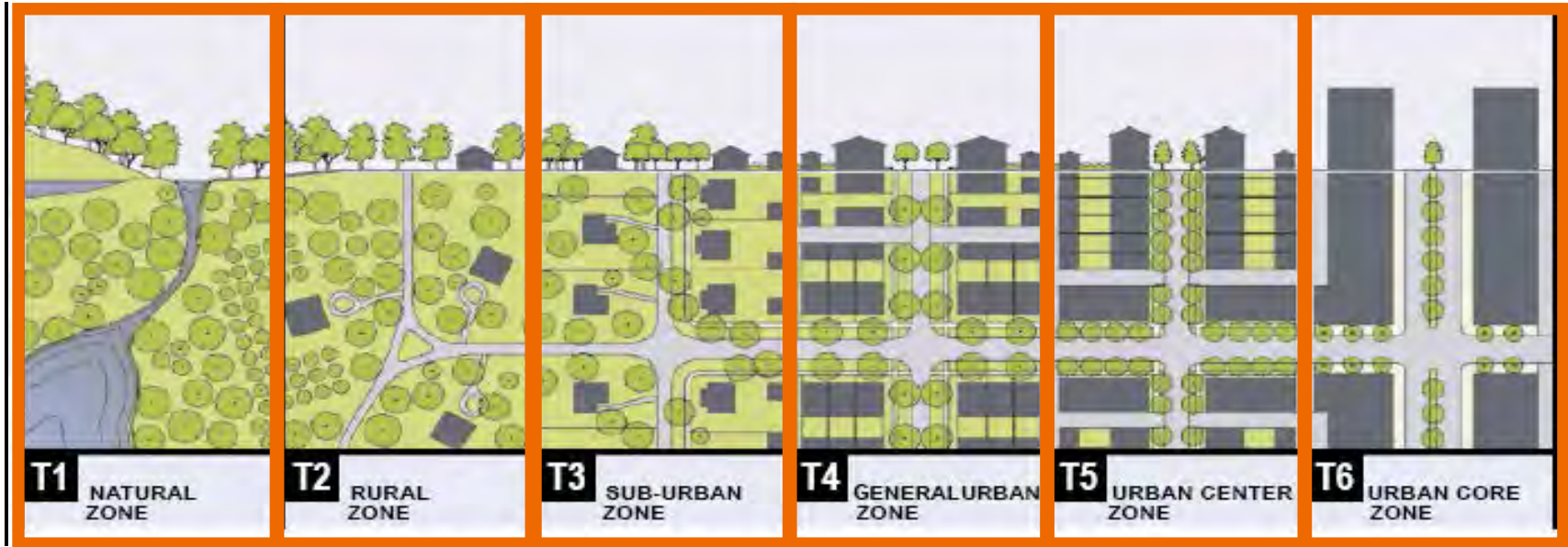
32 of 69



Park City T1 – T5



Base Zones Based on a Hierarchy of Form Primarily



Hierarchy of Form & Scale Should be Clear in Base

Less Urban

More Urban



T3

T4

T5



T3 Estate (T3E)



T4 Neighborhood 1 (T4N.1)



T5 Neighborhood 1 (T5N.1)



T3 Neighborhood (T3N)



T4 Neighborhood 2 (T4N.2)



T5 Neighborhood 2 (T5N.2)

Hierarchy of Form & Scale Should be Clear in Base

Less Urban

More Urban

T5 (continued)

T6

T5 Main Street (T5MS)

T6 Core (T6C)

T5 Flex (T5F)

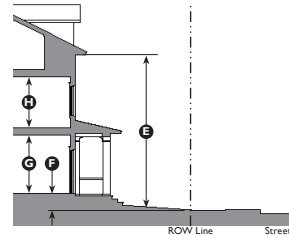
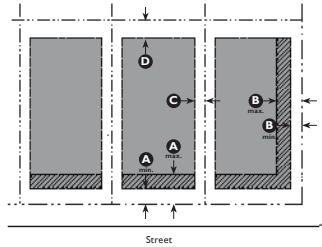
How is the Transect Being Applied in Austin?

The initial calibration to Austin

Building Form Standards

10-40.40.080

T4 Neighborhood 2 (T4N.2) Standards



Key

- ROW/Property Line
- Building Setback Line
- Building Area
- Facade Area

D. Building Placement

Setback (Distance from ROW/Property Line)

Principal Building	
Front ¹	5' min.; 12' max. A
Front facade within area	50% min.
Side Street/Civic Space	10' min.; 15' max. B
Side ²	3' min. C
Rear	3' min. D
Outbuilding	
Front	20' min.
Side	0' min.; 3' max.
Rear	3' min.

¹Setback may match an existing adjacent building as follows. The building may be set to align with the facade of the frontmost immediately adjacent property, for a width no greater than that of the adjacent property's facade that encroaches into the minimum setback.

²No side setback required between townhouse and/or live/work building types.

Miscellaneous

Upper-floor units must have a primary entrance along a street or courtyard facade.

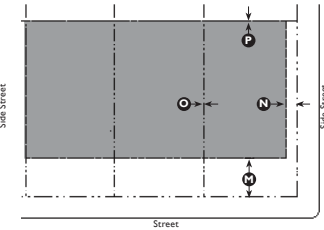
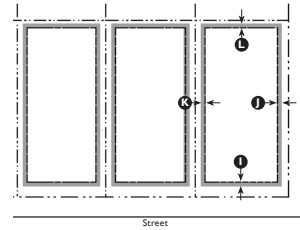
Ground-floor residential units along a street must have individual entries.

10-74

Flagstaff Zoning Code

10-40.40.080

T4 Neighborhood 2 (T4N.2) Standards



Key

- ROW/Property Line
- Building Setback Line
- Encroachment Area

F. Encroachments and Frontage Types

Encroachments⁴

Front	5' max. I
Side Street/Civic Space	5' max. J
Side	3' max. K
Rear	5' max. L
Property Line	0' max.
Rear Lane or Alley	3' max.

Galleries may encroach in to street ROW, all other encroachments are not allowed within a street ROW.

⁴See Section 10-50.35 (Encroachments) for allowed encroachments.

Allowed Private Frontage Types⁵

Stoop	Forecourt
Gallery ⁶	Terrace/Lightwell ⁶
Shopfront ⁶	Porch

⁵See Division 10-50.30 (Specific to Private Frontage Types) for private frontage type descriptions and regulations.

⁶Allowed only in open sub-zone(s).

Key

- ROW/Property Line
- Parking Setback Line
- Parking Area

G. Required Parking

Spaces⁷

Residential Uses	
Studio/1 Bedroom	1 space/unit min.
2+ Bedrooms	2 spaces/unit min.
Retail Trade, Service Uses	
≤2,000 sf	No spaces required
>2,000 sf	2 spaces/1,000 sf min. above first 2,000 sf

⁷Use types not listed shall meet the requirements in Table 10-50.70.040.A (Automobile Parking Spaces Required).

Location (Setback from ROW/Property Line)

Front	
Covered/Attached	30' min. M
Uncovered	Match front facade min.
Side Street/Civic Space	5' min. N
Side	0' min. O
Rear	0' min. P

Miscellaneous

Linear feet of front or side facade that may be garage 35% max.
See Division 10-50.70 (Parking Standards) for additional parking regulations.

