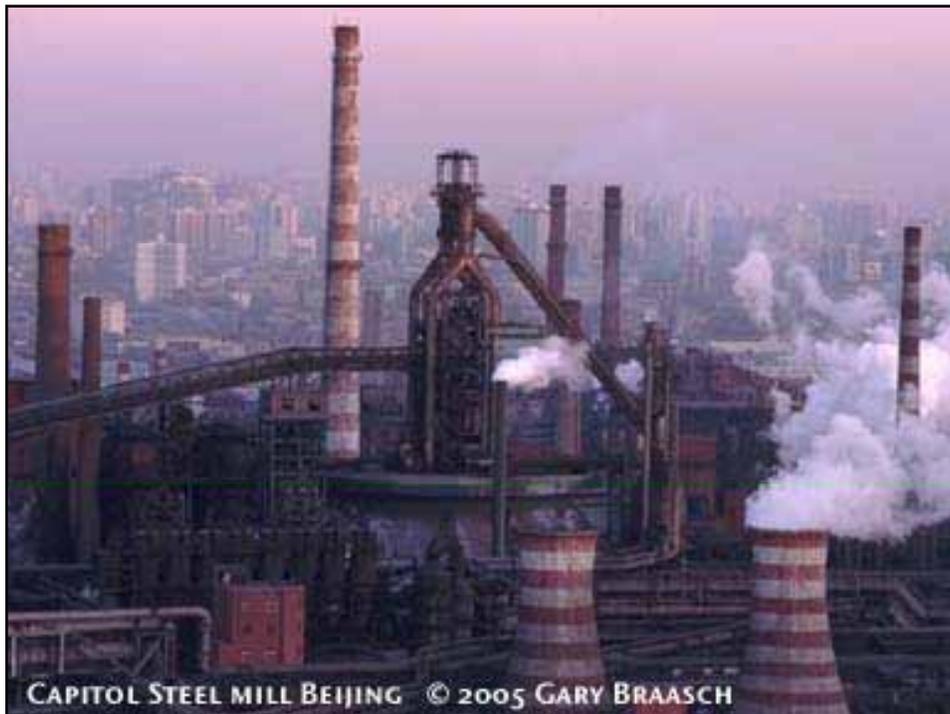


Introduction to Form-Based Coding



Anthony Perez
May 10, 2010



The Trouble with (Conventional) Zoning

- **It was created to avoid problems – a good thing!**



- **But, it doesn't know what it *intends to make***

Zoning Codes Decoded

At their core, Codes:

- **Allow the use of property**
- **Provide standards for planning and design of development**
- **Provide procedures for review, approval, administration**

The Trouble with (Conventional) Zoning

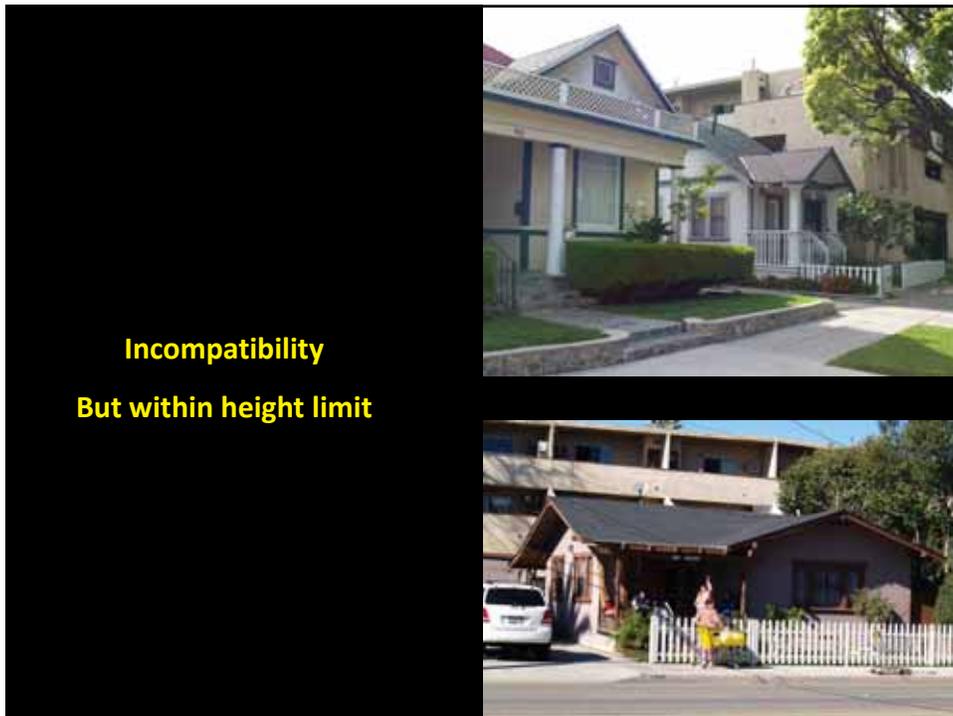
- **Emphasis on regulation by use**

- | | |
|-------------------------------|----------------------------------|
| 19. Baths, Turkish | 95. Physical culture institution |
| 25. Boxing arena | 109. Potato chip manufacturing |
| 28. Chinchillas, retail sales | 127. Tombstones, retail sales |
| 41. Eleemosynary institutions | 135. Turkish bath |
| 42. Embalming business | |

