

# ***ZONING:***

***Evolutionary or Revolutionary?***

# Basic Zoning Approaches

**Use**



**Impact**



**Design**



# Use-Based Zoning

aka:

Traditional Zoning  
Conventional Zoning  
Euclidean Zoning

# Use-Based Zoning

- **Origin:**

- Industrial Revolution and US Urbanization

- **Goals:**

- Groups similar uses; sets common standards
- Assumes "similarity" ensures "compatibility"
- "A Place for everything and everything in its place"

- **Features:**

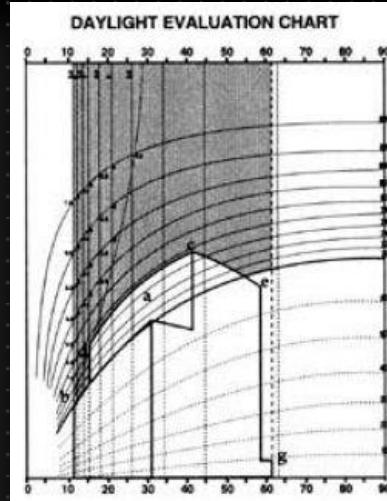
- Function (use) trumps performance (impact) and form (design)
- Limits density (units/acre, lot size)
- Regulates bulk (height, setbacks)
- Regulates site (access, parking, services)
- Tends to result in low-density horizontal development

# Use-Based Milestones



- 1916 - First Comprehensive Zoning Ordinance – NYC
- 1922 - *“Standard State Zoning Enabling Act”* – Herbert Hoover
- 1926 - *“Euclid v. Ambler”* - Zoning Upheld by US Supreme Court
- 1961 - *“Life and Death of American Cities”* – Jane Jacobs
- 1962 - *First Planned Unit Development ordinance* – San Francisco
- 1964 - *“Requiem for Zoning”* – John Reps/ASPO Speech
- 1966 - *“The Zoning Game”* – Richard Babcock
- 1971 - *“Quiet Revolution in Land Use Control”* – Fred Bosselman
- 1985 - *“Unified Development Ordinance”* – Michael Brough

# In the beginning ...



## Euclid's Zoning Districts

U-1	Single-family detached homes
U-2	U-1 plus duplex units
U-3	U-2 plus apartments
U-4	U-3 plus office and commercial
U-5	U-4 plus warehouse and some manufacturing
U-6	U-5 plus all other industries



# Critics Corner

*“Zoning is seriously ill and its physicians – the planners – are mainly to blame. ... We have unnecessarily prolonged the existence of a land use control device conceived in another era when the true and frightening complexity of urban life was barely appreciated.”*

**John Reps**



*“The model of the human habitat dictated by zoning is a formless, centerless, demoralizing mess. It bankrupts families and townships. It disables whole classes of decent, normal citizens. It corrupts and deadens our spirit.”*

**James Howard Kunstler**

# “Relief Valves”

- Variances
- Overlay districts
- Conditional uses
- Special exceptions
- Combining districts
- Restrictive covenants
- Administrative waivers
- Planned unit developments
- Planned development agreements

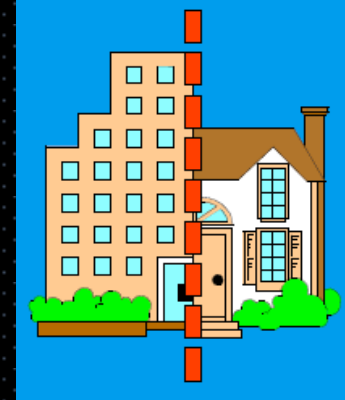




# Use-Based Pros and Cons

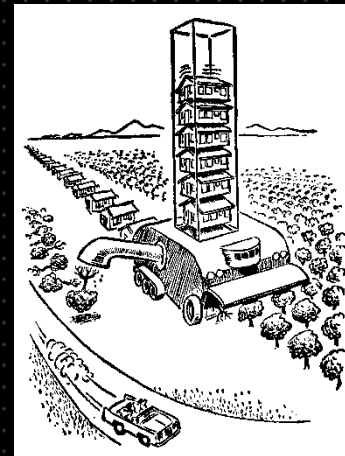
## • Strengths

- Provides relative certainty
- Separates incompatible uses
- Relatively easy to implement
- Everyone knows what it is
- Allows extensive citizen input



## • Weaknesses

- Encourages sameness
- Inhibits mixing of uses
- Focuses on negative
- Too process-oriented
- Politicizes planning



# Impact-Based Zoning

aka:

Flexible Zoning

Performance Zoning

Market-based Zoning

# Impact-Based Zoning

- **Origin:**

- Industrial pollution and environmental degradation

- **Goals:**

- Protect natural resources
- Avoid land use incompatibilities
- Mitigate negative externalities

- **Features:**

- Performance (impact) trumps function (use) and form (design)
- No districting - "Everything's place is everywhere"
- Substitutes quantitative for qualitative measurements
- Requires sophisticated technical resources
- Discourages public input and participation

# Impact-Based Milestones



- 1859 - Nation's first smoke ordinance - New Orleans
- 1869 - Nation's first obnoxious use ordinance - San Francisco
- 1951 - *"Performance Standards"* Dennis O'Harrow/ASPO speech
- 1964 - *"Land Use Intensity"* introduced - Byron Hanke
- 1972 - *"Impact Zoning"* introduced - John Raftery
- 1973 - *"Performance Zoning"* introduced - Bucks County, PA **Dennis O'Harrow**
- 1980 - *"Performance Zoning"* published - Lane Kendig
- 1981 - First city to adopt Performance Zoning - Fort Collins



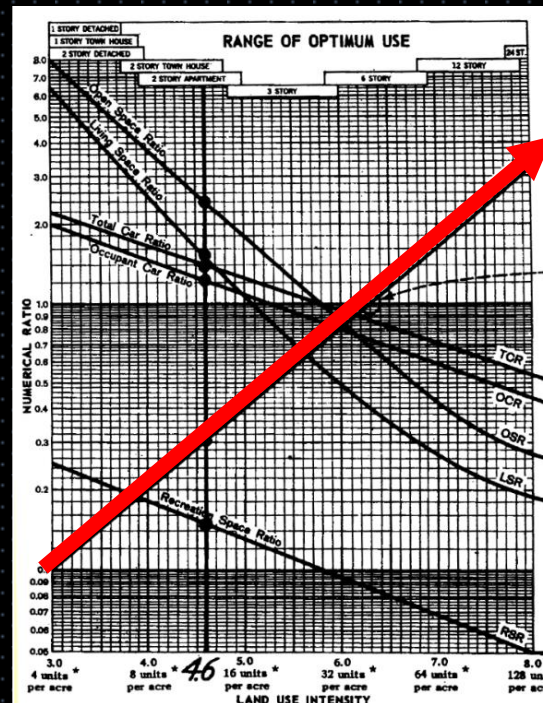
# Land Use Intensity (LUI)