Flagstaff Zoning Code

10-75

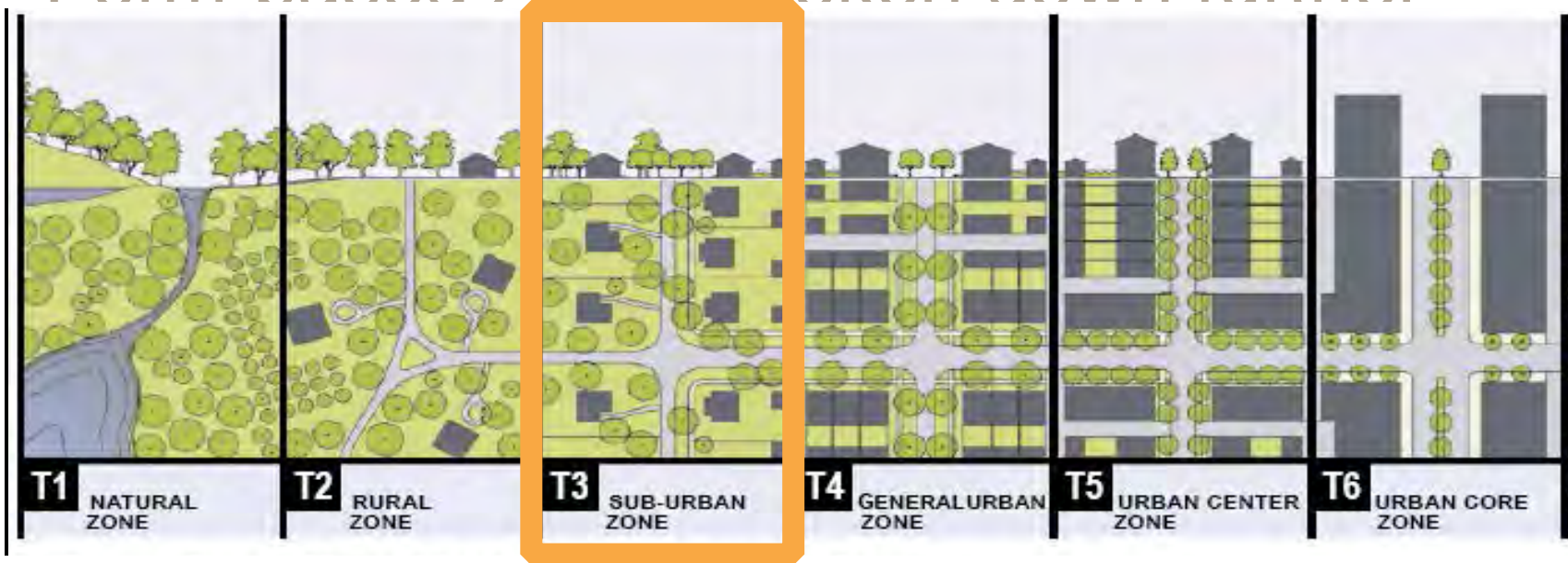
Countywide

Close Up

Form-based Zones being considered for Austin



Form-based zones broken down further



Neighborhood
Edge

Neighborhood
General

T3 Neighborhood—Edge



Characteristics/Form Intent

Building:	Detached, Semi-attached
Footprint:	Medium to Large Footprint
Front Setback:	Medium to Large Setback
Height:	Up to 2½ Stories



T3 Neighborhood–Medium



Has T3 Edge been purposefully excluded?

Characteristics/Form Intent

Building:	Detached, Semi-attached
Building Footprint:	Medium to Large Footprint
Front Setback:	Medium to Large Setback
Height:	Up to 2½ Stories
Building Types	Carriage House; House; Cottage Court

Building types list only the Type family, not the size variations in order to save space in the table. (Ex: “House” rather than “House: Compact, Small, Medium”)

T3 Neighborhood—High

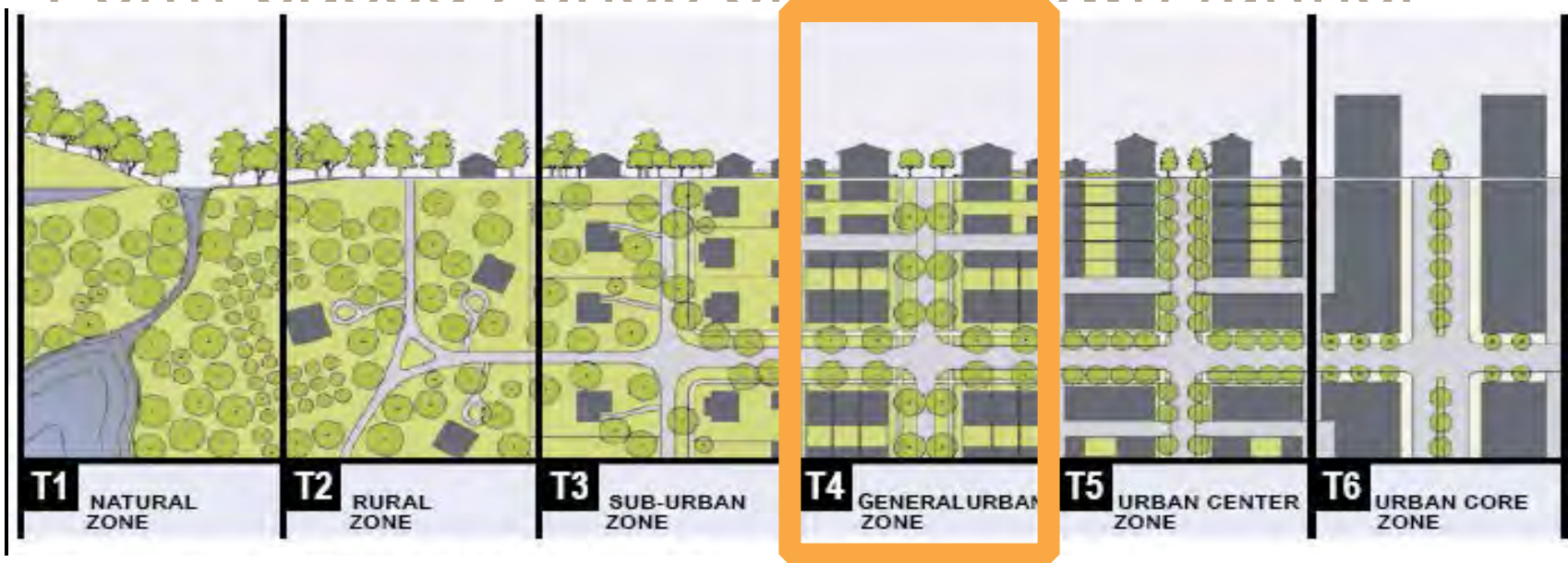


Characteristics/Form Intent

Building:	Detached, Semi-attached
Footprint:	Small to Medium Footprint
Front Setback:	Small to Medium Setback
Height:	Up to 2½ Stories