- **Disconnect between land use, urban form and design**

- **Exceptions become the rule**





Conventional vs. Form-Based



Street independent of its context



Street is part of the context

Conventional vs. Form-Based



Open space only as quantity



Open space scaled to its place

Conventional vs. Form-Based



Poor relationship to street



Streetscape is shaped positively

Conventional vs. Form-Based

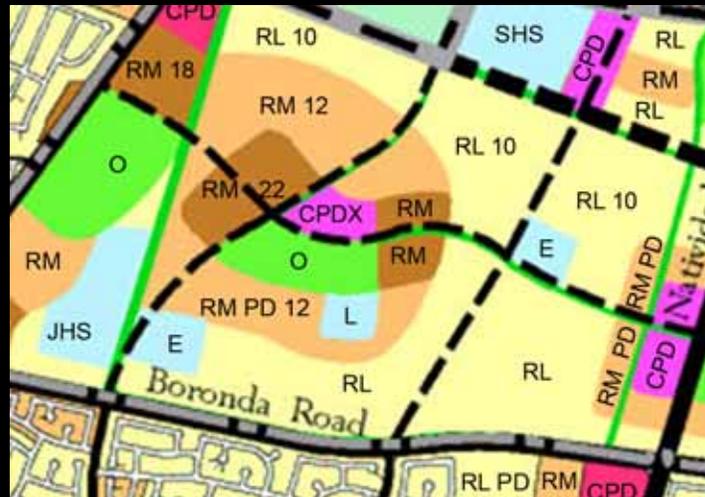


Separation by price point



Integration by unit / building types

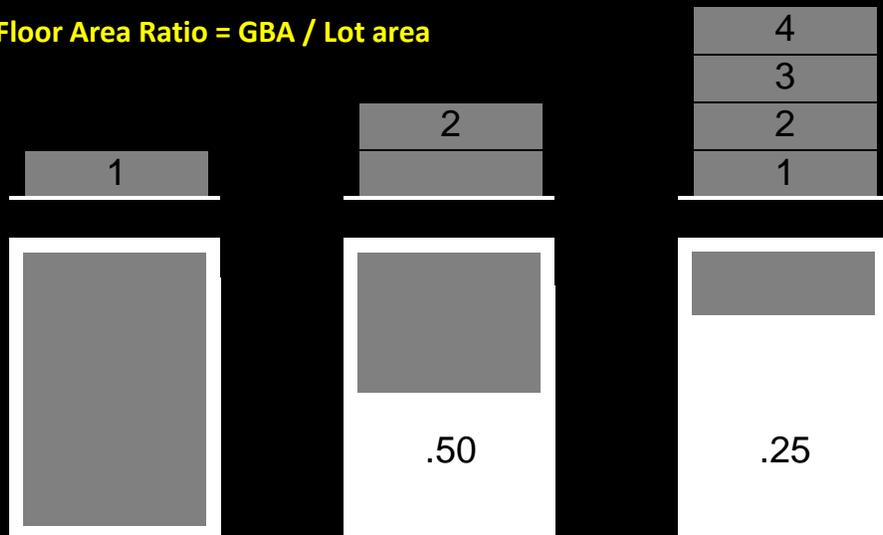
Conventional vs. Form-Based



Use-based zoning classifications

Conventional vs. Form-Based

Floor Area Ratio = GBA / Lot area



Conventional Zoning Features



'Un' Conventional Zoning



The Products of Conventional Zoning

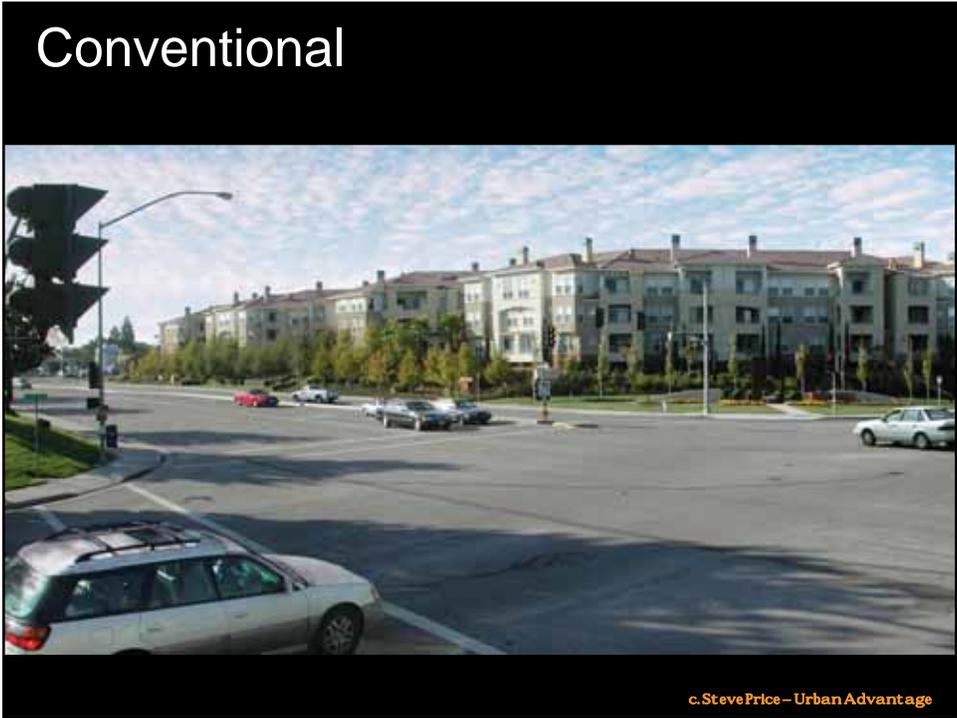


Streets designed for cars rather than people

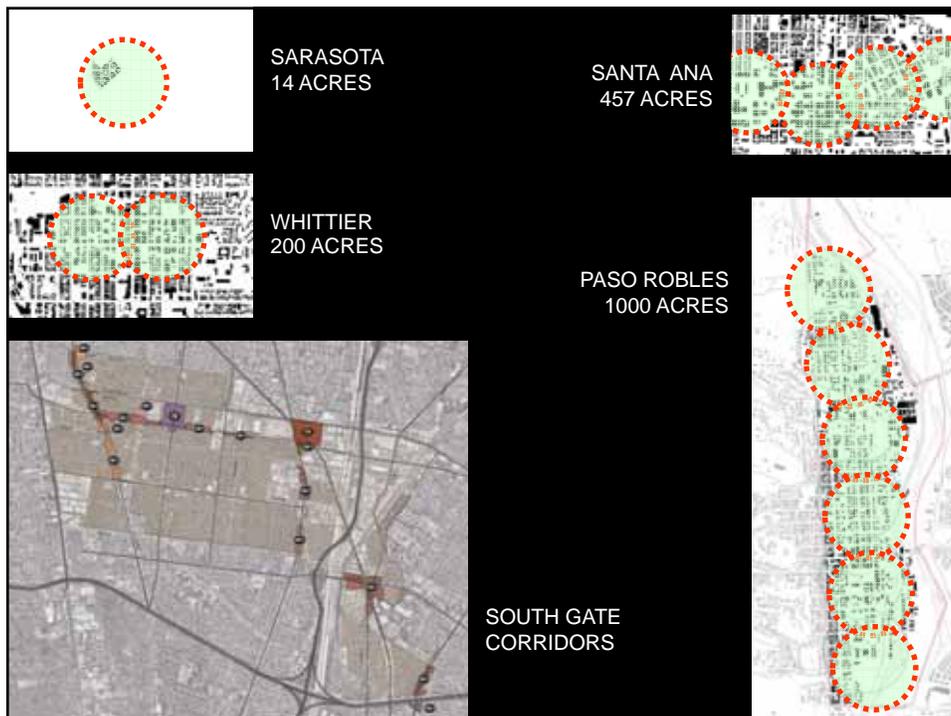
The Products of Conventional Zoning



Fear of density



FBC'S: PURPOSE AND COMPONENTS



Types of Codes

Mandatory form-based code:

- Compliance is never voluntary
- Replaces many aspects of the previous code
- May replace existing zoning or may span existing zoning districts with an overlay zone

Parallel Code: Compliance is always voluntary

- Supplements, but does not replace any aspects of the previous code
- May correspond to existing zoning, or span existing zoning with an overlay zone
- Adopted as an optional “overlay zone”
- Use of this code is encouraged by density bonuses
- Additional incentive: a streamlined approval process

Floating Code

- Compliance is usually voluntary
- Supplements, but does not replace any aspects of the previous code
- Always replaces existing zoning, but only on request of the landowner

2004

Form-Based Codes become a legally viable technique for zoning

AB 1268

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 65302.4 is added to the Government Code, to read:

65302.4. The text and diagrams in the land use element that address the location and extent of land uses, and the zoning ordinances that implement these provisions, may also express community intentions regarding urban form and design. These expressions may differentiate neighborhoods, districts, and corridors, provide for a mixture of land uses and housing types within each, and provide specific measures for regulating relationships between buildings, and between buildings and outdoor public areas, including streets.

Form-Based Code Principles

Rules: Building form as important as land use regulation

Emphasis: Mixed-use and mixed housing types

Public Realm: Greater attention to streetscape, design, role of buildings

Standards: Intentionally based on context and/or desired context

Public Process: Design-focused/informed by exstg conditions analysis

Components of Placemaking

1. Streets, Blocks, and Lots:

- public realm in support of private property and activity
- Intersection spacing
- block dimensions
- lot sizes



Components of Placemaking

2. Public Realm and Streetscape:

- R.O.W. width
- component widths
- landscape
- street furniture



Components of Placemaking

3. Buildings:

- types
- placement
- height and profile
- frontage
- mass and volume



Form-Based Code Components

TOPIC / COMPONENT	LEVEL OF REGULATION		
	1	2	3
CHARACTER AND INTENSITY			
REGULATING PLANS	■	■	■
ZONES AND INTENT	■	■	■
DEVELOPMENT POTENTIAL	■	■	■
SUBDIVISION OF LAND			
BLOCKS	■	■	■
LOTS	■	■	■
STREET TYPES	■	■	■
OPEN SPACE TYPES		■	■
STREETSCAPE TYPES		■	■
URBAN STANDARDS			
BUILDING PLACEMENT	■	■	■
BUILDING HEIGHT	■	■	■
BUILDING PROFILE	■	■	■
ENCROACHMENTS	■	■	■
PARKING PLACEMENT	■	■	■
PARKING REQUIREMENTS	■	■	■
ARCHITECTURAL STANDARDS			
BUILDING TYPES	■	■	■
FRONTAGE TYPES	■	■	■
ARCHITECTURAL STYLE			■
SIGNAGE			■
ADMINISTRATION			
PROCEDURES	■	■	■
DEFINITIONS	■	■	■

