

FORM-BASED CODES IN THE WEST



Rocky Mountain Land Use Institute
March 2007

Speakers

- **Matt Goebel, AICP,
Clarion Associates**
 - Background: What's a form-based code? Recent examples from the western US.
- **Brewster McCracken, Council Member,
City of Austin, Texas**
 - Building local consensus for form-based codes.
- **Al Zelinka and Jason Jones,
RBF Consulting**
 - Overview of the new Ketchum, Idaho, form-based code.

What's a Form-Based Code?

- “A method of regulating development to achieve a **specific urban form**. Form-based codes create a predictable public realm by controlling **physical form primarily**, and land uses secondarily, through city or county regulations.”

– Form-Based Codes Institute

Common Form-Based Code Characteristics

Pedestrian Areas



Versus



Common Form-Based Code Characteristics

Development Orientation



Versus



Common Form-Based Code Characteristics

Parking Location



Versus

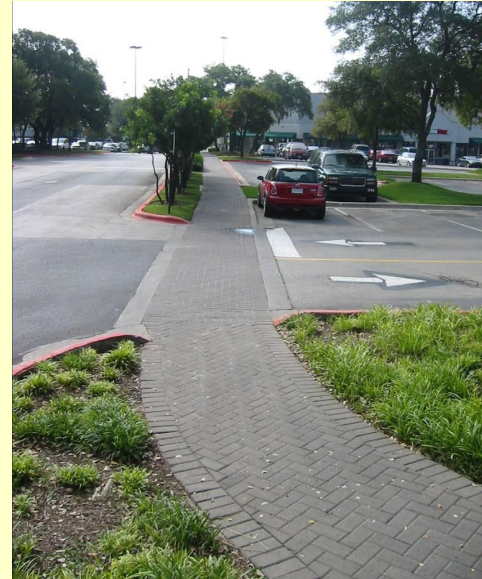


Common Form-Based Code Characteristics

Internal Site Connectivity

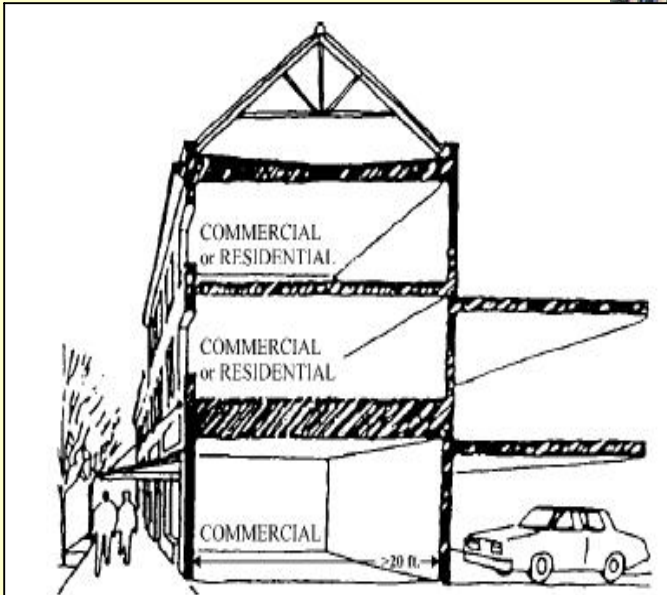


Versus



Common Form-Based Code Characteristics

Mix of Uses



Common Form-Based Code Characteristics

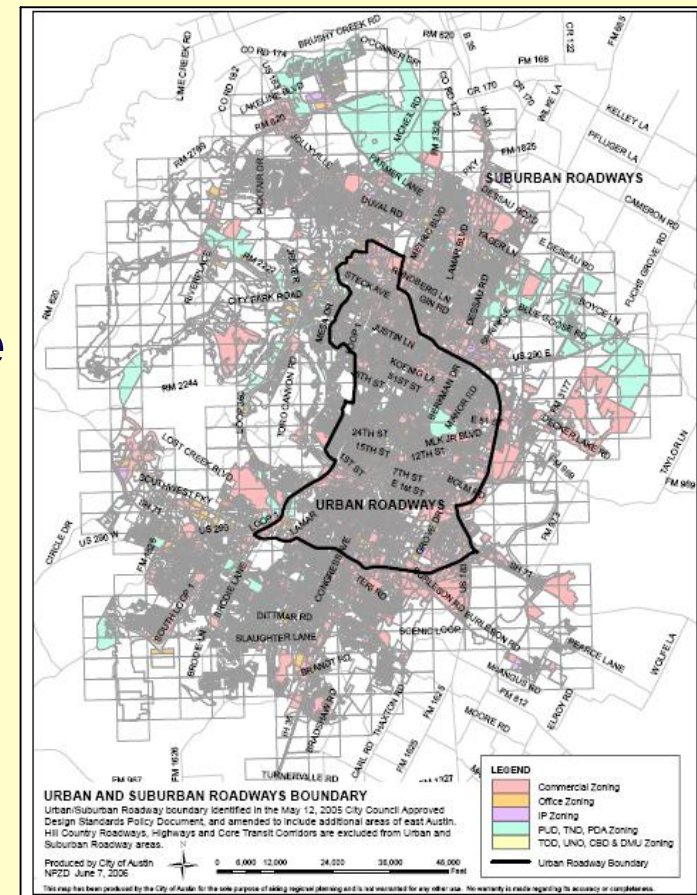
**Heavy emphasis
on pictures,
illustrations, and
graphics to
convey the
intended urban
design**



*Example of Vertical Articulation
(Buckeye, AZ, Commercial Design Standards)*

Common Form-Based Code Characteristics

- Typically applies to a discrete area, though increasingly form-based approaches are being considered community-wide



Common Form-Based Code Characteristics

– Often highly prescriptive

DEVELOPMENT CODE | URBAN REGULATIONS CORRIDOR PRESERVATION: BROADWAY



The CORRIDOR PRESERVATION category protects existing properties that are considered significant or contributing within the Huning Highland Historic District and establishes building standards for new buildings to ensure the building pattern is maintained and to complement the architectural character-defining features of the UCOZ as identified herein.

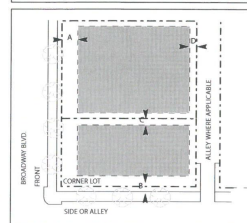
1. GENERAL RULES: USES & MISC.

Potential building typologies and frontages are available in the Appendix.