*“Zoning in its first half century has been a mixed blessing. Instead of encouraging the best use of land, zoning and other planning regulations too often have blocked new planning concepts designed to meet modern needs.”*

**Byron Hanke**

## Optimum use ranges

- Floor area ratio
- Total car ratio
- Occupant car ratio
- Open space ratio
- Living space ratio
- Recreation space ratio


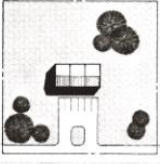
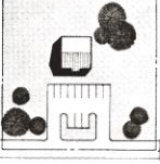
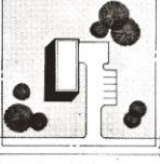


# Impact Zoning

*"Impact Zoning is based on the concept that the impact of a development on the natural, social and economic environment of a community must be evaluated."*

**John Rahenkamp**

- **Growth rate**
  - Current
  - Available land
  - Surrounding region
- **Environment**
  - Slopes
  - Hydrology
  - Vegetation
- **Infrastructure**
  - Sewer and water
  - Roads
  - Community services
- **Fiscal**
  - Project costs
  - Project revenues

	<b>SINGLE FAMILY</b> COVERAGE 16% DENSITY 1 DU/AC * VALUE \$40,000.00	TAX YIELD \$1200.00 MUNICIPAL COST 1050.00 SURPLUS \$150.00
	<b>TOWNHOUSE</b> COVERAGE 16% DENSITY 3 DU/AC VALUE \$75,000.00	TAX YIELD \$2250.00 MUNICIPAL COST 1650.00 SURPLUS \$600.00
	<b>GARDEN APARTMENT</b> COVERAGE 16% DENSITY 6 DU/AC VALUE \$108,000.00	TAX YIELD \$3240.00 MUNICIPAL COST 1700.00 SURPLUS \$1540.00
	<b>INDUSTRIAL</b> COVERAGE 16% VALUE \$40,000.00	TAX YIELD \$1200.00 MUNICIPAL COST 60.00 SURPLUS \$1140.00

\* Dwelling units per acre is abbreviated DU/AC.

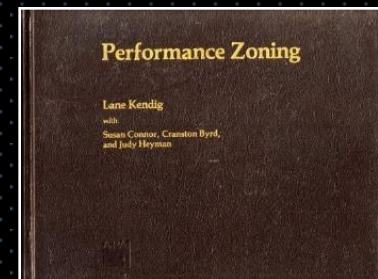
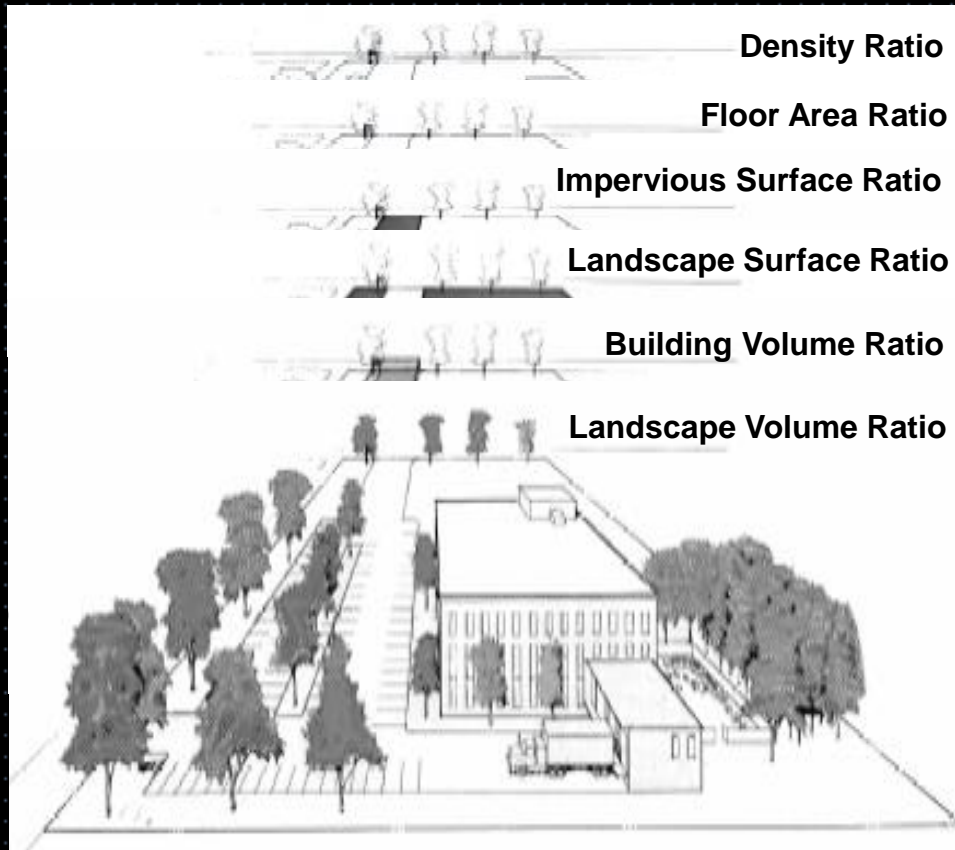




# Performance Zoning

*“Performance zoning is designed to evaluate the compatibility of uses within their environment, as opposed to whether or not a use should be permitted.”*

**Lane Kendig**



# Impact-Based Pros and Cons

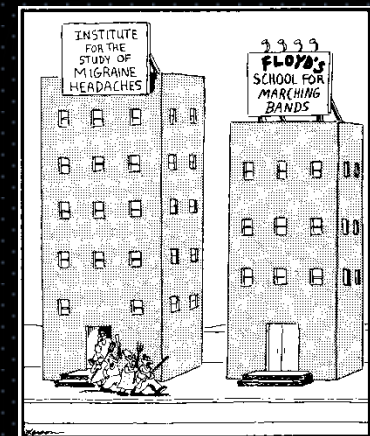
- **Strengths**

- Clear rationale for standards
- Good for measuring compatibility
- Provides developer predictability
- Focus on environmental protection
- Removes citizens from process



- **Weaknesses**

- Uncertainty about neighboring uses
- Often overly complex and formulaic
- Can have exclusionary results
- Difficult to administer and enforce
- Removes citizens from process



# Design-Based Zoning

aka:

New Urbanism

Form-Based Coding

Neo-Traditional Development

# Design-Based Zoning

- **Origin:**

- Garden City and New Urbanist movements

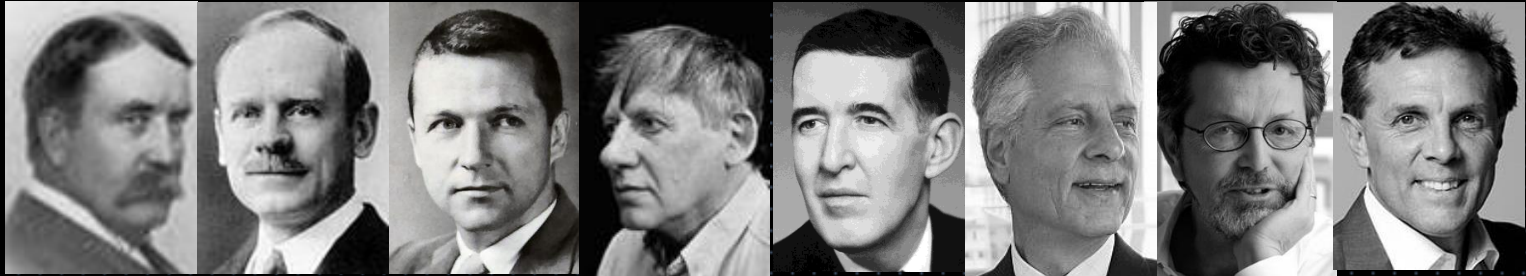
- **Goals:**

- Promote traditional urban placemaking
- Link private development with public realm
- Encourage pedestrianism and connectivity

- **Features:**

- Form (design) trumps function (use) and performance (impact)
- Immersive visually-Intensive up-front charrettes
- Strict building placement and design standards
- Streetscape and public realm linkage specifications
- Engenders more dense mixed-use development

# Design-Based Milestones

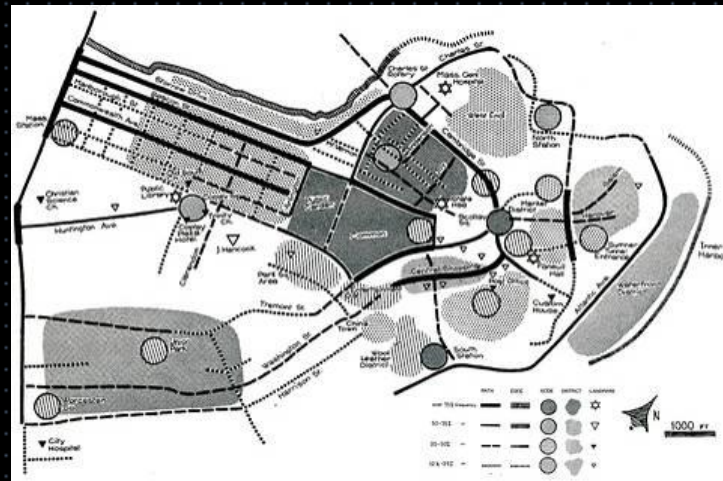
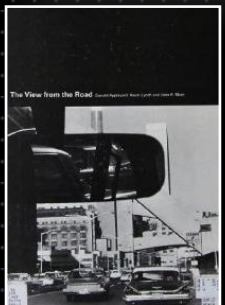
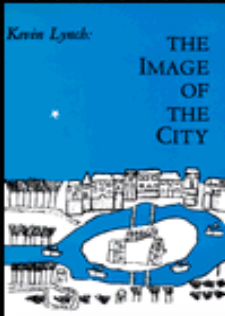


- 1900 - City Beautiful Movement - Daniel Burnham
- 1911 - Garden City Movement - John Nolen
- 1960 - *"Image of the City"* - Kevin Lynch
- 1977 - *"A Pattern Language"* - Christopher Alexander
- 1980 - *"Social Life of Small Urban Spaces"* - William H. Whyte
- 1982 - Seaside development - Andrés Duany
- 1989 - *"The Pedestrian Pocket Book"* - Peter Calthorpe
- 1993 - Congress of the New Urbanism formed
- 2003 - Model SmartCode (form-based/transect) – DPZ
- 2009 - *"Sustainable Urbanism"* – Douglas Farr

# “Imageability” and Placemaking

*“Every citizen has had long associations with some part of the city, and his image is soaked in memories and meanings.”*

Kevin Lynch



## Place Legibility

*Paths – Streets, sidewalks, trails, etc.*

*Edges – Boundaries (walls, shorelines, etc.)*

*Districts – Distinguishable areas*

*Nodes – Focal points (intersections)*

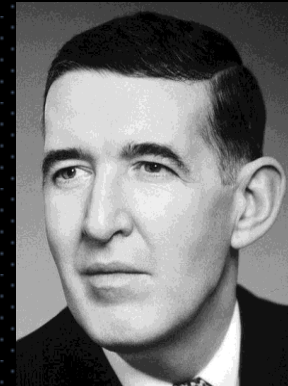
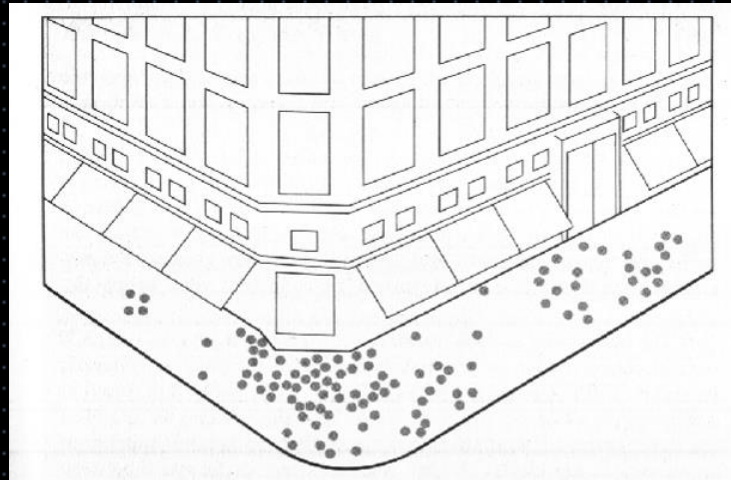
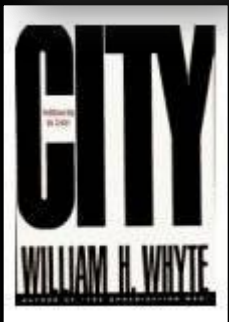
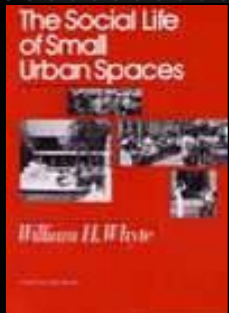
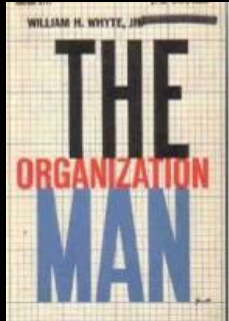
*Landmarks – Readily identifiable objects*



# “Sociability” and Placemaking

*“The street is the river of life of the city, the place where we come together, the pathway to the center.”*