VISION



ILLUSTRATIVE PLAN: THE INTENDED CHARACTER

• The Existing Situation



• The Range of individual actions

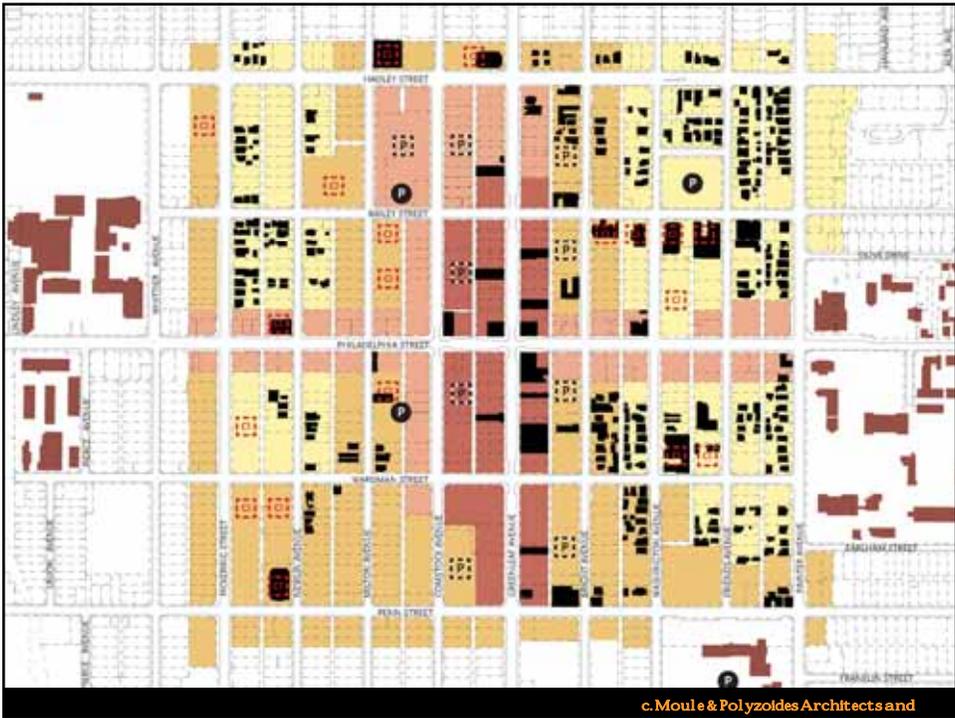


c. Moule & Polyzoides Architects and Urbanists



c. Moule & Polyzoides Architects and Urbanists

**REGULATING PLAN:
IDENTIFY ZONES AND ALLOCATE STANDARDS**



c. Moule & Polyzoides Architects and

PLAN FORM 60000-0200

CITYWIDE REGULATING PLAN AND ZONES PLAN 600

.020

TABLE 11.00.020(A) ZONE SUMMARIES

ZONE	LOW DENSE URBAN	SMART GROWTH URBAN	URBAN CORE	URBAN I URBAN	URBAN II URBAN
MINIMUM BUILDING HEIGHT See Table 11.00.020(B) for additional requirements					
ALLOWED BUILDING TYPES See Table 11.00.020(B) for additional requirements If not listed in table, use state code for zoning district in Table 11.00.020(C) for additional requirements	<ul style="list-style-type: none"> Single-Family Detached Single-Family Attached Two-Family Attached Three-Family Attached Four-Family Attached Five-Family Attached Six-Family Attached Seven-Family Attached Eight-Family Attached Nine-Family Attached Ten-Family Attached Eleven-Family Attached Twelve-Family Attached Thirteen-Family Attached Fourteen-Family Attached Fifteen-Family Attached Sixteen-Family Attached Seventeen-Family Attached Eighteen-Family Attached Nineteen-Family Attached Twenty-Family Attached 	<ul style="list-style-type: none"> Single-Family Detached Single-Family Attached Two-Family Attached Three-Family Attached Four-Family Attached Five-Family Attached Six-Family Attached Seven-Family Attached Eight-Family Attached Nine-Family Attached Ten-Family Attached Eleven-Family Attached Twelve-Family Attached Thirteen-Family Attached Fourteen-Family Attached Fifteen-Family Attached Sixteen-Family Attached Seventeen-Family Attached Eighteen-Family Attached Nineteen-Family Attached Twenty-Family Attached 	<ul style="list-style-type: none"> Single-Family Detached Single-Family Attached Two-Family Attached Three-Family Attached Four-Family Attached Five-Family Attached Six-Family Attached Seven-Family Attached Eight-Family Attached Nine-Family Attached Ten-Family Attached Eleven-Family Attached Twelve-Family Attached Thirteen-Family Attached Fourteen-Family Attached Fifteen-Family Attached Sixteen-Family Attached Seventeen-Family Attached Eighteen-Family Attached Nineteen-Family Attached Twenty-Family Attached 	<ul style="list-style-type: none"> Single-Family Detached Single-Family Attached Two-Family Attached Three-Family Attached Four-Family Attached Five-Family Attached Six-Family Attached Seven-Family Attached Eight-Family Attached Nine-Family Attached Ten-Family Attached Eleven-Family Attached Twelve-Family Attached Thirteen-Family Attached Fourteen-Family Attached Fifteen-Family Attached Sixteen-Family Attached Seventeen-Family Attached Eighteen-Family Attached Nineteen-Family Attached Twenty-Family Attached 	<ul style="list-style-type: none"> Single-Family Detached Single-Family Attached Two-Family Attached Three-Family Attached Four-Family Attached Five-Family Attached Six-Family Attached Seven-Family Attached Eight-Family Attached Nine-Family Attached Ten-Family Attached Eleven-Family Attached Twelve-Family Attached Thirteen-Family Attached Fourteen-Family Attached Fifteen-Family Attached Sixteen-Family Attached Seventeen-Family Attached Eighteen-Family Attached Nineteen-Family Attached Twenty-Family Attached
REQUIRED MINIMUM HEIGHTS See Table 11.00.020(B) for additional requirements	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft
TRANSITION REQUIREMENTS See Table 11.00.020(B) for zoning district requirements	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft 	<ul style="list-style-type: none"> Min. 10 ft Max. 10 ft

CITY OF SOUTH GATE, CALIFORNIA

PLAN FORM 60000-0200

CITYWIDE REGULATING PLAN AND ZONES PLAN 600

.020

FIGURE 11.00.020(E) REGULATING PLAN FOR THE CIVIC CENTER (CIVIC) ZONE

11.00.020(C) CIVIC CENTER ZONE (CIVIC)

Intent and Purpose
The Civic Center is a special-use district that is intended to be a central business district that is characterized by high-quality architecture and a mix of uses including:

- Office
- Retail
- Entertainment
- Cultural
- Civic
- Residential

Physical Character
The physical character of the Civic Center is intended to be a central business district that is characterized by high-quality architecture and a mix of uses including:

- Office
- Retail
- Entertainment
- Cultural
- Civic
- Residential

Buildings
Buildings are intended to be of high quality and to be a mix of uses including:

- Office
- Retail
- Entertainment
- Cultural
- Civic
- Residential

Streetscape - Public Realm
Streetscape is intended to be a mix of uses including:

- Office
- Retail
- Entertainment
- Cultural
- Civic
- Residential

Parking
Parking is intended to be a mix of uses including:

- Office
- Retail
- Entertainment
- Cultural
- Civic
- Residential

EXAMPLE TABLE OF INTENDED PHYSICAL CHARACTER

CITY OF SOUTH GATE, CALIFORNIA

CITYWIDE REGULATING PLAN AND ZONES 11.06.010



CITY OF SAN DIEGO, CALIFORNIA

11.06.0101 TRANSLATED VILLAGE ZONE (TVZ)

EXAMPLES: RANGE OF HEIGHTS, PHYSICAL CHARACTER



Height and Proportion
The TVZ zone is designed to encourage opportunities for a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions.

Physical Character
The TVZ zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions.



Open Space / Public Realm
The TVZ zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions.

Parking
The TVZ zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions. The zone is designed to encourage a mix of building heights and proportions.



CITY OF SAN DIEGO, CALIFORNIA

LAND USE STANDARDS

TABLE 11.04-0001B

APPLYING STANDARDS TO ACHIEVE PEDESTRIAN/HUMAN-SCALED BUILDINGS

This table summarizes the intent of the Block, and shows how to combine with the building type standards and provide direction on how to build them according to appropriate blocks with the goal of creating pedestrian scaled buildings.

<p>Step 1: Existing Site</p> <p>The site plan is being considered with regard to existing building footprints that may be used to create additional space for the purposes of this Table. The site plan should be consistent with Table 11.04-0001A. The requirements for building mass and floor area apply.</p> <p>Units will be considered greater affordability for each building unit to be added to the site. Units of 100 sq ft and less are considered the most affordable units. The amount of light transit and view quality is to be considered.</p>		<p>Step 4: Rigid Zones</p> <p>Forming rigid zones into the site plan to provide the type of units in a consistent manner. The proposed development of this building should be consistent with the building type standards. The site plan should be consistent with the requirements for building mass and floor area.</p> <p>No building in rigid zones can be taller than the building height of existing buildings in the zone.</p>	
<p>Step 2: Determine Form</p> <p>The building footprint is defined by the building type standards. The building footprint should be consistent with the requirements of Table 11.04-0001A. The building footprint should be consistent with the requirements of Table 11.04-0001B.</p>		<p>Step 3: Determine Grid</p> <p>The building footprint is divided into a grid of units. The grid should be consistent with the requirements of Table 11.04-0001A. The grid should be consistent with the requirements of Table 11.04-0001B.</p>	
<p>Step 3: Determine Mass</p> <p>The building footprint is defined by the building type standards. The building footprint should be consistent with the requirements of Table 11.04-0001A. The building footprint should be consistent with the requirements of Table 11.04-0001B.</p>		<p>Step 4: Determine Program</p> <p>The building footprint is defined by the building type standards. The building footprint should be consistent with the requirements of Table 11.04-0001A. The building footprint should be consistent with the requirements of Table 11.04-0001B.</p>	

70

CITY OF GAITHERSBURG

STREET AND NETWORK STANDARDS



11.00 FORM-BASED CODE

.040

TABLE 11.00.04(A)(1) URBAN STANDARDS

The following measurements apply to all properties, building requirements unless the City code allows an alternative.