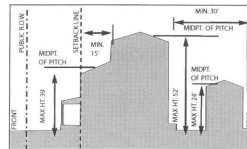
2. ARCHITECTURE: FORM & ELEMENTS

- See the Architectural Standards for specific requirements and parameters for architectural materials and configurations.
- Ground floor building frontage shall be designed with 30-80% of the building frontage glazed, with the window sill no higher than thirty inches (30") above the finished floor.
- Placement—openings shall occur along Broadway & side-street façades at thirty feet (30') on center minimum; openings to be three (3') wide minimum.
- Entrance—each ground floor use shall have 1 entrance minimum for each thirty feet (30') or less of building frontage length.
- Articulation—building façade at front and side street shall change each fifty feet (50') minimum in height, or setback, or material.
- Property walls & fences—as allowed in current City regulations at fronts, sides & rear of buildings. See Architectural Standards for specific requirements and parameters.
- Drive-thru type buildings not allowed in this category.

A. BUILDING PLACEMENT AND HEIGHT



Plan Diagram



Section Diagram

1. SETBACKS

Buildings shall be placed within the shaded area as shown in the above diagram.

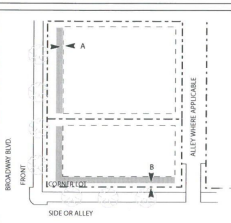
- Front Setback: per historic setbacks per lot
- Side Street Setback: same as above
- Side-yard Setback: five foot (5') minimum.
- Rear Setback: five foot (5') minimum.

2. HEIGHT

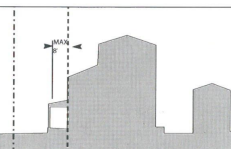
Building height shall be measured in feet from grade as defined in the zoning code [on site] to top of parapet or midpoint of pitch.

Maximum: 4 stories/52'-0" high.

B. BUILDING FRONTAGE AND PROFILE



Plan Diagram



Section Diagram

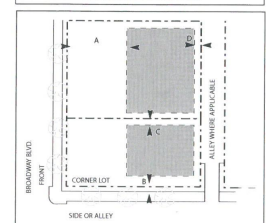
1. ENCROACHMENTS ALLOWED

Porches may encroach into the setback as shown in the shaded area. Encroachments into Public Right of Way (ROW) shall follow existing City regulations.

- Front encroachment: eight foot (8') maximum
- Side street encroachment: eight foot (8') maximum

Maximum encroachment height is 1 story.

C. PARKING PLACEMENT



Plan Diagram

1. PARKING REQUIREMENTS

On-site parking allowed only in shaded areas as shown.

- Front setback: 50% of lot depth minimum
- Side street setback: twenty feet (20') minimum
- Side setback: ten feet (10') minimum
- Rear setback: five feet (5') minimum

Parking requirements below are subject to reductions due to mixed-uses and location on transit corridor:
1.5 parking spaces: residential or live/work (1 bathroom)
2 parking spaces: residential or live/work (2-3 bathrooms)
3 parking spaces: commercial or retail per 1000 s.f.
1 parking space: restaurants, per each 4 seats
1 parking space: per hotel room

Vehicular access is permitted only from side street or alley. Parking garages shall have liner buildings along all side street frontages and solid 3'-0" minimum high walls [all levels] or solid landscape at side and rear property lines; provided, however, if the side or rear property line is adjacent to a residentially-zoned lot, the wall of the parking structure must be entirely solid, without opening. (Solid landscaping or substantial screening required on rear and side lot lines of off street parking areas, parking lots and structures abutting a SF residential district lot.)

2. LANDSCAPE REQUIREMENTS

The landscape design should reflect the more urban character of this area in its programming, detailing, and planting intensity.

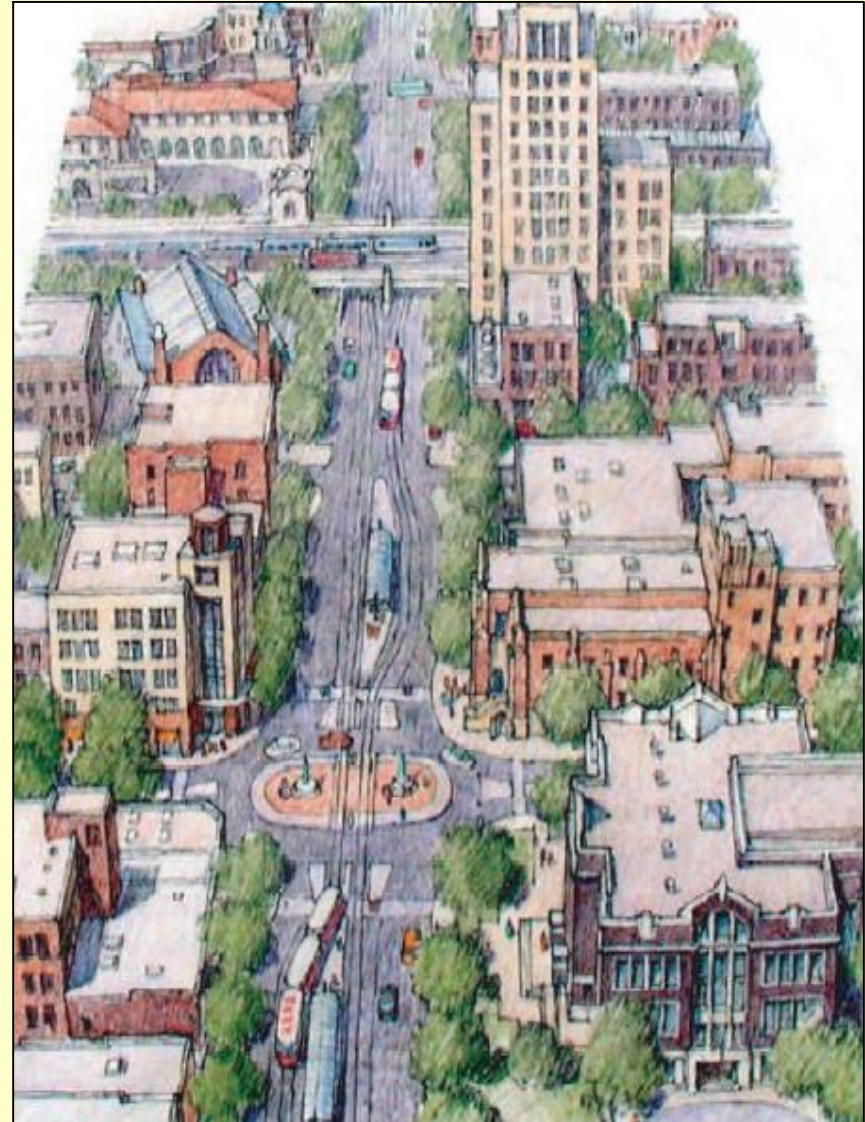
The landscape should be distinct from the existing and proposed prototypical standards currently being developed by the City.