William H. Whyte



## Human Behavior

*Sociability – Does the place encourage grouping?*

*Access – Does the place draw people?*

*Linkages – Does the place have clear entrances?*

*Activities – Does the place have good gathering points?*

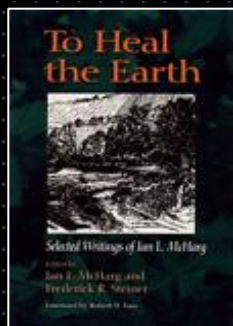
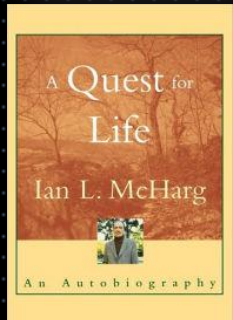
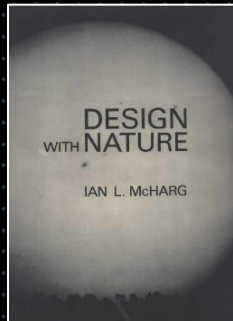
*Image – How do people perceive the place?*



# “Sustainability” and Placemaking

*“Man is a blind, witless, low brow, anthropocentric clod who inflicts lesions upon the earth.”*

Ian McHarg



## McHarg Quotes

*“Let us ask the land where are the best sites.”*

*“Matter is not consumed, but merely cycled integration.”*

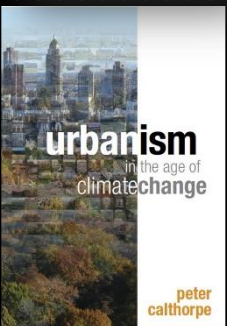
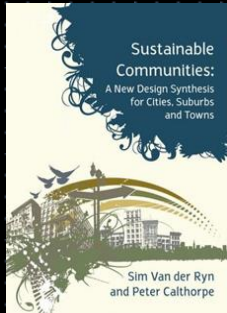
*“Let us green the earth, restore the earth, heal the earth.”*

*“Engineers are particularly unsuited to design landscape.”*

# “Walkability” and Placemaking

*“There is no great urbanism without a walkable environment, without active streets and without diverse communities.”*

**Peter Calthorpe**



## **Urban Design Principles**

*Diversity: “The more diverse, the more complex a place is, the better it is.”*

*Human scale: “It’s a matter of understanding how far a five-minute walk is.”*

*Preservation: “Restoring historic human environments has to be part of design.”*

*Regionalism: “Region is center stage; economically, socially and environmentally.”*

# Form-Based Coding

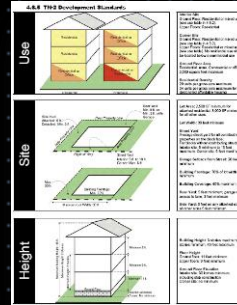
- **Regulating Plan**

Blocks and lots  
Street layout  
Building placement  
Public and open spaces



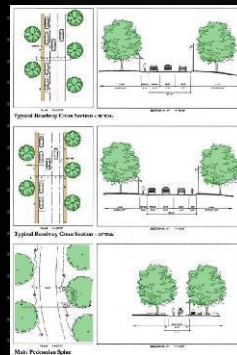
- **Building Form Standards**

Building height envelopes  
Building form and profiles  
Building footprints  
Uses (general)



- **Public Space Standards**

Street cross-sections  
Sidewalks and bikeways  
Street trees and furniture  
Street lights and utilities  
Public access easements



## Design Standards

### Residential

Building materials  
Roofs and porches  
Windows and façades  
Entries and doors  
Mail boxes

### Commercial

Building materials  
Transparency  
1st floor retail  
Roof pitch  
Street furniture



# New Urbanism Linguisms

10. Form-Based (*design-oriented*)
9. Coding (*zoning*)
8. Metrics (*measurements*)
7. Calibrate (*adapt*)
6. Centroidal (*mid-point*)
5. Regulating Plan (*zoning map*)
4. Pedestrian Shed (*five-minute walk*)
3. Building Disposition (*location*)
2. Immersive Environment (*engaging*)
1. Essence of Propinquity (*closeness*)





# Critics Corner

*“We can not support ‘Miami 21’ because it uses confusing terminology, does not protect our unique neighborhood character, does not address adjacency issues, does not incorporate sustainability measures and encourages homogeneous and monotonous urban architecture.”*

AIA Miami Chapter

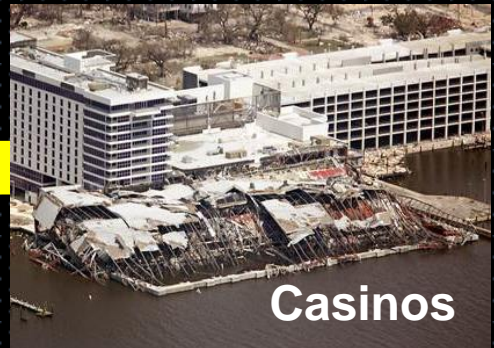
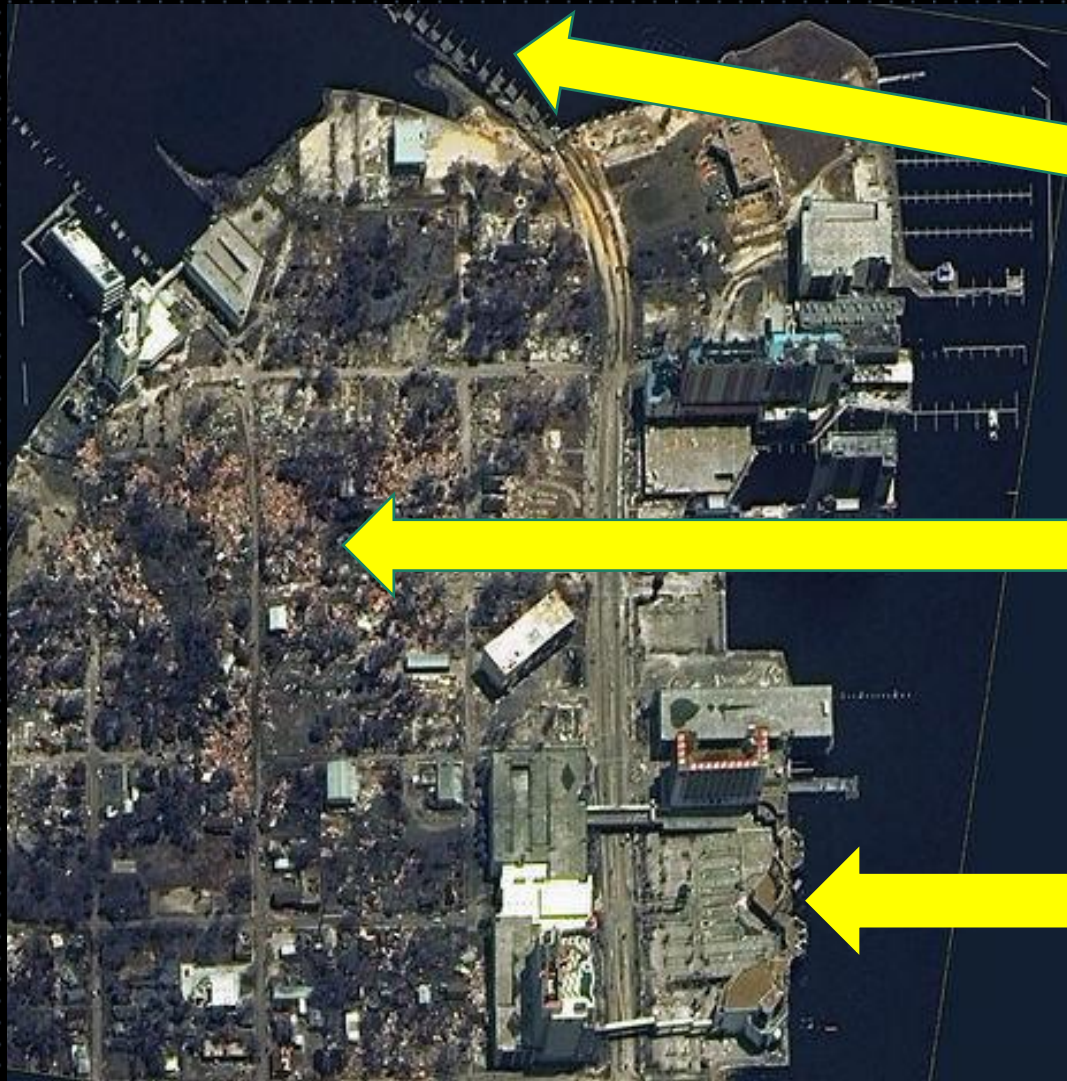
*“New Urbanism is a return to romantic ideas of the past and does not respond to current lifestyles.”*