A. Building Placement Requirements		B. Encroachments into Required Setbacks or E.O.B.	
1. The following setbacks shall be required, as applicable:			
BUILDING SETBACKS:	MINIMUM SETBACK:	TYPE:	MAXIMUM SETBACK:
Front yard (1)	0' or 10' min.	Front yard (Fronting, Signs, Curbcut)	10% of lot width
Side Street (2)	0' or 10' min.	Outdoor Dining	min 5' (8' access)
Side yard	10 min.	Side Street (Fronting, Signs, Curbcut, Outdoor Dining)	10% of lot width
Rear yard	10' (from building) or rear 15'	Interior Side yard	10% of lot width
Along rear yard	5' (from edge of alley) (1)	Rear yard	25% of yard
	(2) towards building		per ADA, Sign

2. The following encroachments into required setbacks or E.O.B. are allowed as identified below:

(1) Building may be placed anywhere within the " allowable building placement" area, as identified below, subject to the applicable building height and zoning standards.

(2) Ground floor common area required within 100 ft of street corner at public open space.

Legend:

- Setback
- Allowable Building Placement
- Required Setback
- Street Curbcut/Encroachment
- Setback
- Allowable Building Placement
- Ground Floor Common Area (within 100 ft of street corner)
- Required Setback
- Street Curbcut/Encroachment

- Where can the building go?
- Encroachments into setbacks?

URBAN STANDARDS - 11.00.041

TRANSIT VILLAGE ZONE

C. Building Height and Volume		D. Parking Placement Requirements	
1. The following shall be required, as applicable:			
BUILDING HEIGHT:	MAXIMUM HEIGHT:	TYPE:	MAXIMUM HEIGHT:
Ground floor without canopy	up to 10 stories or 100 ft (1)	Front	10' min.
Ground floor with canopy	up to 10 stories or 100 ft (1)	Side Street	5 min. (2)
Rear Volume (1) above 1st story, within 10' of 100' (100' E.O.B. setback from rear property line required)	10' min.	Rear yard	5 min.
Front facade above 1st story, not 10' or back 10' of front lot of block	10' min.	Along rear yard	5 min.

2. The building may occupy the allowable envelope as identified below, subject to zoning standards for applicable building type.

(1) Ground Floor Maximum Height: 10 ft.

3. Parking (unless the following parking setbacks shall be provided as applicable - see Table 11.00.04(A)(1) for required parking):

(1) The above setback requirements apply to parking garage.

(2) All grade parking allowed along side street facade for up to 10' of 100'.

(3) If lower stories are 10 ft in height or required along any adjacent right-of-way between adjacent parking, and the sidewalk.

4. Parking from Figure 423. Minimum space is provided only from the top of the lot and from the front or side street, provided that the distance is at least 100 feet from the street to rear lot, unless otherwise shown.

Legend:

- Setback
- Allowable Building Placement
- Required Setback
- Street Curbcut/Encroachment
- Setback
- Allowable Building Placement
- Ground Floor Common Area (within 100 ft of street corner)
- Required Setback
- Street Curbcut/Encroachment

CITY OF SOUTH GATE, CALIFORNIA

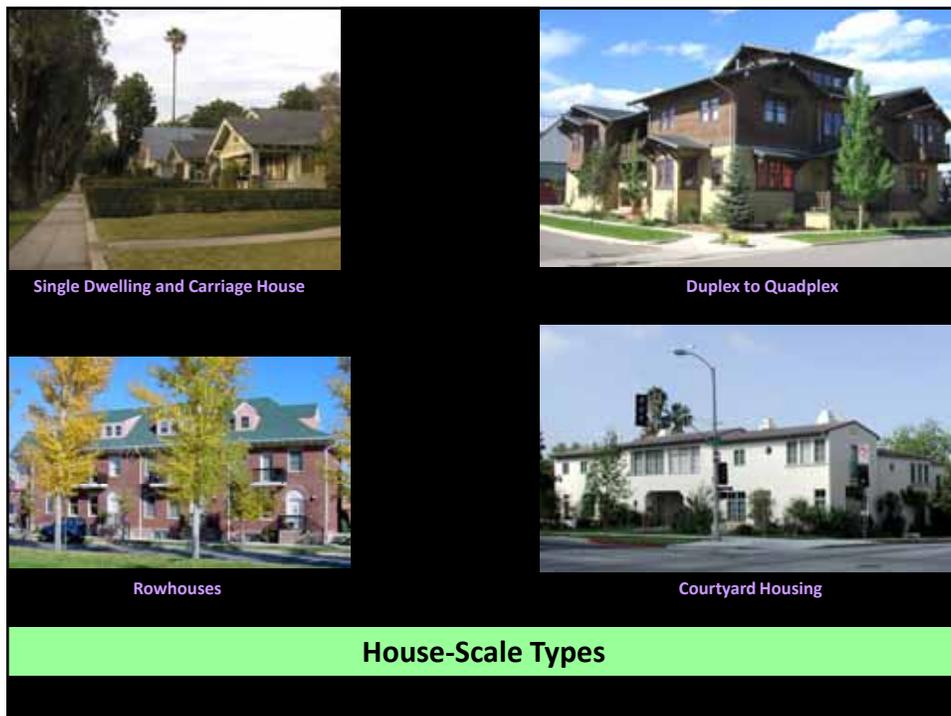
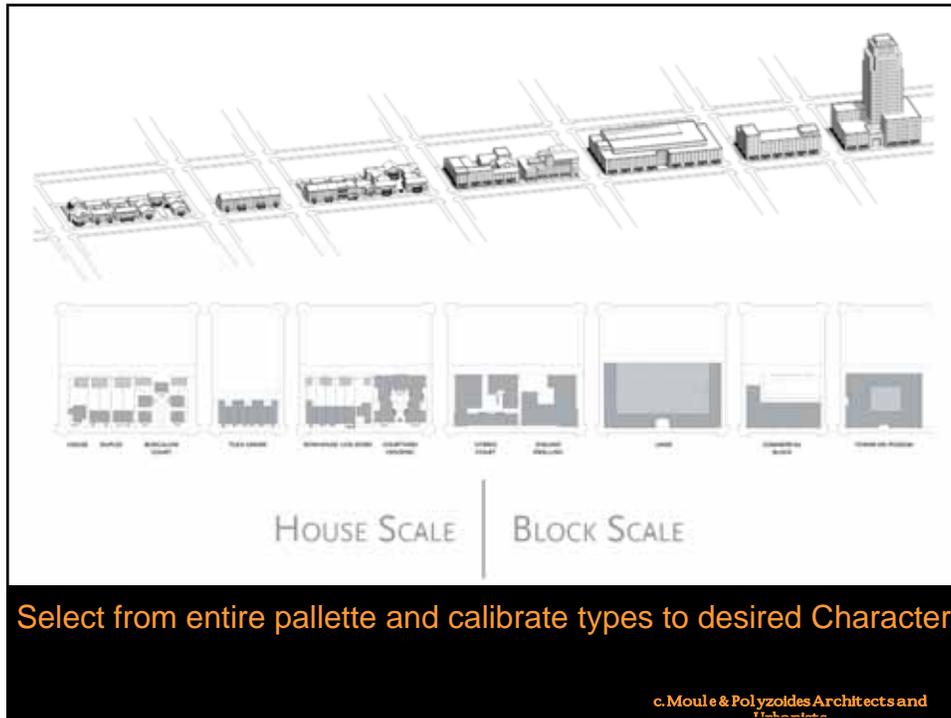
- What building types are allowed?
- How tall can the building be?
- What frontage types are allowed?
- Where can the parking go?
- How much parking?