Form-based zones broken down further



Neighborhood
General

Neighborhood
Center/Main
Street

T4 Neighborhood—Low



Characteristics/Form Intent

Building:	Detached, Semi-attached
Footprint:	Small to Medium Footprint
Front Setback:	Medium to Large Setback
Height:	Up to 2½ Stories

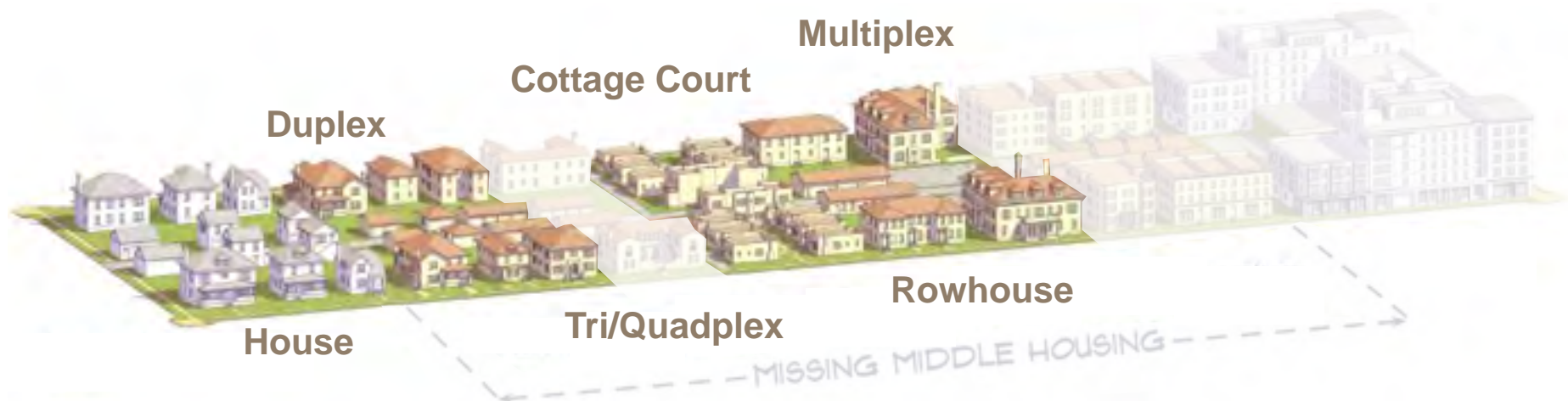


T4 Neighborhood—Medium



Characteristics/Form Intent

Building:	Detached, Semi-attached
Building:	Small to Medium Footprint
Front Setback:	Small to Medium Setbacks
Height:	Up to 2½ Stories



T4 Main Street

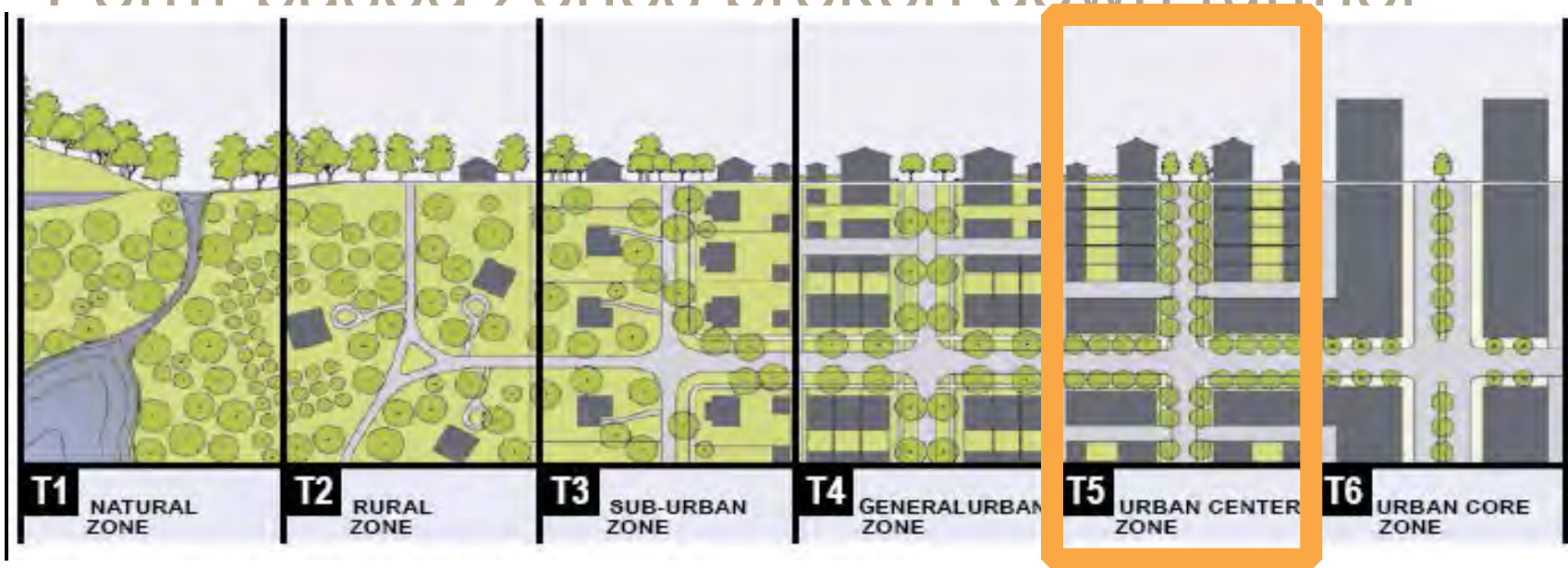


Characteristics/Form Intent

Building:	Attached, Semi-detached
Footprint:	Small to Medium Footprint
Front Setback:	Small to No Setbacks
Height:	Up to 2½ Stories



Form-based zones broken down further



Neighborhood
General

Neighborhood
Center/Main
Street

T5 Main Street



Characteristics

Building:	Attached
Lot Width:	Medium to Large Lot
Building Footprint:	Medium to Large Footprint
Front Setback:	Small to No Setbacks
Height:	Up to 5 Stories
Primary Frontage:	Arcades, Galleries, Terraces & Shopfronts