Barry Berkus FAIA

*"New urbanism deals with many sustainability issues by putting them out of sight and mind."*

Doug Farr FAIA, LEED-ND

# Biloxi: CNU to the Rescue





# Biloxi: CNU to the Rescue

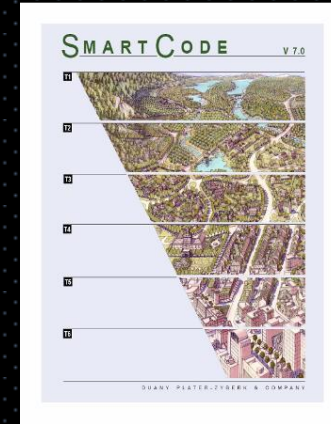




# Design-Based Pros and Cons

- **Strengths**

- Easier to mix land uses
- Breaks urban monotony
- Codifies design guidelines
- Uses graphics and tables
- Considers off-site linkages



- **Weaknesses**

- Very detailed and costly
- Very dependent on templates
- Dismissive of social equity and nature
- Prescriptive “property rights” issue
- Too often considered coding “cure-all”



# The Transect

*“The transect is a straight line or narrow section through an object or natural feature or across the earth's surface, along which observations are made or measurements taken.”* **Oxford Dictionary**

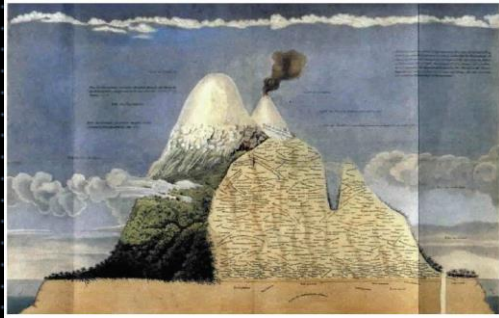
*“The transect is a cross-cultural idea and has existed for decades if not centuries. The New Urbanist innovation is to use it as the basis for land use planning, design and administration.”* **Andrés Duany**

*“The SmartCode is the pioneering transect-based model code. ... Because they are based on the physical form of the built and natural environment, all transect-based codes are form-based codes.”*

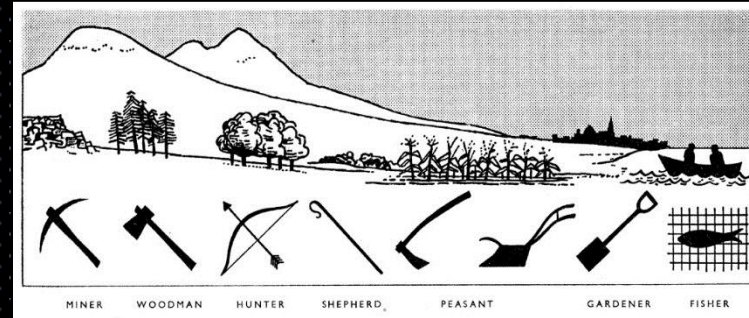
**Center for Applied Transect Studies**

# History of the Transect (vertical)

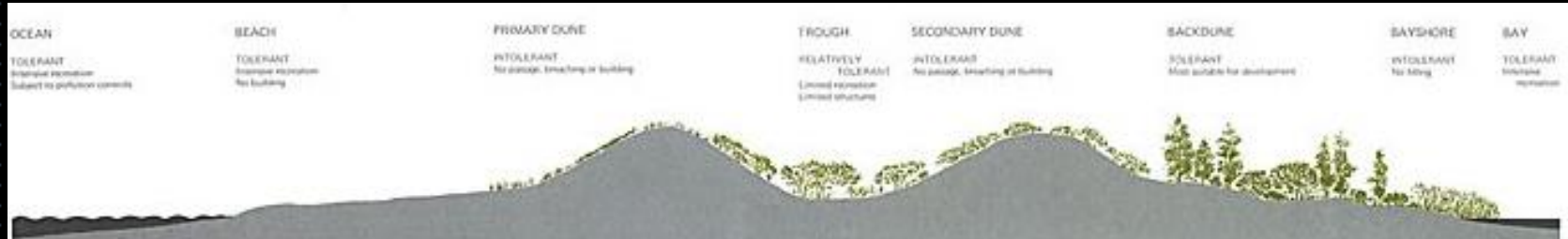
1793 – Historic Transect



1909 – Valley Section



1963 – Natural Transect

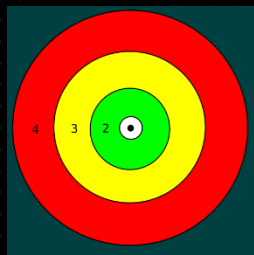


1970 – Residential Transect



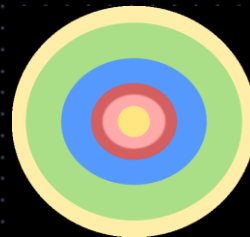
# History of the Transect (horizontal)

1826 – Thunen Rings



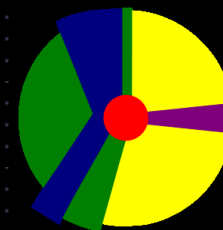
1. Gardening
2. Forests
3. Crops
4. Ranches
5. Wilderness