BUILDING TYPE STANDARDS



Incompatibility

***But* within limits and allowed use**



PLAN 0004 0000 0000

.051 FLORIANEIA - FLEX BLOCK

1. Description and Intent
As in other types, a building designed for a variety of purposes and functions. This type may be converted for retail, services, office, residential use for two months each on the ground floor, with upper floors either residential or office use or strictly for one use such as housing. This type generally uses public open space as it does not typically increase the private open space for all of its occupants. This type may occur in a single-story building that is single or independent, or in a multi-story mixed-use building.

2. Maximum Density
The Floor Area Ratio (FAR) shall be 100 dwellings per acre. FAR shall represent the actual number of stories and use of building units.







The maximum FAR for this building shall be 100 dwellings per acre. The maximum FAR for this building shall be 100 dwellings per acre. The maximum FAR for this building shall be 100 dwellings per acre. The maximum FAR for this building shall be 100 dwellings per acre.

BUILDING TYPES AND STANDARDS | 75.00.00

ILLUSTRATIVE EXAMPLE OF THE FLEX BLOCK BUILDING TYPE



3. Lot and Block Standards
If the block building shall be located on a lot per the following table, the lot shall be as specified:

Block Area	Lot Standards	
	Min. Lot	Max. Lot
Block A	10,000	20,000
Block B	10,000	20,000
Block C	10,000	20,000
Block D	10,000	20,000

4. Other Standards

- a. The maximum FAR for each parcel of these districts shall be directly proportional to the adjacent public open space.
- b. Ground floor setbacks shall be at the same grade or below of the adjacent public open space.
- c. Access to non-residential portions of the building shall be through a street front entry, or through separate lobby separate from the street or through a side yard.

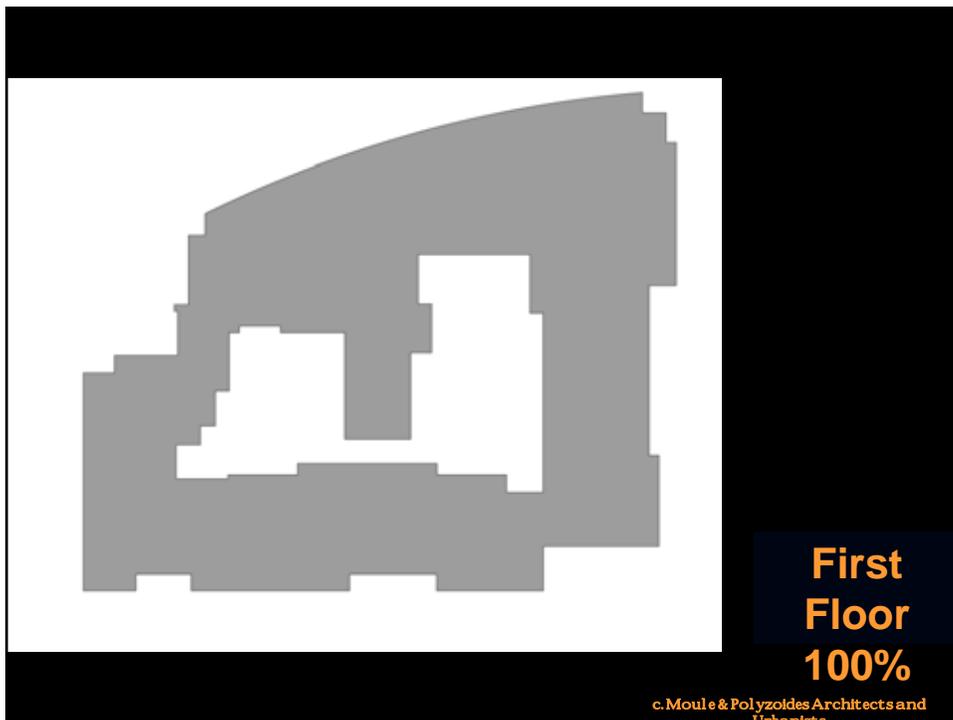
5. Parking Standards

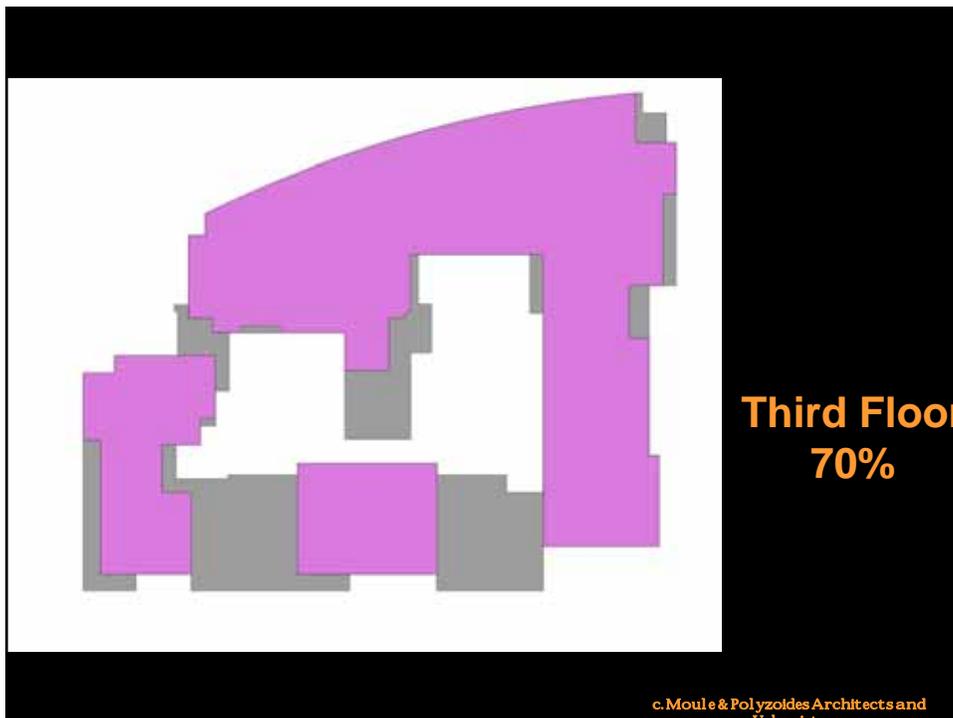
- a. Required parking shall be accommodated in an underground garage, above-grade parking garage, or on surface as allowed in a combination of the three or through the public lot area.
- b. The building shall have a direct access to the parking facility.