Western Form-based Code Examples

Albuquerque, New Mexico

Huning Highland East Downtown Urban Conservation Overlay Zone (March 2005)

- Focuses on revitalization of commercial core and nearby areas
- **Regulating Plan** establishes principles:
 - Pedestrians first
 - Daily needs within walking distance
 - Traditional building types for mix of uses
 - Housing variety
 - Live above stores/businesses
 - Etc.



IMPLEMENTATION PROCESS MATRIX

Development Category	A.R.C. + L.U.C.C. Staff Reviews*	L.U.C.C. Reviews	D.R.C. + S.H.P.O. Reviews
Corridor Preservation [see pg. 5 & 6, Appendix]	●		
Corridor General [see pg. 7, Appendix]	●		
Street General [see pg. 8]	●		
Significant, Contributing & City Landmarks [see pg. 4]		●	
Buildings of Note [see approp. devel. category page]	●		
Parks & Open Space (reserved)	●		
Public Right of Way [see pg. 4]		●	●

* Appeals - Appeals of Staff decisions shall be sent to L.U.C.C.

ARC - Architectural Review Committee - a standing advisory committee of the LUCC to review proposals for non-contributing properties. It shall consist of one LUCC Member & one member from each city-recognized neighborhood association within the boundaries of the HHHOZ and the Huning Highland EDO UCOZ. One staff person shall act as facilitator of the committee and shall have the sole authority to render administrative rulings and issue Certificates of Compliance for approved proposals. Selection of the Committee's representatives and terms of service shall be determined by the LUCC.

LUCC - Landmarks & Urban Conservation Commission, distinct from LUCC staff.

HHHOZ - Huning Highland Historic Overlay Zone

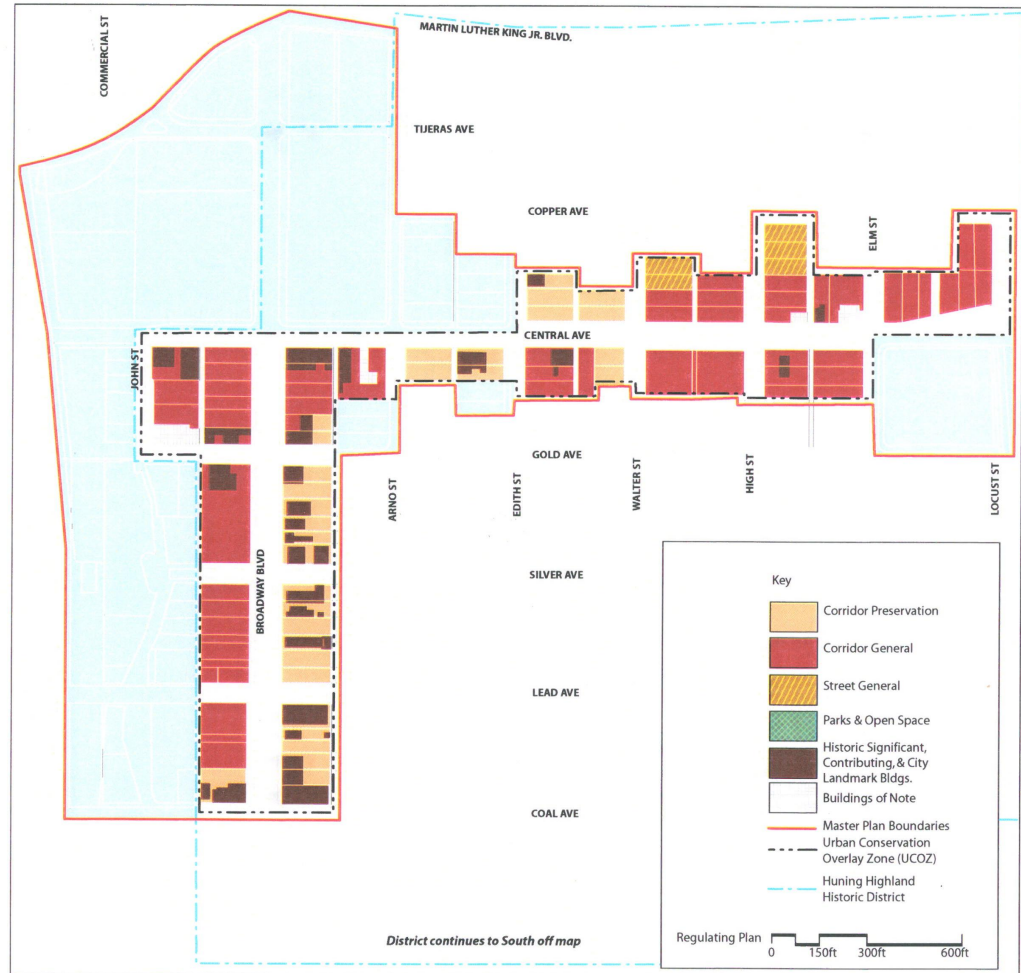
UCOZ - Urban Conservation Overlay Zone

SHPO - State Historic Preservation Office

DRC - Design Review Committee with City Municipal Development Department

NON-CONTRIBUTING PROPERTIES: Any property that is not designated as a Significant or Contributing property within the Huning Highland Historic District or is not designated as a City Landmark or a Building of Note based on the most current survey of the Historic District.

NOTE: Landscape Regulation - should be distinct from the existing and proposed prototypical standards currently being developed by the City Municipal Development Department. The landscape design should reflect the more urban character of this area in its programming, detailing, and planting intensity.





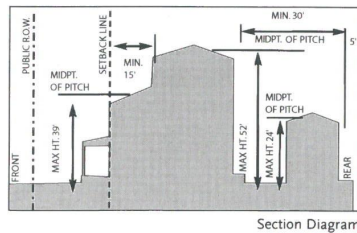
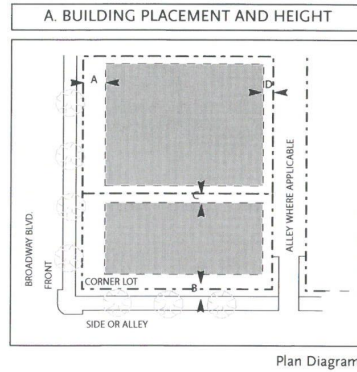
The CORRIDOR PRESERVATION category protects existing properties that are considered significant or contributing within the Huning Highland Historic District and establishes building standards for new buildings to ensure the building pattern is maintained and to complement the architectural character-defining features of the UCOZ as identified herein.