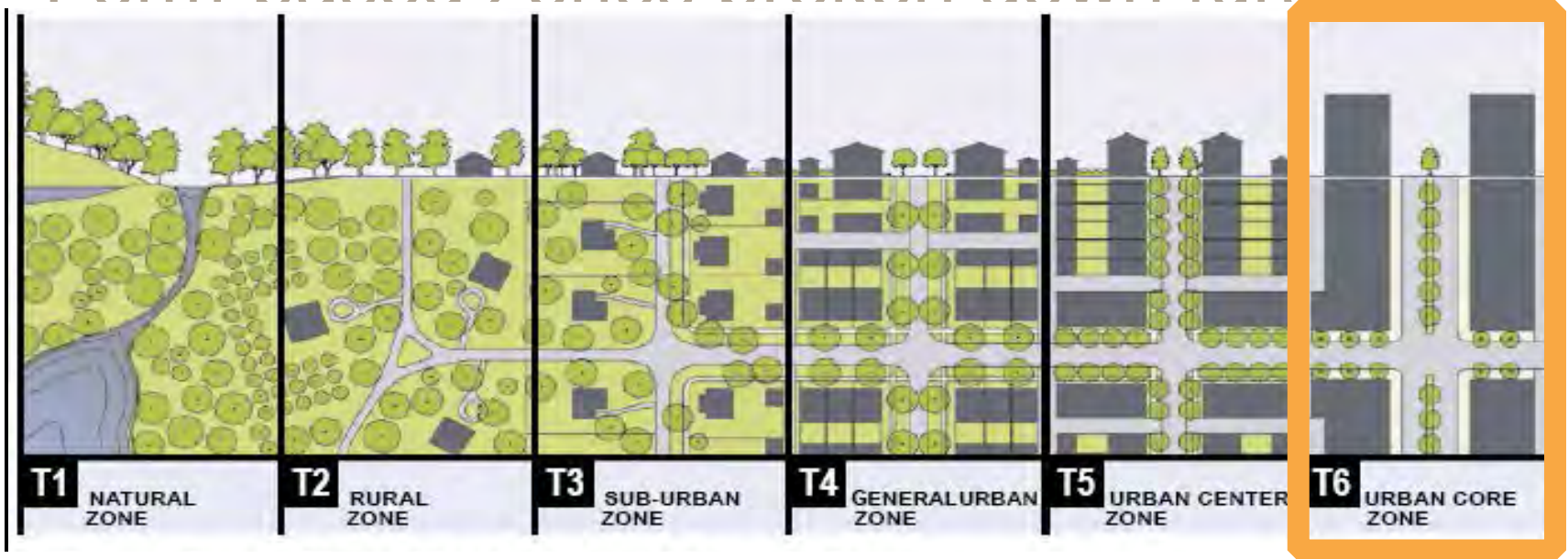
T5 Neighborhood 1



Characteristics

Building:	Detached, Semi-attached
Lot Width:	Medium to Large Lot
Building Footprint:	Medium to Large Footprint
Front Setback:	Small Setbacks
Height:	Up to 3½ Stories
Primary Frontage:	Porches, Stoops & Terraces

Form-based zones broken down further



Neighborhood
Center/Main
Street

T6 Core 1



Characteristics

Building:	Attached, Detached
Lot Width:	Medium to Large Lot
Building Footprint:	Medium to Large Footprint
Front Setback:	Simple Wall Plane along ROW, none
Height:	Up to 12 Stories
Primary Frontage:	Arcades, Galleries, Terraces & Shopfronts

T6 Core 2



Characteristics

Building:	Attached, Detached
Lot Width:	Medium to Large Lot
Building Footprint:	Medium to Large Footprint
Front Setback:	Small to No Setbacks
Height:	Number of Stories TBD
Primary Frontage:	Terraces, Stoops

If You Want More Detail See Draft Transect Matrix in Study

T3 Edge (T3E)	T3 Neighborhood-Medium (T3N.M)	T3 Neighborhood-High (T3N.H)	T4 Neighborhood-Low (T4N.L)	T4 Neighborhood-Medium (T4N.M)	T4 Main Street (T4M2)
					
An environment of highly interconnected, heavily tree-lined neighborhood streetscapes with single-family housing choices in medium to large footprint building types from Detached House-Large to Detached House-Medium buildings set far from the street.	A walkable environment of highly interconnected, tree-lined neighborhood streetscapes with single-family housing choices in medium to large footprint building types from Detached House-Large to Detached House-Medium buildings behind medium to large setbacks and limited neighborhood-serving services within ancillary buildings.	A walkable environment of highly interconnected, tree-lined neighborhood streetscapes with low to medium intensity housing choices in small to medium footprint building types from Detached House-Medium to Duplex-Stacked buildings near the street to support neighborhood-serving retail and services adjacent to this zone and limited neighborhood-serving services within ancillary buildings.	A walkable environment of highly interconnected, tree-lined neighborhood streetscapes with a variety of medium intensity housing choices in small to medium footprint building types from Detached House-Compact to Triplex-Quadplex buildings set back from the street to support neighborhood-serving retail and services adjacent to this zone and limited neighborhood-serving services within ancillary buildings.	A walkable environment of highly interconnected, tree-lined neighborhood streetscapes with a variety of medium intensity housing choices in small to medium footprint building types from Detached House-Compact to Courtyard Buildings set back from the street to support neighborhood-serving retail and services adjacent to this zone and limited neighborhood-serving services within ancillary buildings.	A walkable environment of highly interconnected, tree-lined neighborhood streetscapes with a variety of medium intensity housing choices in small to medium footprint building types from Detached House-Compact to Courtyard Buildings set back from the street to support neighborhood-serving retail and services adjacent to this zone and limited neighborhood-serving services within ancillary buildings.
Detached	Detached, Semi-attached	Detached, Semi-attached	Detached, Semi-attached	Detached, Semi-attached	Detached, Semi-attached
Large Lot	Medium to Large Lot	Small to Medium Lot	Medium to Large Lot	Medium Lot	Small to Medium Lot
Medium to Large Footprint	Medium to Large Footprint	Small to Medium Footprint	Small to Medium Footprint	Small to Medium Footprint	Small to Medium Footprint
Large Setback	Medium to Large Setback	Small to Medium Setback	Medium to Large Setback	Small to Medium Setback	Small to Medium Setback
Large Setback	Medium to Large Setback	Small to Medium Setback	Small to Medium Setback	Small to Medium Setback	Small to Medium Setback
Up to 2 1/2 Stories	Up to 2 1/2 Stories	Up to 2 1/2 Stories	Up to 2 1/2 Stories	Up to 2 1/2 Stories	Up to 2 1/2 Stories
Elevated Ground Floor	Elevated Ground Floor	Elevated Ground Floor	Elevated Ground Floor	Elevated Ground Floor	Elevated Ground Floor
Porches & Common Yards	Common Yards, Porches & Stoops	Stoops & Porches	Stoops & Porches	Stoops & Porches	Stoops, Groundfloors & Terraces

A poster, which will be on the wall, includes setbacks, heights, which zones likely will be translated to the new zones, etc.

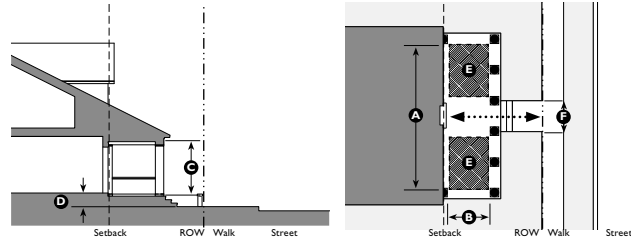
Other Components of a Form-Based Code

Not just new base zone districts-An entire system

Frontage Type Standards

4.03.050

Frontage Standards



Key

--- ROW / Property Line
 --- Setback Line

4.03.050 Porch: Integral

Description

The main facade of the building has a small setback from the property line. The resulting front yard is typically very small and may be undefined or defined by a fence or hedge to spatially maintain the edge of the street. An integral porch is part of the overall massing and roof form of a building. With an integral porch it is not possible to remove the porch without major changes to the overall roof form.