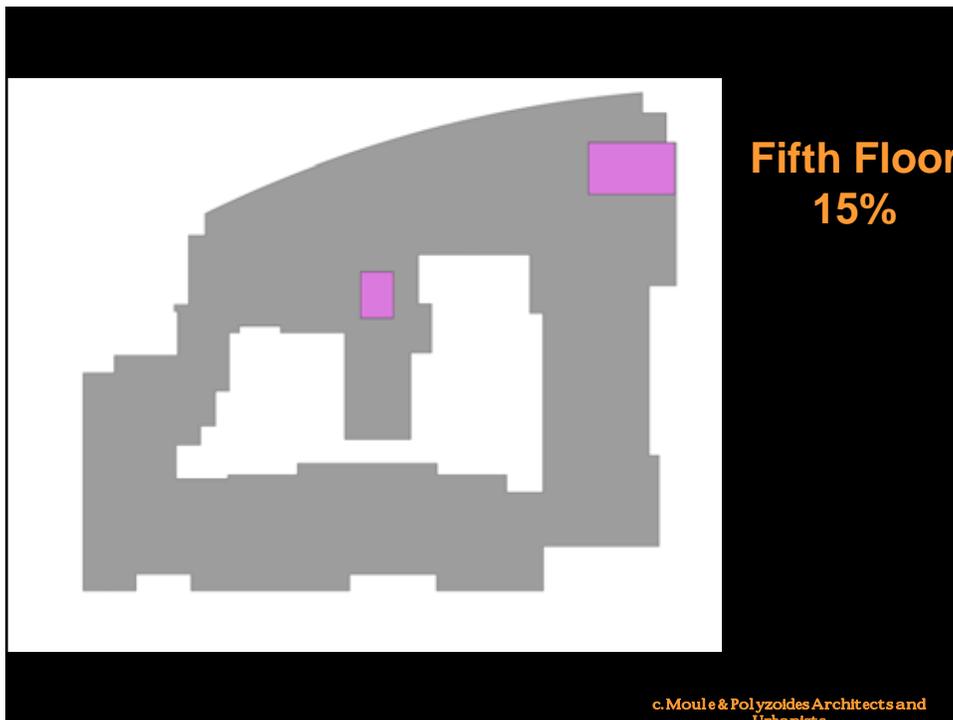
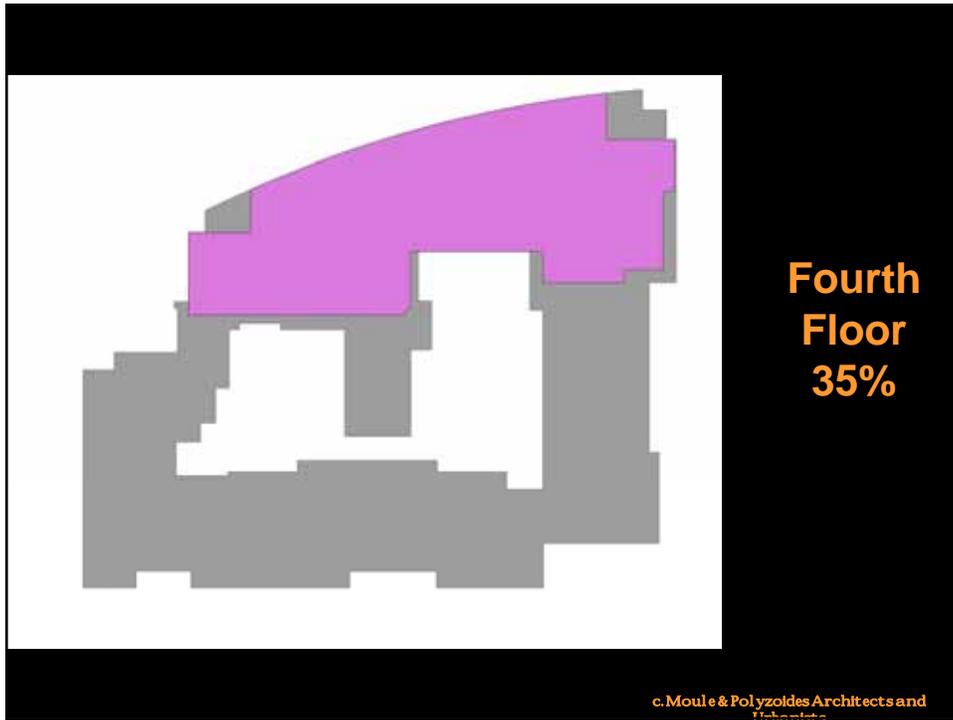
COPY OR SIMILAR LISTS, 1/1/2010