1. GENERAL RULES: USES & MISC.

Potential building typologies and frontages are available in the Appendix.

2. ARCHITECTURE: FORM & ELEMENTS

- See the Architectural Standards for specific requirements and parameters for architectural materials and configurations.
- Ground floor building frontage shall be designed with 30-80% of the building frontage glazed, with the window sill no higher than thirty inches (30") above the finished floor.
- Placement— openings shall occur along Broadway & side-street façades at thirty feet (30') on center minimum; openings to be three (3') wide minimum.
- Entrance— each ground floor use shall have 1 entrance minimum for each thirty feet (30') or less of building frontage length.
- Articulation— building façade at front and side street shall change each fifty feet (50') minimum in height, or setback, or material.
- Property walls & fences— as allowed in current City regulations at fronts, sides & rears of buildings. See Architectural Standards for specific requirements and parameters.
- Drive-thru type buildings not allowed in this category.



1. SETBACKS

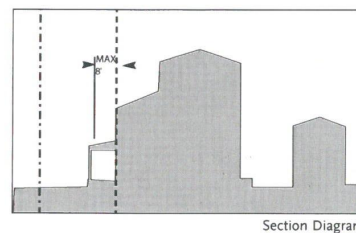
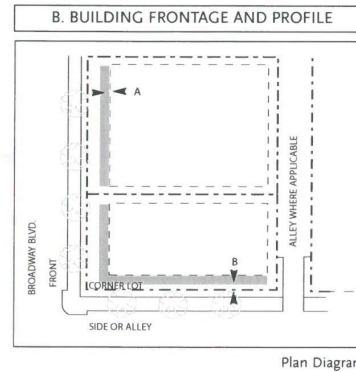
Buildings shall be placed within the shaded area as shown in the above diagram.

- Front Setback: per historic setbacks per lot
- Side Street Setback: same as above
- Side-yard Setback: five foot (5') minimum.
- Rear Setback: five foot (5') minimum.

2. HEIGHT

Building height shall be measured in feet from grade as defined in the zoning code [on site] to top of parapet or midpoint of pitch.

Maximum: 4 stories/52'-0" high.

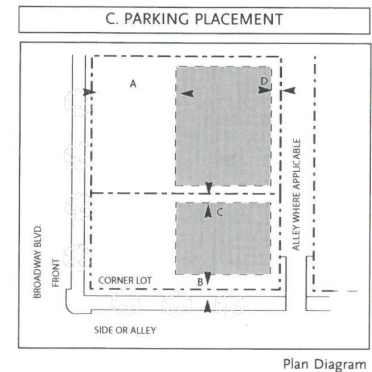


1. ENCROACHMENTS ALLOWED

Porches may encroach into the setback as shown in the shaded area. Encroachments into Public Right of Way [ROW] shall follow existing City regulations.

- Front encroachment: eight foot (8') maximum
- Side street encroachment: eight foot (8') maximum

Maximum encroachment height is 1 story.



1. PARKING REQUIREMENTS

On-site parking allowed only in shaded areas as shown.

- Front setback: 50% of lot depth minimum
- Side street setback: twenty feet (20') minimum
- Side setback: ten feet (10') minimum
- Rear setback: five feet (5') minimum

Parking requirements below are subject to reductions due to mixed-uses and location on transit corridor:

- 1.5 parking spaces: residential or live/work [1 bathroom]
- 2 parking spaces: residential or live/work [2-3 bathrooms]
- 3 parking spaces: commercial or retail per 1000 s.f.
- 1 parking space: restaurants, per each 4 seats
- 1 parking space: per hotel room

Vehicular access is permitted only from side street or alley. Parking garages shall have liner buildings along all side street frontages and solid 3'-0" minimum high walls [all levels] or solid landscape at side and rear property lines; provided, however, if the side or rear property line is adjacent to a residentially-zoned lot, the wall of the parking structure must be entirely solid, without opening. (Solid landscaping or substantial screening required on rear and side lot lines of off street parking areas, parking lots and structures abutting a SF residential district lot.)

2. LANDSCAPE REQUIREMENTS

The landscape design should reflect the more urban character of this area in its programming, detailing, and planting intensity.

The landscape should be distinct from the existing and proposed prototypical standards currently being developed by the City.

Western Form-based Code Examples

Denver, Colorado



- Blueprint Denver and East Colfax Area Plan recommend higher density, pedestrian-friendly, mixed-use development along Denver's transit-rich commercial corridors, or "Main Streets"