Size

Width, clear	8' min.	A
Depth, clear	8' min.	B
Height, clear	8' min.	C
Finish level above sidewalk	18" min.	D
Furniture area, clear	4' x 8' min.	E
Path of travel	3' wide min.	F

Miscellaneous

The porch may be one or two stories.
 Integral porches may be enclosed on up to two sides and have a roof.



Partial-length integral porch integrated into the overall massing.



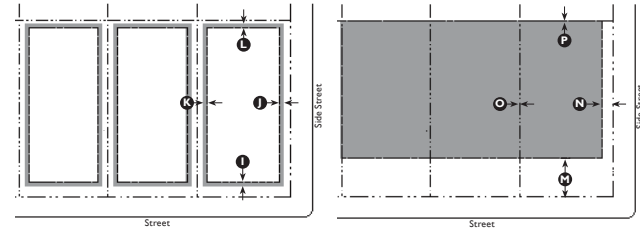
Full-length integral porch integrated into the overall massing.

4-30

Livermore Development Code

10-40.40.080

T4 Neighborhood 2 (T4N.2) Standards



Key

--- ROW/Property Line
 --- Building Setback Line

F. Encroachments and Frontage Types

Encroachments⁴

Front	5' max.	I
Side Street/Civic Space	5' max.	J
Side	3' max.	K
Rear		L
Property Line	0' max.	
Rear Lane or Alley	3' max.	

Galleries may encroach in to street ROW, all other encroachments are not allowed within a street ROW.

⁴See Section 10-50.35 (Encroachments) for allowed encroachments.

Allowed Private Frontage Types⁵

Stoop	Forecourt
Gallery ⁶	Terrace/Lightwell ⁶
Shopfront ⁶	Porch

⁵See Division 10-50.30 (Specific to Private Frontage Types) for private frontage type descriptions and regulations.

⁶Allowed only in open sub-zone(s).

Key

--- ROW/Property Line
 --- Parking Setback Line

G. Required Parking

Spaces⁷

Residential Uses	
Studio/1 Bedroom	1 space/unit min.
2+ Bedrooms	2 spaces/unit min.
Retail Trade, Service Uses	
≤2,000 sf	No spaces required
>2,000 sf	2 spaces/1,000 sf min. above first 2,000 sf

⁷Use types not listed shall meet the requirements in Table 10-50.70.040.A (Automobile Parking Spaces Required).

Location (Setback from ROW/Property Line)

Front		M
Covered/Attached	30' min.	
Uncovered	Match front facade min.	
Side Street/Civic Space	5' min.	N
Side	0' min.	O
Rear	0' min.	P

Miscellaneous

Linear feet of front or side
 façade that may be garage 35% max.
 See Division 10-50.70 (Parking Standards) for additional parking regulations.

Flagstaff Zoning Code

10-75

This Transition is Very Important to Regulate!



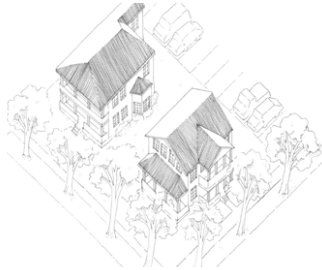
Building Type Standards

5.01.070

Building Types

5.01.070 Duplex, Stacked

General Note: the drawings and photos below are illustrative.



The entry to the right opens to a stair leading to the upper unit, which takes up the entire upper floor. The door to the left opens directly into the lower unit, which takes up the entire lower floor.

A. Description

This Duplex building type consists of structures that contain two units, one on top of the other. This building type has the appearance of a medium to large single-family home. This type is typically integrated sparingly into single-family neighborhoods or more consistently into neighborhoods with other medium-density types such as bungalow courts, fourplexes, or courtyard apartments. This building type enables the incorporation of high-quality, well-designed density within a walkable neighborhood.

This is the preferred type of duplex on 50' wide lots in Livermore neighborhoods not zoned for single-family because it is capable of accommodating two units in a smaller footprint, thus maximizing compatibility in size and privacy to the rear of adjacent units.



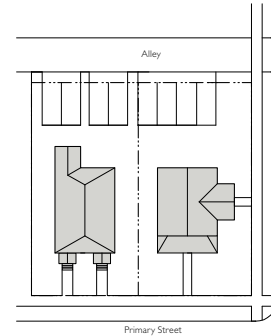
The scale of this duplex makes it compatible with adjacent single-family homes.

5-12

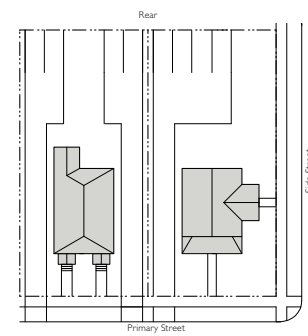
Livermore Development Code

Building Types

5.01.070



Typical Alley Loaded Plan Diagram



Typical Front Loaded Plan Diagram

Key

--- ROW / Property Line ■ Building Area

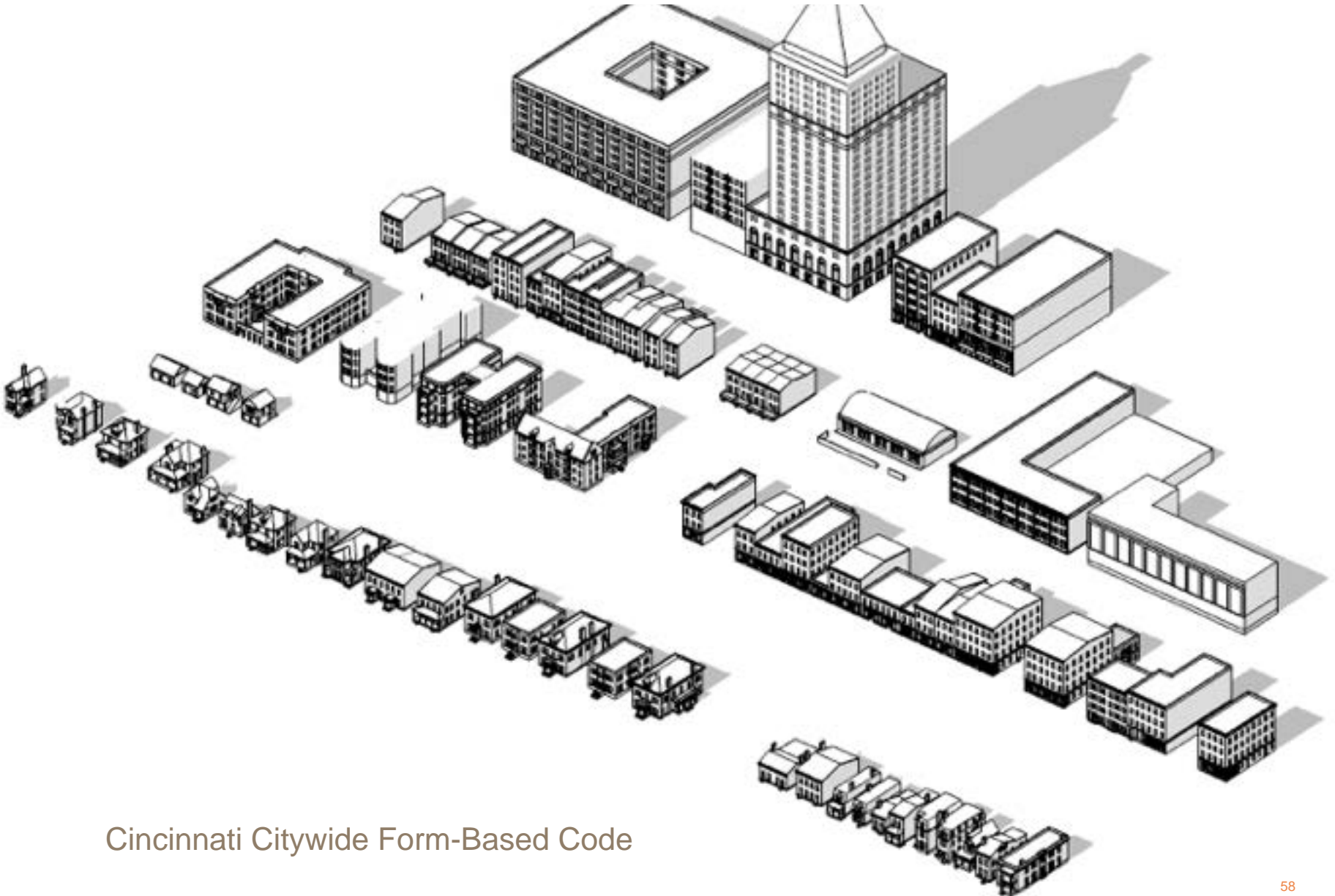
B. Lot	
Lot Size	
Width	50' min., 75' max.
Depth	100' min., 150' max.
C. Pedestrian Access	
Main Entrance Location	Primary street
On corner lots each unit shall front a different street.	
D. Frontages	
Allowed Frontages	
Porch	
Scoop	
E. Vehicle Access and Parking	
Parking spaces may be enclosed, covered, or open.	