1925 – Zonal Model



- CBD
- Factory
- Transition
- Working class
- Residential
- Commuter

1939 – Sectoral Model



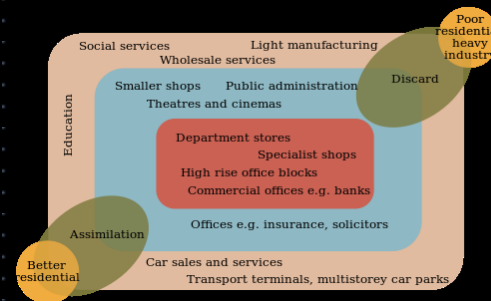
- CBD
- Factories/Industry
- Low class residential
- Middle class residential
- High class residential

1945 – Multiple Nuclei Model



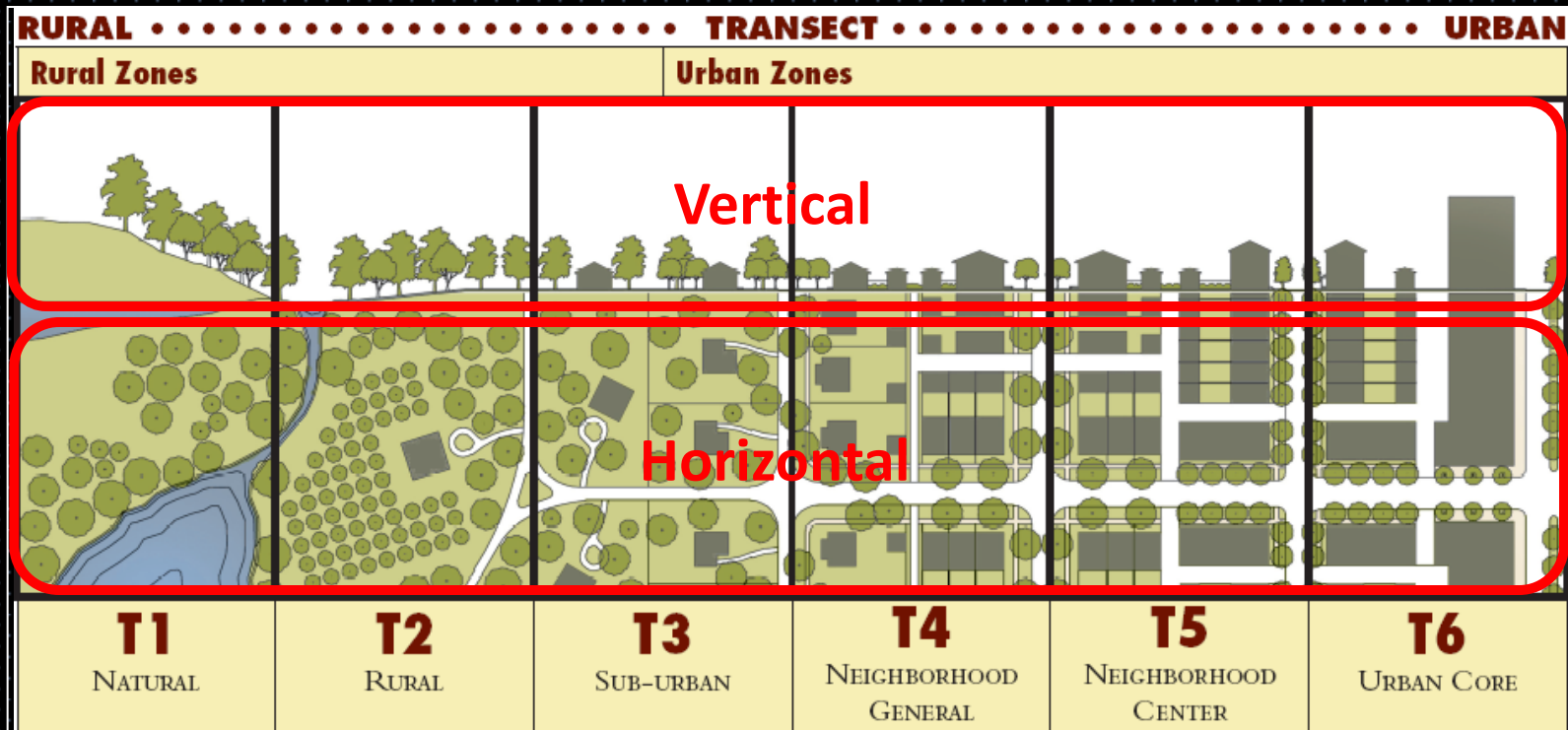
- CBD
- Wholesale
- Outlying business
- Low class residential
- Medium class residential
- High class residential
- Residential suburb
- Heavy manufacturing
- Industrial suburb

1959 – Core Frame



- Inner core
- Outer core
- Frame
- Transition
- Residential

# New Urbanist Transect



# Transect: Use vs Urban Context



## SUBURBAN

- Low-rise
- Front Parking
- Deep setbacks
- No sidewalks
- No transparency
- Auto-oriented



## NEIGHBORHOOD

- Low-rise
- Rear Parking
- Narrow setbacks
- Narrow sidewalks
- Some transparency
- Pedestrian-oriented



## URBAN CORE

- High-rise
- No Parking
- No setbacks
- Wide sidewalks
- Much transparency
- Pedestrian-oriented





23 stories

2 stories



# If Land Uses Were “Pigs”

## Use-Based Zoning

- Like “keeping pigs out of the parlor”



## Impact-Based Zoning

- Like “defumigating a pig”



## Design-Based Zoning

- Like “putting lipstick on a pig”



# A New Urbanist Looks at Austin

*In the words of Andres Duany, co-founder of New Urbanism:*

*"I'm disappointed in what I see here. This city is acting like a beggar. Austin is hot! You don't have to go out on every date! **Austin accepts too many things others would not.**"*