Existing conditions



Mixed-use buildings on one block



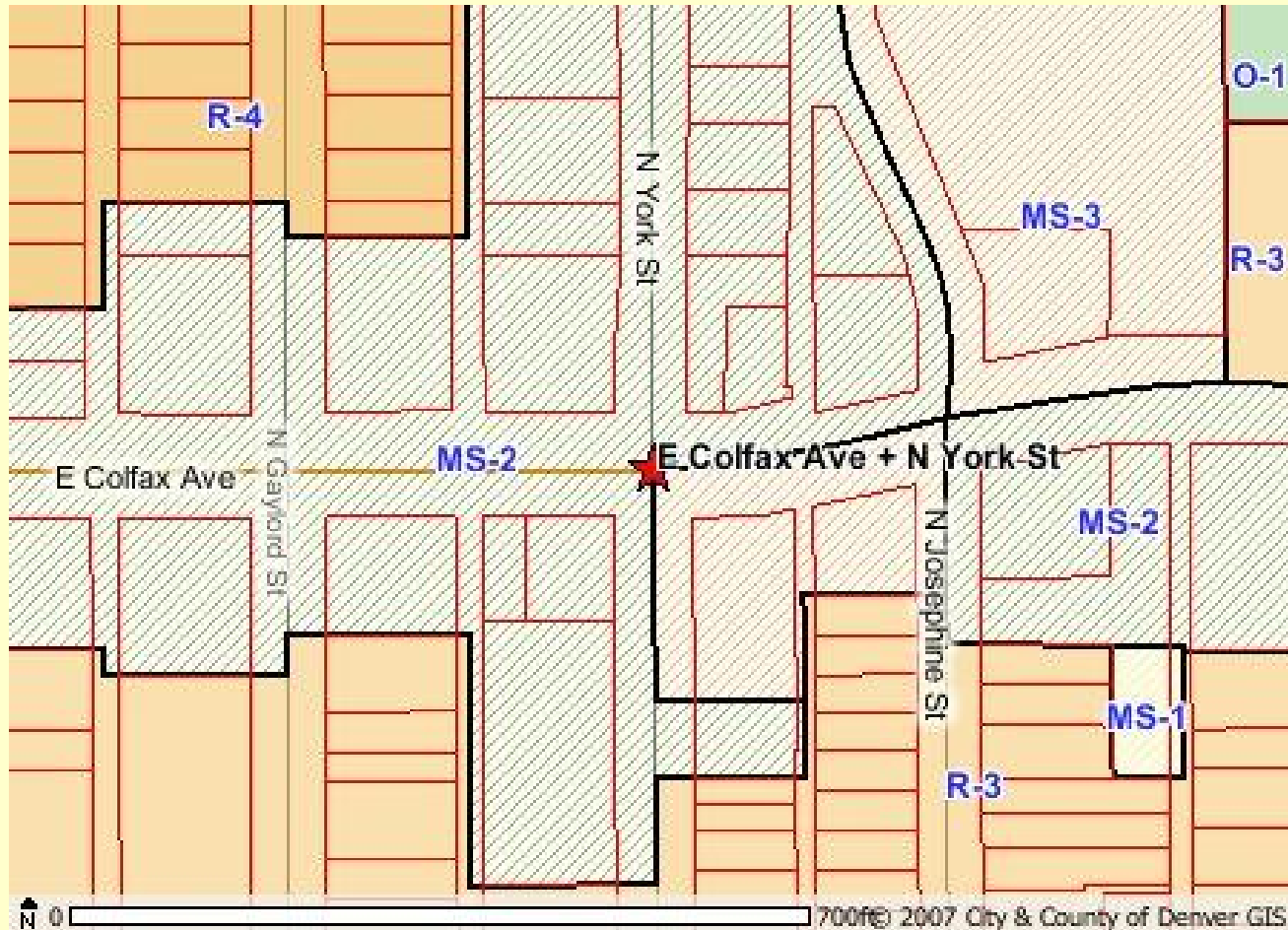
Public street improvements: street trees, street lamps, decorative traffic signals, bulbouts



Additional mixed-use development, remodeling of existing buildings

Western Form-based Code Examples

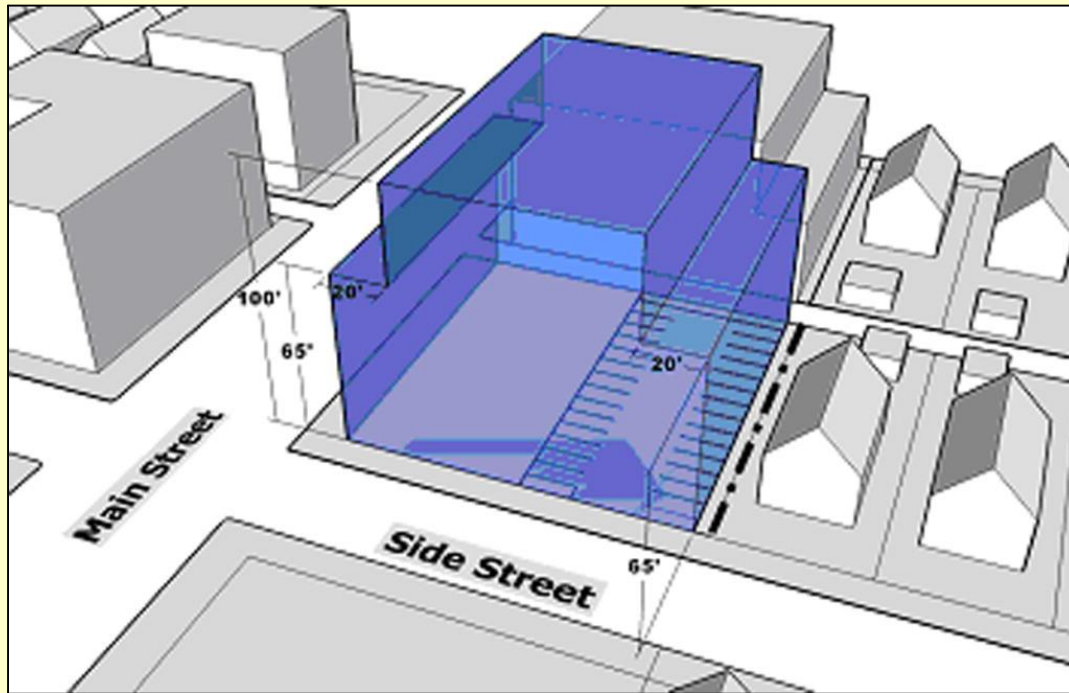
Denver, Colorado



**Three new Main Street zone districts established in Sept 2005:
MS-1, MS-2, and MS-3**

Western Form-based Code Examples

Denver, Colorado



Standards address:

- Windows
- Building placement
- Setback from residential zones
- Height and upper-story setbacks
- Parking (amount and location)
- Transparency
- Entrances
- Uses

Western Form-based Code Examples

Post Falls, Idaho



- **Plan to adopt form-based SmartCode city-wide in late 2007 (work in progress)**
- Mandatory in downtown, edge areas, and newly annexed areas
- “Parallel zoning” in all other areas (owners choose SmartCode or current regulation)