F. Open Space, Usable	
Width	15'/unit min.
Depth	15'/unit min.
Open Space Area	300 sf min.
Required street setbacks and driveways shall not be included in the open space area calculation.	
G. Building Size and Massing	
Main Body	
Width	36' max.
Secondary Wing	
Width	24' max.
Detached Garage	
Width	36' max.
Depth	25' max.
H. Miscellaneous	
Both units shall have entries facing the street no more than 10' behind the front façade.	

Livermore Development Code

5-13

Kit of Parts for Neighborhoods: Cincinnati, Ohio



Cincinnati Citywide Form-Based Code

Civic Space Standards

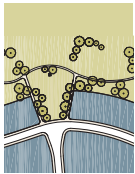

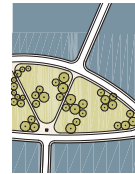
Civic Space Types

10-70.10.030

Table 10-70.10.030.A Civic Spaces

TRANSECT ZONE

T1 T2 T3 T4 T5 T6 T1 T2 T3 T4 T5 T6 T1 T2 T3 T4 T5 T6

Civic Space Type	Park	Greenway	Green
Illustration			
Description	A natural preserve available for unstructured recreation.	A linear space in largely natural conditions for unstructured recreation.	An open space, available for unstructured recreation.
Size and Location			
Size			
Minimum	8 acres	8 acres	1/2 acre
Maximum	-	-	8 acres
Frontage	Independent	Independent/Building Frontage	Independent/Building Frontage
Character	Natural	Natural	Natural
Typical Uses	Passive/Active (Unstructured) Open Space, Civic Uses, Paths and Trails, Woodland and Open Shelters, Community Gardens, Playgrounds	Passive/Active (Unstructured) Open Space, Civic Uses, Trails for Bicycles and Pedestrians, Community Gardens, Playgrounds	Passive/Active (Unstructured) Open Space, Civic Uses, Community Gardens, Playgrounds
Stormwater Management	Integrated Runoff, Bioretention, Extended Detention Basins, Porous Pavements and Landscaping	Integrated Runoff, Bioretention, Extended Detention Basins, Porous Pavements and Landscaping	French Drains, Porous Pavements and Landscaping

Key T# Allowed T# Not Allowed

Flagstaff Zoning Code

70.10-3

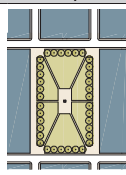
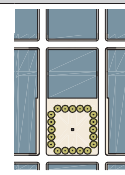
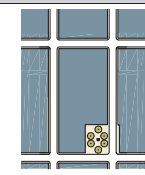
10-70.10.030

Civic Space Types

Table 10-70.10.030.A Civic Spaces (continued)

TRANSECT ZONE

T1 T2 T3 T4 T5 T6 T1 T2 T3 T4 T5 T6 T1 T2 T3 T4 T5 T6

Civic Space Type	Square	Plaza	Pocket Plaza
Illustration			
Description	An open space available for unstructured recreation and civic purposes.	An open space available for civic purposes and commercial activities.	An open space available for civic purposes and commercial activities.
Size and Location			
Size			
Minimum	1/2 acre	1/2 acre	4,000 sf
Maximum	5 acres	2-1/2 acres	1/2 acre
Frontage	Independent	Independent/Building Frontage	Building Frontage
Character	Formal	Formal	Formal
Typical Uses	Passive/Active (Unstructured) Open Space, Civic Uses, Paths, Community Gardens, Playgrounds	Passive/Active (Unstructured) Open Space, Civic Uses, Commercial Uses, Community Garden, Playground	Passive/Active (Unstructured) Open Space, Civic Uses, Commercial Uses, Community Garden, Playground
Stormwater Management	French Drains, Porous Pavements, and Landscaping	French Drains, Porous Pavements, and Landscaping	French Drains, Porous Pavements, and Landscaping

Key T# Allowed T# Not Allowed

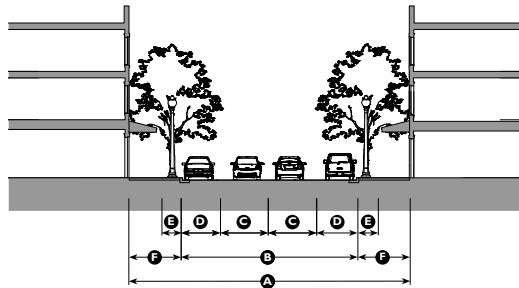
70.10-4

Flagstaff Zoning Code

Thoroughfare Standards

Thoroughfare Types

7.01.060



7.01.060 Neighborhood Main Street

Application	
Movement Type	Slow
Anticipated Design Speed	20 mph
Pedestrian Crossing	Bulb-outs encouraged to decrease pedestrian crossing time.
Transect Zones	T4MS T4MS-O

Overall Widths	
Right-of-Way (ROW)	60' A
Face-of-Curb to Face-of-Curb	36' B

Lanes	
Traffic Lanes	2 @ 10' (2-way travel) C
Bicycle Lanes	None
Parking Lanes	2 @ 8' parallel D
Medians	None

Edges	
Drainage Collection Type	Curb and gutter
Planter Type	4' x 4' tree grate, min. E
Lighting Type	Low, pedestrian oriented lighting
Walkway Type	12' sidewalk, F

¹ Where gallery frontage is used, street trees are not required or allowed.