Austin Chronicle, 13 April 2007

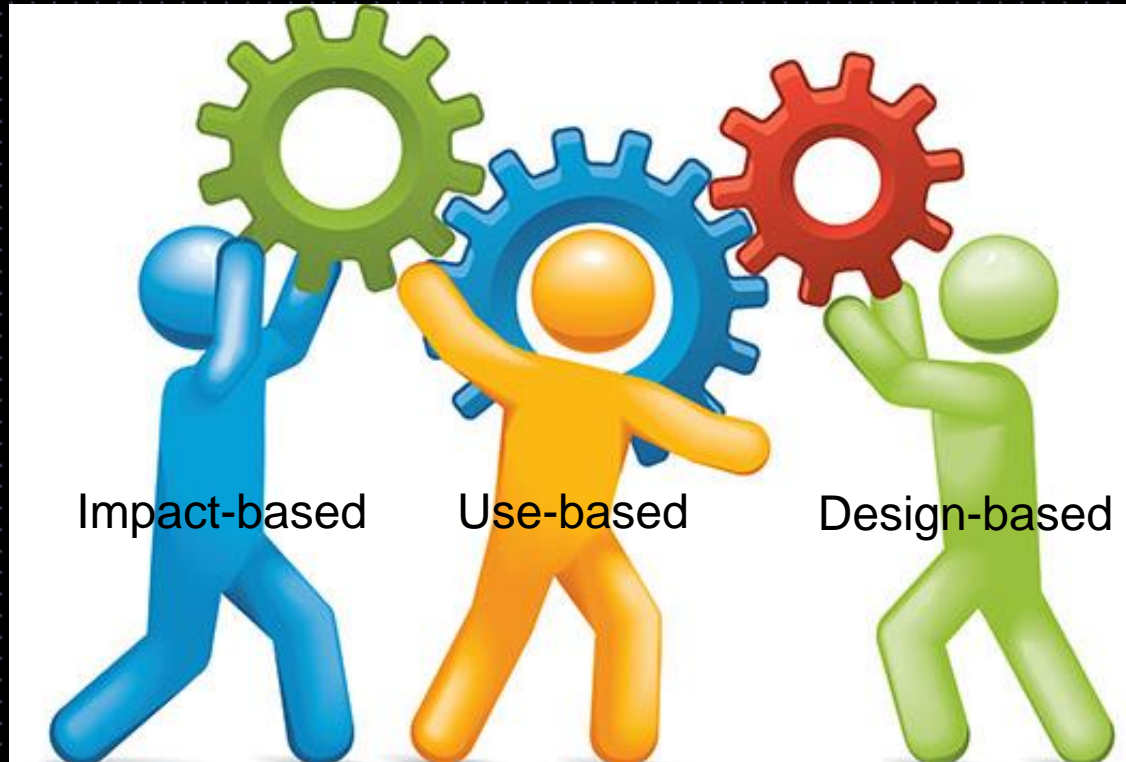
*"One of the most disappointing things to me is the number of urbanists who admire a place like, say, Austin, **confusing urban vitality with the existence of a hundred bars.**"*

Terrain.org, 16 April 2013

*"The planners role is to create a system that allows the smallest possible effective increment to make a decision. **Acting at the neighborhood level, a city can design itself.**"*

Austin Chronicle, 13 April 2007

# The Answer is Hybrid!



*“You design the model that fits your context and what you want to achieve as a citizenry, a city, a vision, your priorities and also your political structure.”*

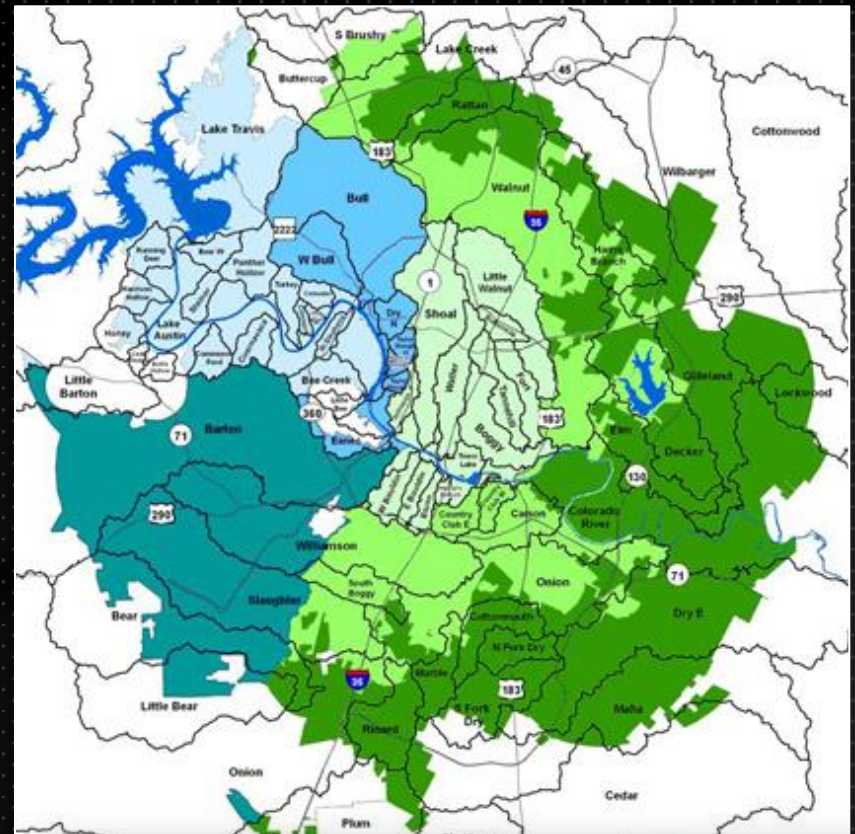
**Bill Anderson, APA President**

*“Because the qualities that attract people to Austin are often those that are most threatened as the city grows.”*