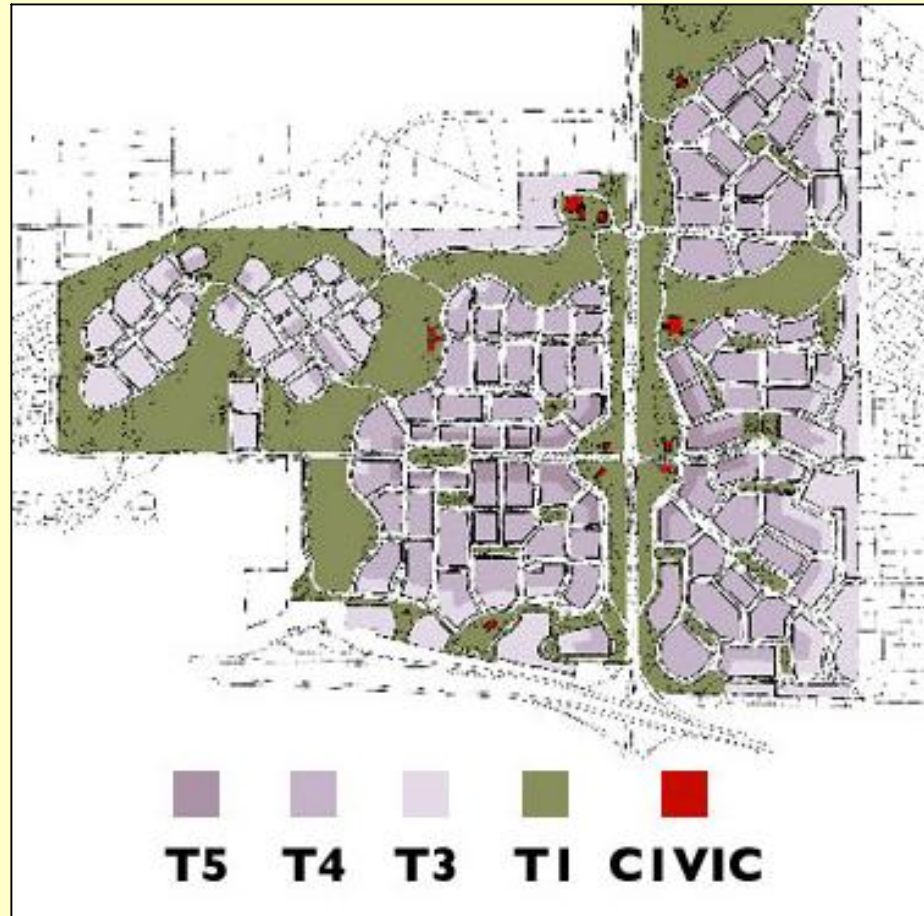
- Establishing “transect zones” to create a range of building types, thoroughfare types, and civic spaces

<div> <div>Profile View</div> <div>Plan View</div> </div>							
	T1	T2	T3	T4	T5	T6	D
BLOCK & LOT DESIGN							
Block Perimeter				2,000 lf. max. 2,400 lf. max. for blocks with internal structured parking	1,700 lf. max. 2,000 lf. max. for blocks with internal structured parking	1,700 lf. max. 2,000 lf. max. for blocks with internal structured parking	Refer to Section 4.20
Lot Area				4,000 sq. ft. avg.	2,000 sq. ft. min.	2,000 sq. ft. min.	
Lot Coverage				60% max.	80% max. 100% for structured parking	100% max.	
BUILDING PLACEMENT							
Edge Yard				permitted	prohibited	prohibited	Refer to Section 4.20
Side Yard				permitted	permitted	prohibited	
Rear Yard				permitted	permitted	permitted	
Court Yard				permitted	permitted	permitted	
BUILDING SETBACK							
Front				0 ft. min. 15 ft. max.	0 ft. min. 10 ft. max.	0 ft. min. 5 ft. max.	Refer to Section 4.20
Side				5 ft. min. 30 ft. max.	0 ft. min. 10 ft. max.	0 ft. min. 10 ft. max.	
Rear <small>**Type Corrected 3/23/2004 & 4/13/2004 (Applies to lots not served by alleys)</small>				20 ft. min. to principal bldg. 5 ft. to out bldg.	5 ft. min. to principal bldg. 5 ft. to out bldg.	0 ft. min. to principal bldg. 5 ft. to out bldg.	
Alley <small>(Measured from centerline of Alley)</small>				15 ft. min.	15 ft. min.	15 ft. min.	
FRONTAGE TYPE <small>(See Section 4.40 and Section 5.10)</small>							
Common Yard				permitted	prohibited	prohibited	Refer to Section 4.20
Porch and Fence				permitted	prohibited	prohibited	
Terrace or Light Court				permitted	permitted	prohibited	
Forecourt				permitted	permitted	permitted	
Stoop				permitted	permitted	permitted	
Shopfront and Awning				permitted	permitted	permitted	
Gallery				prohibited	permitted	permitted	
Arcade				prohibited	permitted	permitted	
DENSITY				25 units per acre max.	80 units per acre max.	60 units per acre max.	60 units per acre max.
% BLDG. FRONTAGE REQ'D. <small>(See Section 5.10)</small>							
Principal Frontage				50% min.	75% min.	90% min.	Refer to Section 4.20
Secondary Frontage				80% min.	85% min.	50% min.	
BUILDING HEIGHT							
Principal Building				3 stories max.	2 stories min.	3 stories min.	Refer to Section 4.20

Western Form-based Code Examples

Post Falls, Idaho

- **Hurdles reported by planning director:**
 - Integrating new street types into existing traffic plan and patterns
 - Compatibility of form-based areas with existing neighborhoods
 - Narrow streets raise engineering issues
 - Embracing mixed use in urban areas



Western Form-based Code Examples

Austin, Texas

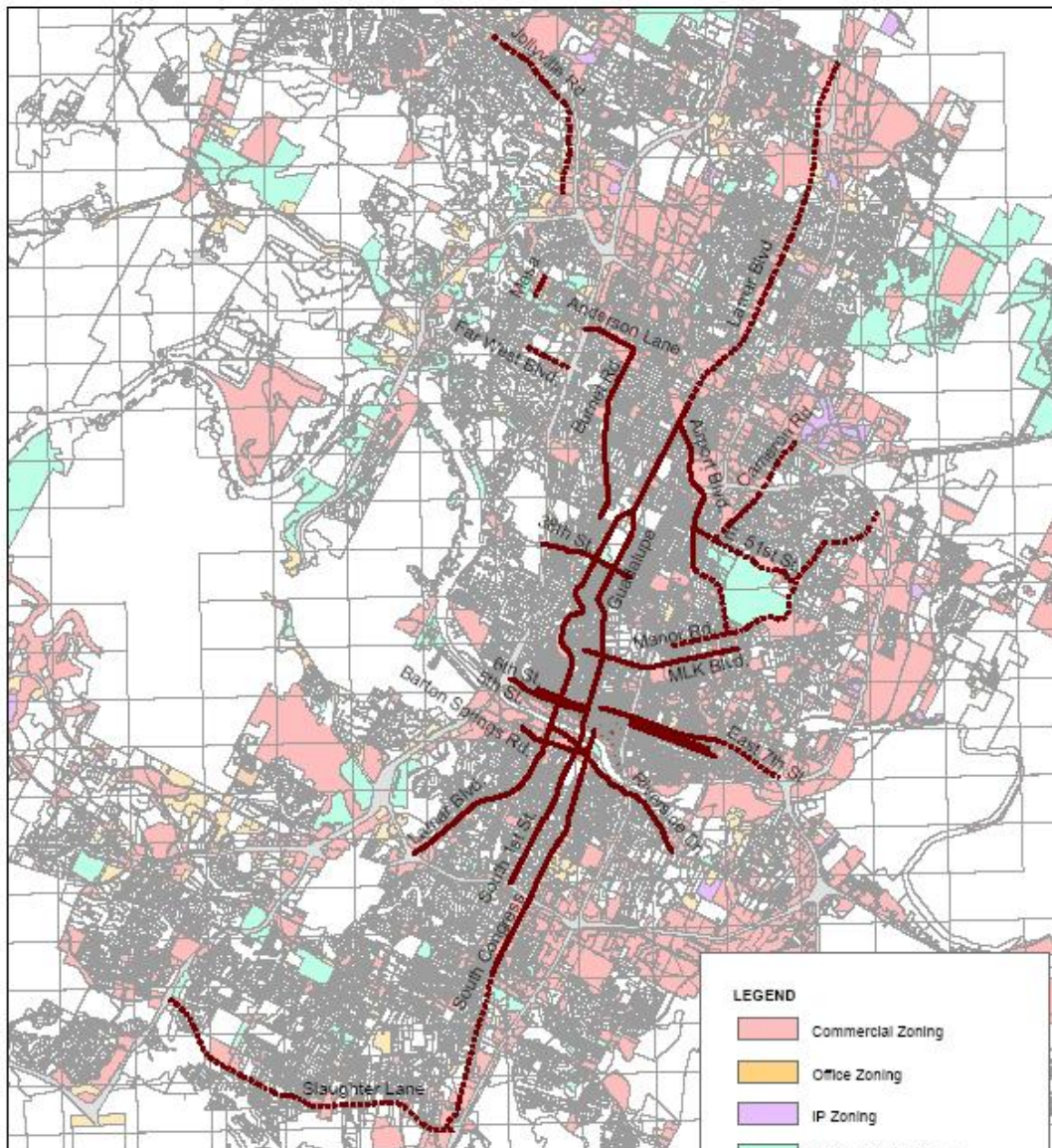
- New commercial design standards & mixed-use ordinance adopted in fall of 2006
- Task Force established to raise the bar of development quality in Austin, but within a regulatory structure offering flexibility, not strict requirements