Intersection	
Curb Radius	15' max. (bulb-outs recommended)
Distance Between	400' max.

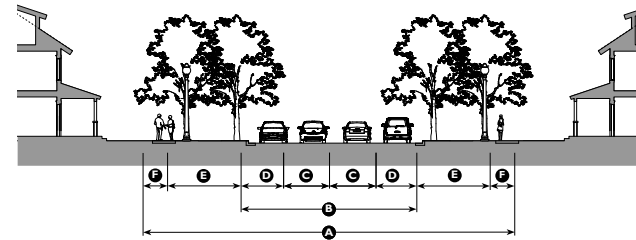
Intersections	
Miscellaneous Requirements	
Transformations to existing streets shall match the designations set forth in the General Plan.	

Livermore Development Code

7-7

7.01.110

Thoroughfare Types



7.01.110 Retrofit: 18' Wide Planter Strip

Application	
Movement Type	Slow
Anticipated Design Speed	20 mph
Pedestrian Crossing	Bulb-outs encouraged to decrease pedestrian crossing time.
Transect Zones	T4 N-O T4 N T3 N

Overall Widths	
Right-of-Way (ROW)	80' A
Face-of-Curb to Face-of-Curb	36' B

Lanes	
Traffic Lanes	2 @ 10' (2-way travel) C
Bicycle Lanes	None
Parking Lanes	2 @ 8' parallel D
Medians	None

Edges	
Drainage Collection Type	Curb and gutter
Planter Type	17' continuous E
Landscape Type	Medium trees @ 35' on center average
Lighting Type	Low, pedestrian oriented lighting
Walkway Type	5' sidewalk F
Intersection	
Curb Radius	15' max. (bulb-outs recommended)
Distance Between Intersections	600' max.

Miscellaneous Requirements
Transformations to existing streets shall match the designations set forth in the General Plan.

7-12

Livermore Development Code

Countywide

Close Up

Regulating Plans/Zoning Maps



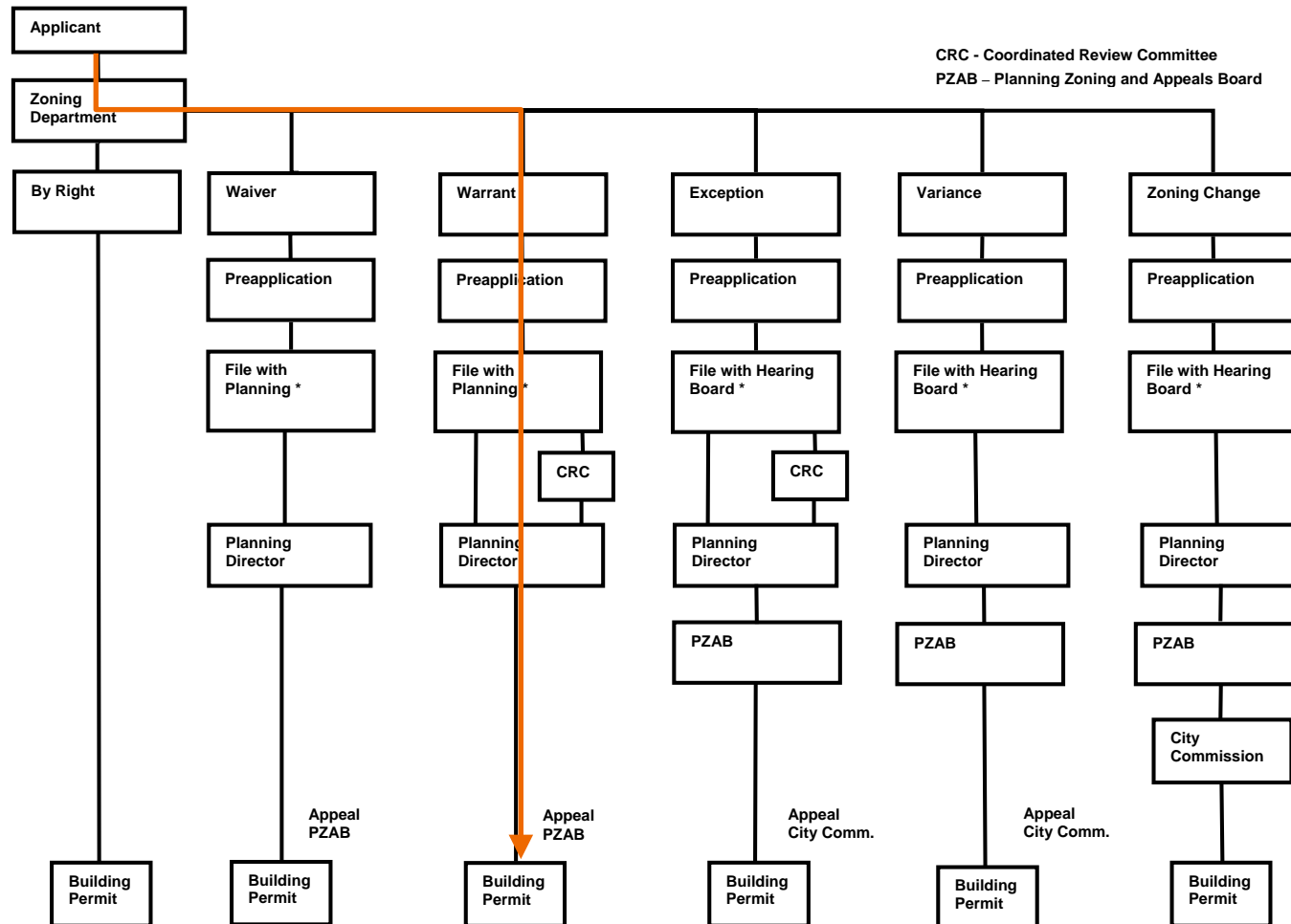
TRANSECT

	T3
	T3E
	T3N
	T4
	T4N
	T4N-O
	T4N.1
	T4N.1-O
	T5N
	T5N.1
	T5N.1-O
	T5MS
	T5MS-O

Providing Predictability: Getting Quick Results

Market Demand is Waiting

Predictable, Clear Process is The Goal



* All applications shall include required notice

The Transect as the Framework for a Majority of Regulations

Providing Consistency Across the LDC

Considering Sustainability/Green Infrastructure Along the Transect



T3: Single Family and Carriage House

Strategic Shading.

Glazing. Design glazing to heat the structure from the south, and cool through cross-ventilation.

Water Infiltration. Allow water to percolate in sub-surface conditions.

Greenway. Use the greenway as a stormwater capture, conveyance and treatment feature.

South-Side Planting. Consider solar access on the south side of buildings when planting landscape.

Public/Private Portal.