***Austin Tomorrow Comprehensive Plan 1978***

# Water Quality

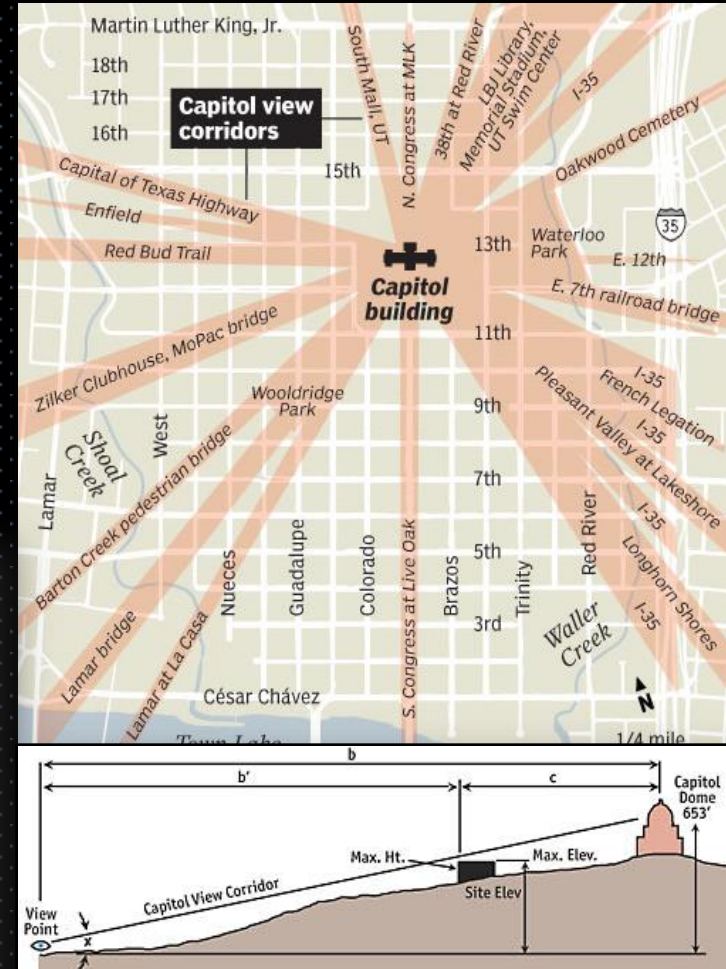
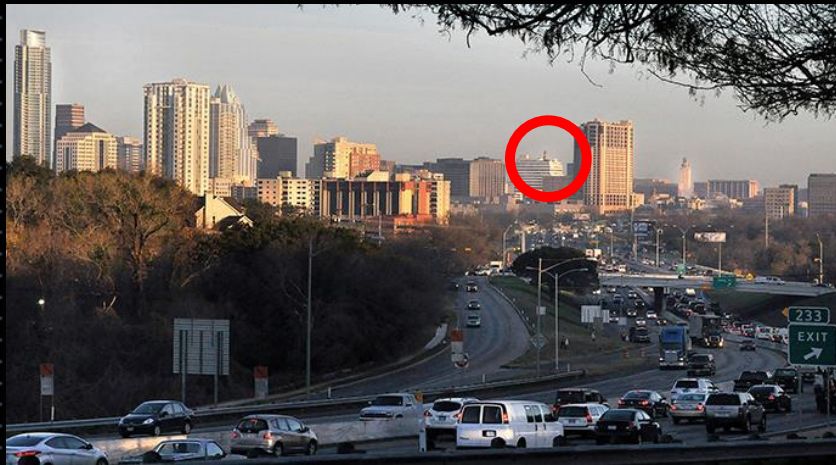
## Memorial Day 1981



Category	Zone	Desired Development		Water Quality Protection		
		Urban	Suburban	Water Supply Suburban	Water Supply Rural	Barton Springs
Impervious Cover	Uplands	NA	45-90%	30-55%	20-25%	15-25%
	Transition	NA	30%	18%	3 ac. lot	3 ac. lot
	Critical	none	none	none	none	none
Waterway Setbacks	Critical	50-400'	50-400'	50-400'	50-400'	50-400'
	Transition	none	100-300'	100-300'	100-300'	100-300'



# Capitol Views





# Hill Country



**Hotel Granduca brings Tuscan luxury to Westlake area**



**County tasks developer to clean up Bee Creek runoff**

**kxan INVESTIGATES**

**Thank You!**



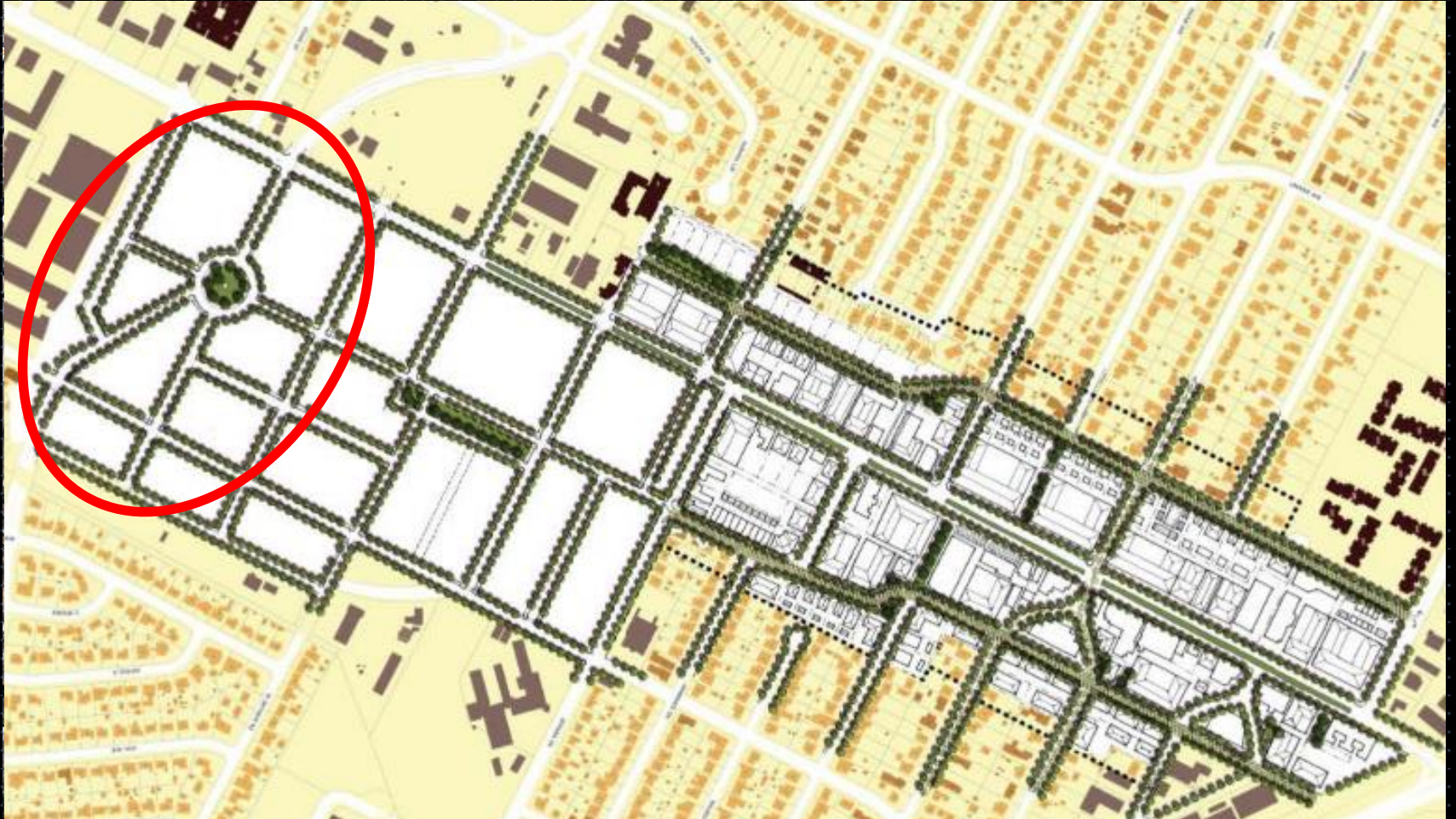


# North Lamar and Justin





# North Lamar and Justin





This aerial map shows the Atlanta area, with the Atlanta-Fulton County Stadium highlighted by a yellow circle. The stadium is located in the center of the map, near the intersection of Peachtree Street and Peachtree Industrial Road. Other landmarks visible include the Atlanta-Fulton County Stadium, the Atlanta-Fulton County Stadium, and the Atlanta-Fulton County Stadium.



# 183 and Spicewood