Standards Based on Adjacent Roadway Types



1. **Core Transit Corridor**
2. **Internal Circulation Route**
3. **Urban Roadway**
4. **Suburban Roadway**
5. **Highway or Hill Country Roadway**



LEGEND

- Commercial Zoning
- Office Zoning
- IP Zoning
- PUD, TND, PDA Zoning
- TOD, UNO, CBD & DMU Zoning
- Core Transit Corridors
- Future Core Transit Corridors

CORE TRANSIT CORRIDORS (CTC) & FUTURE CORE TRANSIT CORRIDORS

Core Transit Corridors identified in the May 12, 2005 City Council Approved Design Standards Policy Document, with recommended amendments made August 4, 2006.

Produced by City of Austin
NPZD
August 7, 2006



0 5,000 10,000 20,000
Feet

This map has been produced by the City of Austin for the sole purpose of aiding regional planning and is not warranted for any other use. No warranty is made regarding its accuracy or completeness.

Section	Standard	Applies if the Principal Street Is:	Applies to the Following:
ARTICLE 2: SITE DEVELOPMENT STANDARDS			
2.2: Relationship of Buildings to Streets and Walkways	2.2.2. Core Transit Corridors: Sidewalks and Building Placement	Core Transit Corridor	- All zoning districts - Single-family residential uses are exempt, in addition to the general exemptions in Section 1.2.3.
	2.2.3. Urban Roadways: Sidewalks and Building Placement	Urban Roadway	All non-residential zoning districts
	2.2.4. Suburban Roadways: Sidewalks and Building Placement	Suburban Roadway	All non-residential zoning districts
	2.2.5. Internal Circulation Routes: Sidewalks and Building Placement	Internal Circulation Route	All non-residential zoning districts (development of any site subject to the internal circulation system requirements in Section 2.3.1.)
	2.2.6. Building Entryways	Core Transit Corridor - Suburban Roadway - Highway - Hill Country Roadway - Urban Roadway	All zoning districts All non-residential zoning districts
2.3: Connectivity	2.3.1: Internal Circulation Systems for Large Sites	- Core Transit Corridor - Urban Roadway - Suburban Roadway - Highway - Hill Country Roadway	- All zoning districts (development of any site five acres or larger) - See additional exemptions in 2.3.1.B. - All non-residential zoning districts (development of any site five acres or larger) - See additional exemptions in 2.3.1.B.
	2.3.2. Improvements to Encourage Pedestrian, Bicycle, and Vehicular Connectivity	All roadway types	- Projects with a net site area of three acres or more in all non-residential zoning districts - Projects with a net site area of less than three acres that have parking between the building and the principal street in all zoning districts
2.4: Parking Reductions	All standards	All roadway types	All non-residential zoning districts
2.5: Exterior Lighting	All standards	All roadway types	All zoning districts
2.6: Screening of Equipment and Utilities	All standards	All roadway types	- All non-residential zoning districts - The following uses are exempt, in addition to the general exemptions of Section 1.2.3.: local utilities services use, electric service transformers within the right-of-way, telecommunication tower
2.7: Private Common Open Space and Pedestrian Amenities	All standards	All roadway types	All site plans five acres in size or larger

Sidewalks and Building Placement

- **Street/tree furniture zone and clear zone required**



Sidewalks and Building Placement



8' min.