BUILDING SIZE AND MASSING STANDARDS





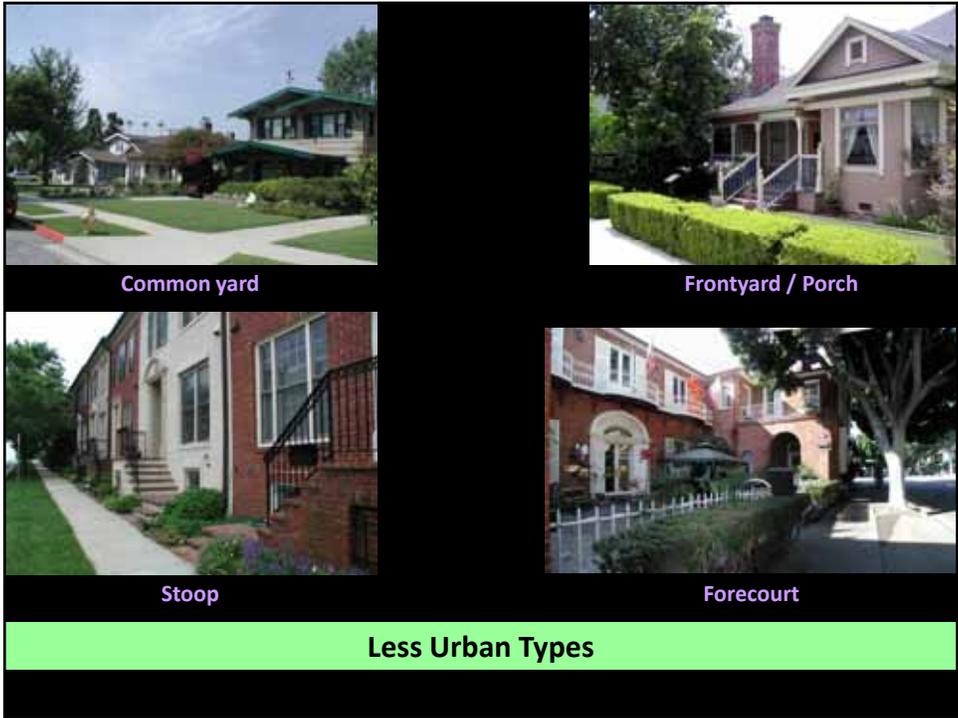


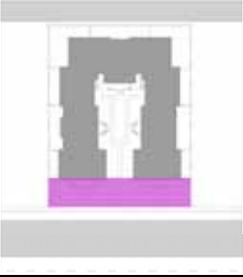




FRONTAGE STANDARDS







Building Type:
Court

Variety of Frontages:

- Frontyard
- Stoop
- Shopfront



Front yard

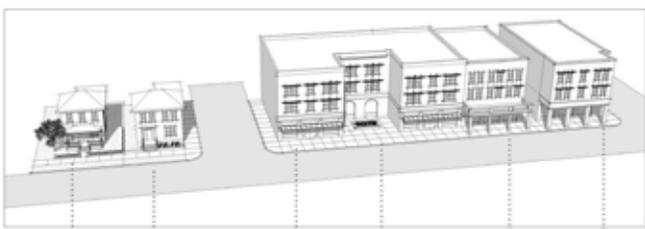


Stoop



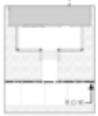
Shopfront

Flexibility of Types



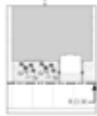
1

Frontyard



2

Stoop



3

Shop Front



4

Portico



5

Gallery



6

Arched



Table 101: Frontage Types Allowed by Zone and Minimums of Frontage (%)

Frontage Type	R	RR	ML
A. Arched	100%	100%	100%
B. Gallery	100%	100%	100%
C. Shopfront	100%	100%	100%
D. Portico	100%	100%	100%
E. Stoop	100%	100%	100%
F. Frontyard / Stoop	100%	100%	100%

(1) The specified frontages in table 101 apply when only one frontage type is used on a building's frontage. Combinations of types allowed in the same particular zone are not subject to these specific percentages and are to be evaluated in design review by the Community Development Director.

c. Moule & Polyzoides Architects and
Urbanists

11.00 FORM-BASED DESIGN

FRONTAGE TYPES AND STANDARDS 11.00.040

.060

11.00.060.010 SHOPFRONT TYPE

Background/Intent:
Shopfronts are large ground-level openings or displays that, with decorative treatments, provide a visual connection with the building and its use. Shopfronts are generally open spaces for customer display and are used to attract attention and create the sidewalk space where the customer assembly may be directed to specific commercial activities at a ground-level window display.

Location of Shopfront Design: Shopfronts shall be located in the following and as further described in the Department:

- Shopfront openings shall be located 10 feet high or less and shall be adjacent to the sidewalk or public space with a minimum of four feet of the ground floor wall space for each adjacent sidewalk or public space.
- Shopfronts shall be fully enclosed for exterior display from the top up to 10 feet.
- A physical barrier shall be provided between the display of the shopfront and the sidewalk grade, except for glass and/or transparent display of the display, in compliance with all applicable requirements. When a physical barrier is provided between the sidewalk and the adjacent grade, the barrier shall be between 10 feet and 14 feet high, shall be made of a material that is not reflective, and shall be a minimum of 10 feet high.
- Shopfront openings shall provide clear views of store displays within the display area and shall be located within the sidewalk or public space with a minimum of four feet of the ground floor wall space for each adjacent sidewalk or public space.
- When openings are present, openings shall be located between the sidewalk and the adjacent grade, shall be fully enclosed, and shall be located within the sidewalk or public space with a minimum of four feet of the ground floor wall space for each adjacent sidewalk or public space.
- Shopfront openings shall be fully enclosed for exterior display from the top up to 10 feet.
- Shopfront openings shall be fully enclosed for exterior display from the top up to 10 feet.
- Shopfront openings shall be fully enclosed for exterior display from the top up to 10 feet.

Examples: Shopfront Type

Shopfront Type

11.00.060.010 SHOPFRONT TYPE

11.00 FORM-BASED DESIGN

FRONTAGE TYPES AND STANDARDS 11.00.040

.060

11.00.060.020 FORECOURT TYPE

Background/Intent:
Forecourts are public spaces defined by a substantial structure that provides a visual connection with the building and its use. Forecourts are generally open spaces for customer display and are used to attract attention and create the sidewalk space where the customer assembly may be directed to specific commercial activities at a ground-level window display.

Location of Forecourt Design: Forecourts shall be located in the following and as further described in the Department:

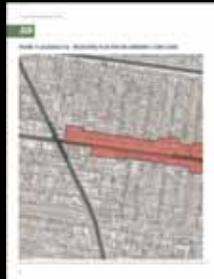
- Forecourts shall be located 10 feet high or less and shall be adjacent to the sidewalk or public space with a minimum of four feet of the ground floor wall space for each adjacent sidewalk or public space.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.
- A physical barrier shall be provided between the display of the forecourt and the sidewalk grade, except for glass and/or transparent display of the display, in compliance with all applicable requirements. When a physical barrier is provided between the sidewalk and the adjacent grade, the barrier shall be between 10 feet and 14 feet high, shall be made of a material that is not reflective, and shall be a minimum of 10 feet high.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.
- Forecourts shall be fully enclosed for exterior display from the top up to 10 feet.

Examples: Forecourt Type

Forecourt Type

11.00.060.020 FORECOURT TYPE

Introduction to Form-Based Coding



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Preparing a Form-Based Code

1. **Existing conditions analysis:** to calibrate approach
2. **Public visioning:** to produce structural content of plan
3. **Regulating Plan and zones:** to reflect desired use, results/intensities
4. **Develop urban standards:** streets, blocks, building placement, height, massing, encroachments
5. **Develop architectural standards:** frontage and building typologies
6. **Allocate and illustrate standards:** reflect range of desired results / compatibility
7. **Test the Code:** to adjust and finalize code
8. **Splice into Agency's Regulations:** to replace/augment existing regulations