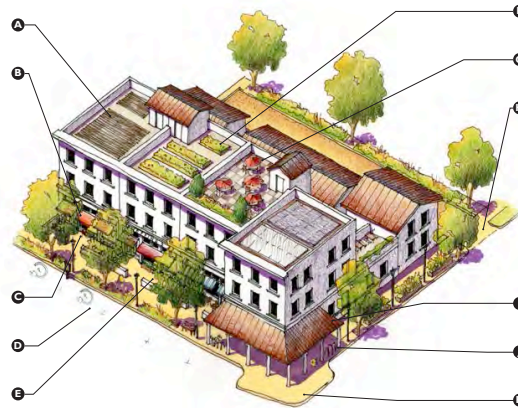
Compost Bins. Require compost bins with instructions for homeowners.

Urban Farming. Encourage small-scale cultivation.

No Hose Bibs. Exclude external hose bibs from home design, thereby irrigating only by rain barrel or reuse water.

Rain Garden. Provide lot treatment rain gardens.

Flow-Through Stormwater Treatment Planter.



T4: Live/Work Building

Active Space. Allow some portion of outdoor space to be used for public open-space, potentially active space.

Retractable Awnings. Encourage the use of retractable awnings in storefront design, to protect from the summer sun.

Outdoor Seating. Encourage establishments to provide outdoor seating and outdoor spaces.

Car Charging Stations. Provide electric charging stations to promote the use of alternate-fuel vehicles..

Recycling and Compost Bins. Encourage establishments to have an area for compost and recycling bins, in addition to trash bins..

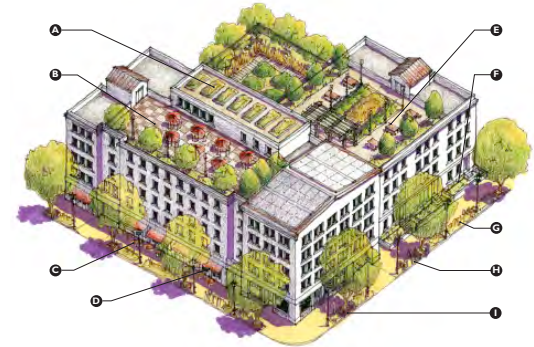
Vegetated Roofs. Promote vegetated roofs, skylights or directed sunlight to improve the quality of life in interior apartments.

Residential Access. Provide residential access to flat rooftops, creating usable open space.

Private Driveway. Require minimal curbcuts and curb return radii.

Roof Materials. Use high SRI roof materials where PV or vegetated roofs are not practical.

Covered bicycle storage.



T5: Mid-Rise Building Type

Urban Rooftop Farming/Gardening.

Roof Access. Encourage rooftop access to maximize value of views and open space.

Outdoor Seating. Activating sidewalk space in front of mixed-use development encourages community vitality..

Awnings. Awnings provide street-level shading and rain shelter.

Diverse Rooftop Usage. Encourage both commercial and residential use of roof space.

Urban Gardening. Garden space available for residential tenants..

Bioswales. Bioswales improve stormwater quality, mitigate urban flooding, and give opportunity for infiltration where subsurface conditions allow..

Bike Racks. Encourage tenants and patrons to cycle by providing regular amenities for bike parking.

Street Trees. Tree boxes/wells improve thermal comfort and street character..

Sustainability and Urban Agriculture in Different Contexts

Item B-01

66 of 69

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Strategic Shading

Compost

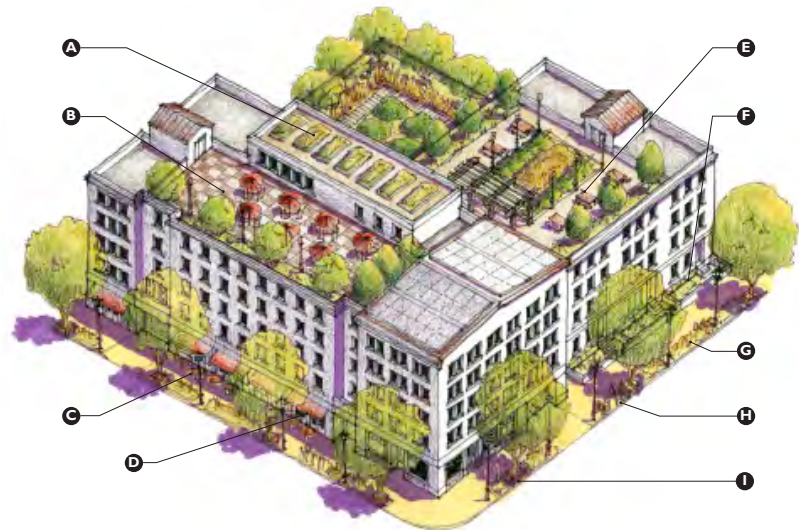
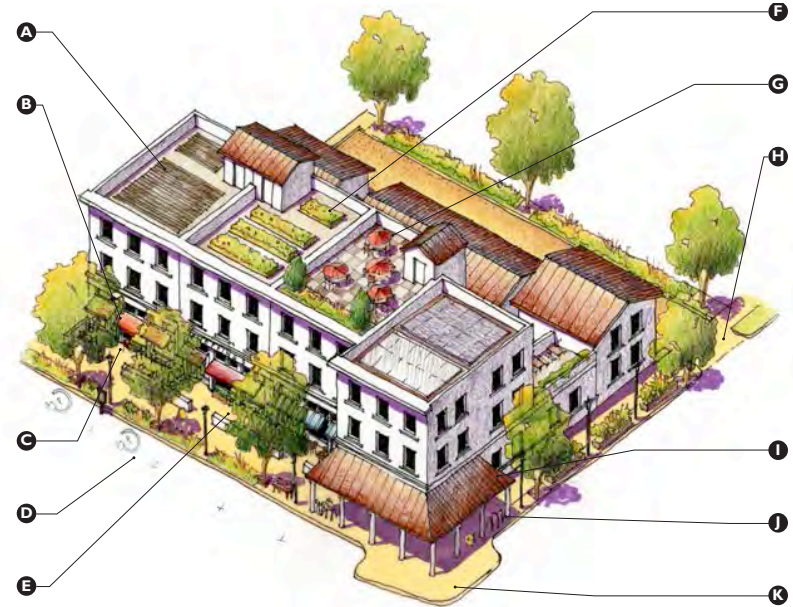
Urban Farming

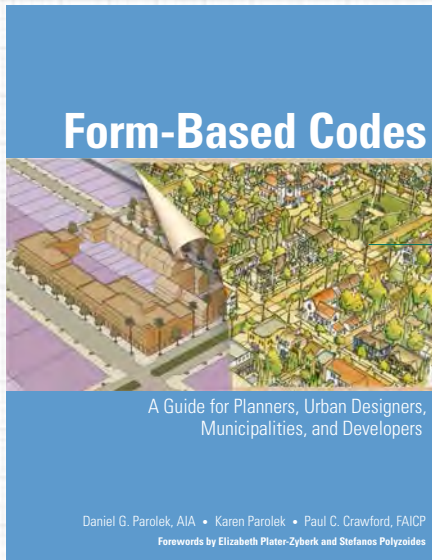
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Greenway as a
Stormwater Caputre
Conveyance & Treatment
Feature

Solar Lighting
Along Greenway

Utilize Summer Winds
from the Southeast to
Passively Cool Buildings





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