**REQUIRED
street tree/
furniture zone**

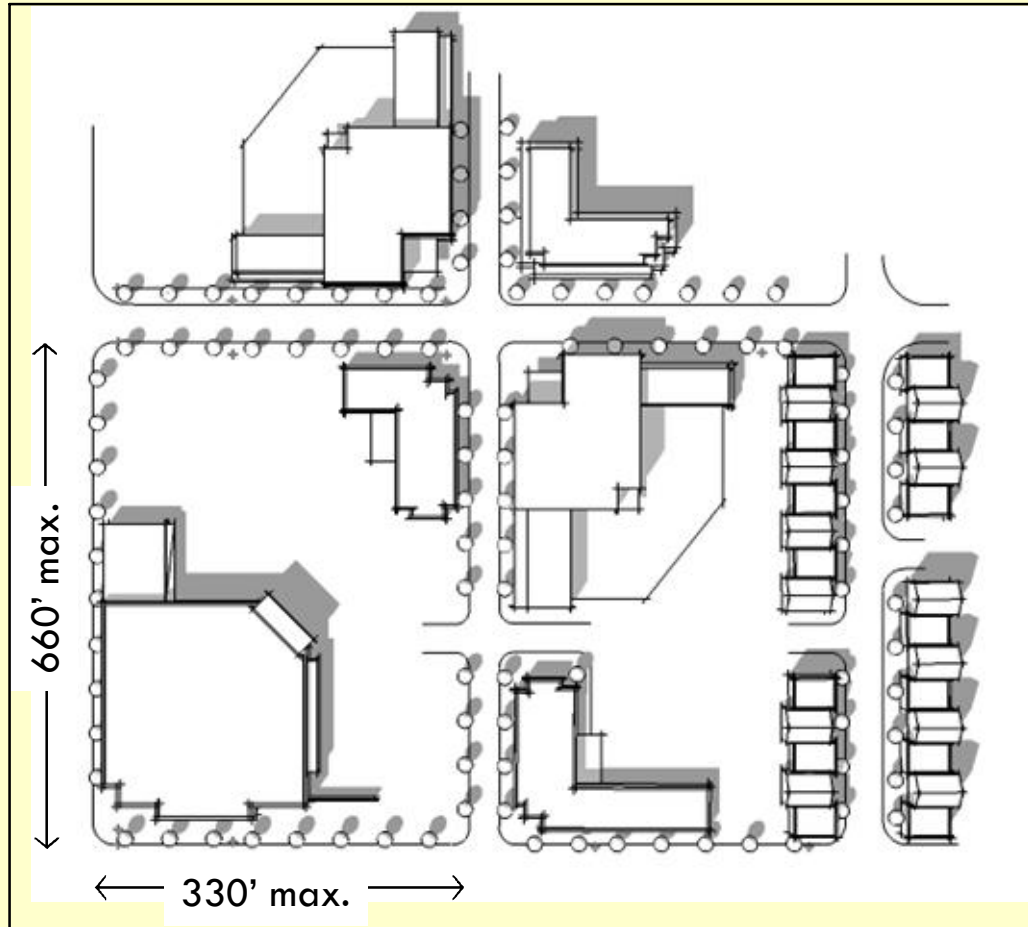
7' min.

**REQUIRED
clear zone**

20 - 30' max.

**OPTIONAL
supplemental
zone**

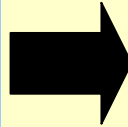
Internal Circulation Systems for Large Sites



- Required for most sites of five acres or larger
- Must use “Internal Circulation Routes” to divide the site into internal blocks

Options to Improve Building Design

- Determine number of required “points” based on planned design features
- One base point earned per building, plus additional points for certain features
- Examples:
 - +1 point if individual use is greater than 100,000 sq ft
 - + 3 points if building has an exterior trademarked design feature 12 feet or less above grade
 - Etc.



- Earn points by selecting from a menu of design improvements.

Menu of Design Improvements

1-POINT OPTIONS

**Achieve City of Austin Green Building Program
1-star rating.**

Provide for liner stores in building façade.

**Provide façade articulation
meeting specified standards.**

**Provide primary entrance design
meeting specified standards.**

**Provide roof design
meeting specified standards.**

**Provide building materials
meeting specified standards.**

**Improve existing storefronts to meet
new glazing requirements.**

**100% of glazing on ground-floor facades facing
street or parking lot with visual transmittance (VT)
of 0.6 or higher.**

**Comply with neighborhood design guidelines
(if applicable).**

2-POINT OPTIONS

**Achieve City of Austin Green Building Program
2-star rating.**

**75% of façade facing principal street consists of
storefronts with at least 2 separate entrances facing
principal street.**

**Provide sustainable roof
meeting specified standards.**

**Integrate solar power generation
into building design.**

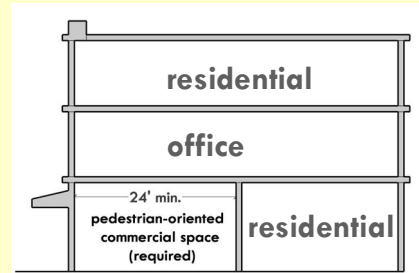
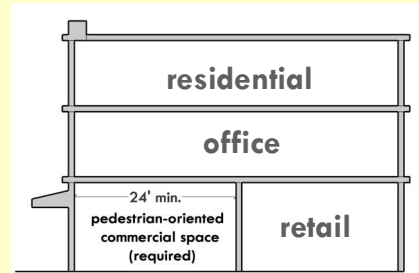
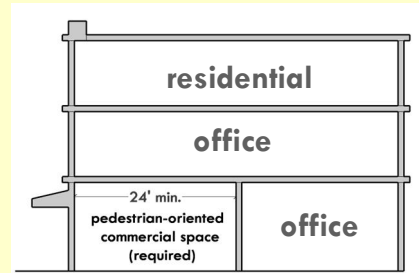
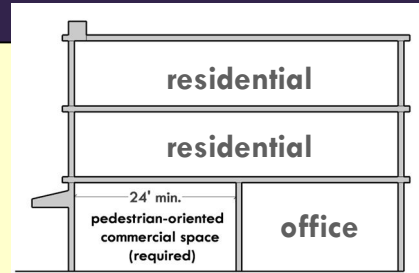
3-POINT OPTIONS

**Achieve City of Austin Green Building Program
3-star rating.**

Develop VMU building.

VMU Buildings

- Intended for Core Transit Corridors and sites zoned for mixed use
- Standards
 - Residential plus other uses required
 - Pedestrian-oriented commercial spaces required
 - Affordable units required
 - Exempt from certain standards (e.g., FAR, building coverage, setbacks) subject to neighborhood opt-in/opt-out process



SUBURBAN ROADWAY
R/W VARIES

CORE TRANSIT
R/W VARIES

EX. LPIN

EX GUY POLE

PROP WALGREENS
71 PARKING SPACES

WALGREENS SIGN 48 S.F.
PRIMARY PANEL 23.6 S.F.
LED READERBOARD 24.4

W/ FLEXIBLE POSTS
PAINTED ISLAND

VEHICULAR CONNECTION TO
ADJACENT COMMERCIAL SITE

TRASH AREA TO BE
SCREENED OR ENCLOSED

MAIN ENTRANCE

STOP

④ ⑤

75

19

1

⑤

1

1

1

10

What's a Form-Based Code?

- **“Cities have to move to a new system. They should look at the streets they like and the public spaces they like and then write the rules to get more of what they like and less of what they don't.”**

– Peter Katz

Speakers

- **Matt Goebel, AICP,
Clarion Associates**
 - Background: What's a form-based code? New examples from the western US.
- **Brewster McCracken, Council Member,
City of Austin, Texas**
 - Observations on form-based codes from a local official's perspective.
- **Al Zelinka and Jason Jones,
RBF Consulting**
 - Overview of the new Ketchum, Idaho, form-based code.