

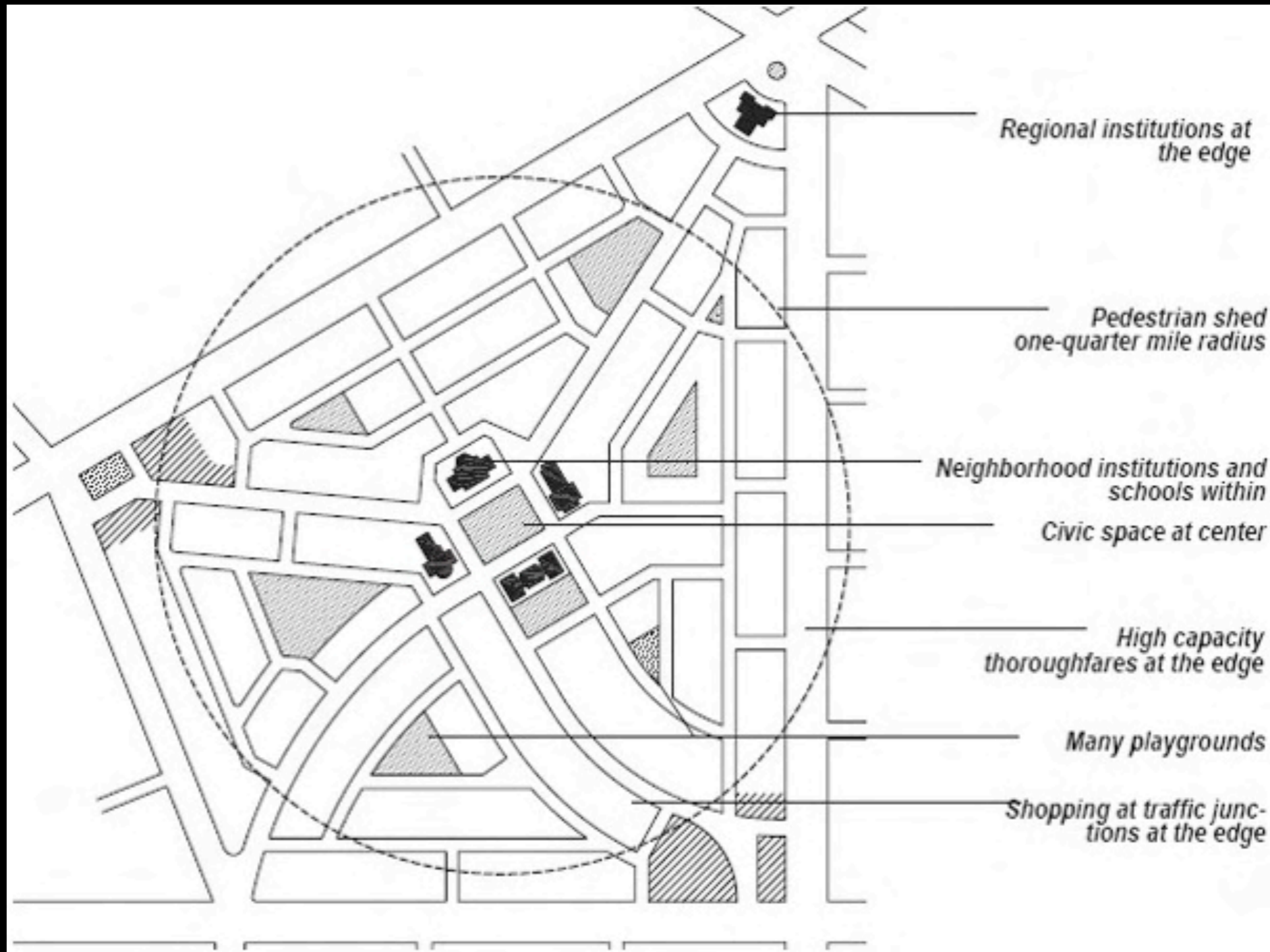
Designing for the SmartCode



Greenfield Design – Sub-Regional Neighborhood Scale

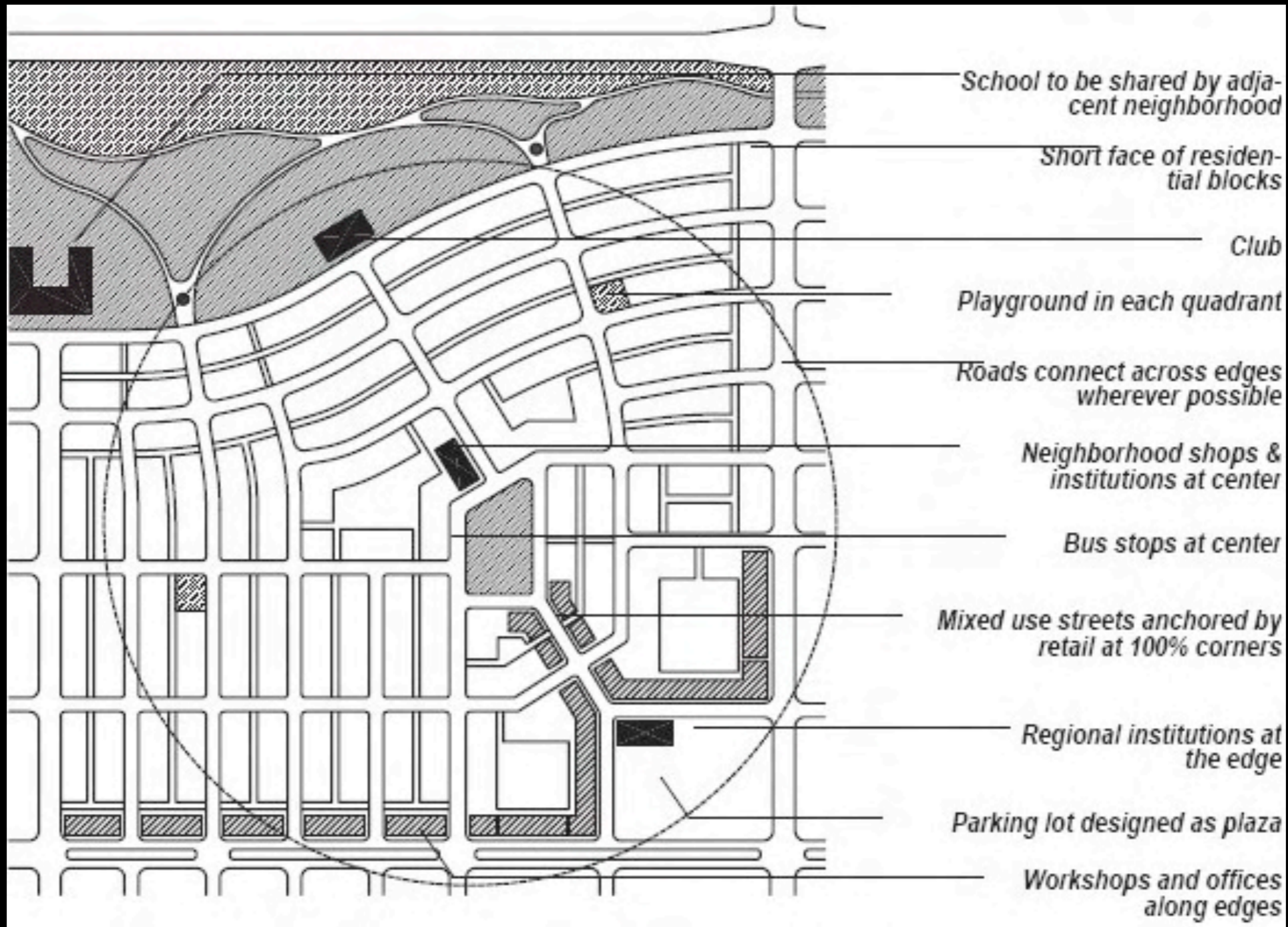
Article 3 Design Considerations





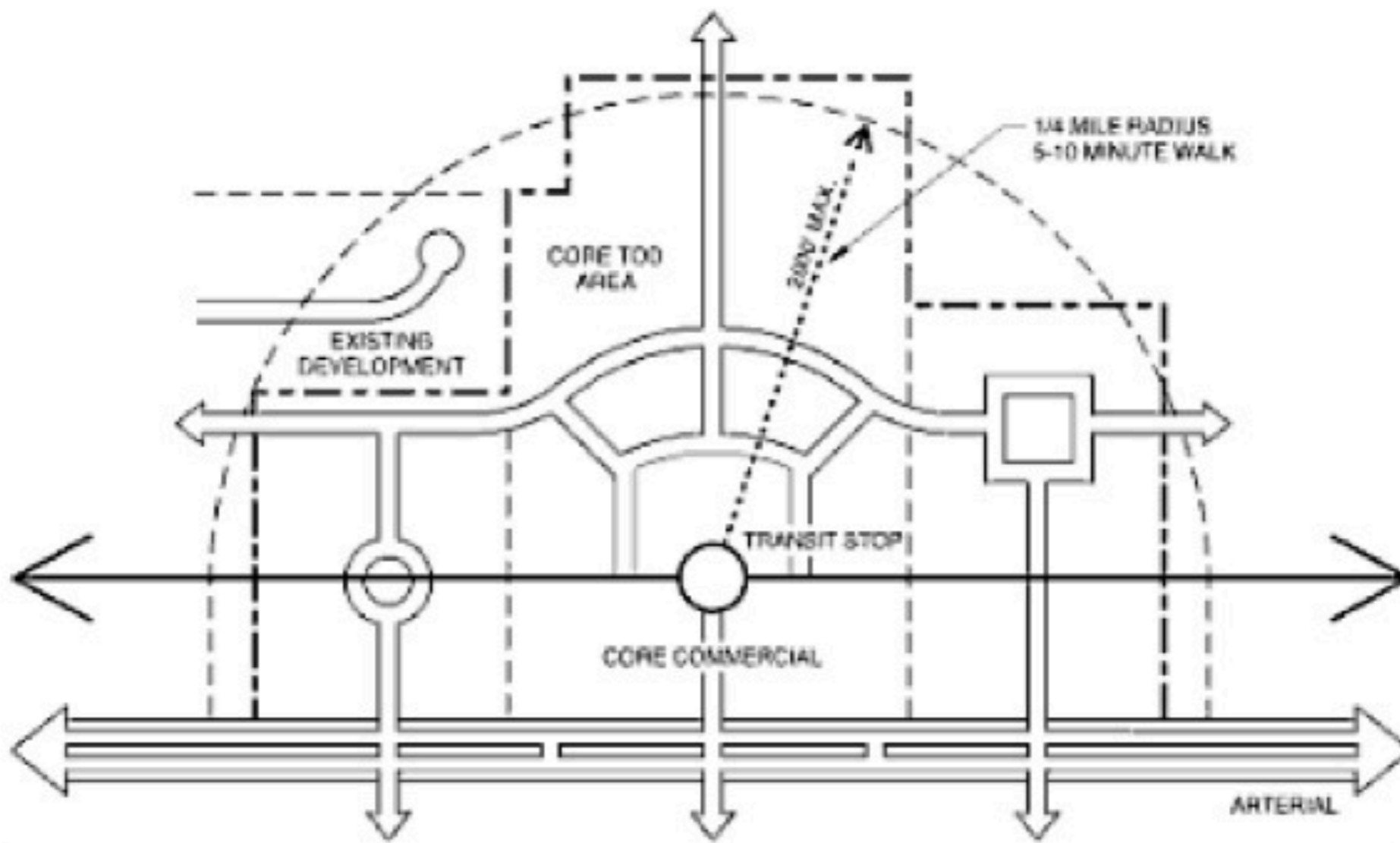
The Regional Plan of New York, 1927





DPZ, *Lexicon of The New Urbanism*, 1997





IDEALIZED TRANSIT VILLAGE DIAGRAM

Source: Adapted from Calthorpe, *The Next American Metropolis*, 1993.

Source: Adapted from Calthorpe, *The Next American Metropolis*, 1993.

IDEALIZED TRANSIT VILLAGE DIAGRAM

P. Calthorpe, *The Next American Metropolis*, 1993



- Compact

- Pedestrian Friendly

- Mixed Use



Step 1. Map Existing Conditions

Assimilate the landscape into the plan

- Legal Boundaries
- Topography
- Ground Cover
- Existing or Adjacent Development
- Sector Designation



Step 2. Determine Community Type



Step 2. Determine Community Type

- **Hamlet - Cluster Development**



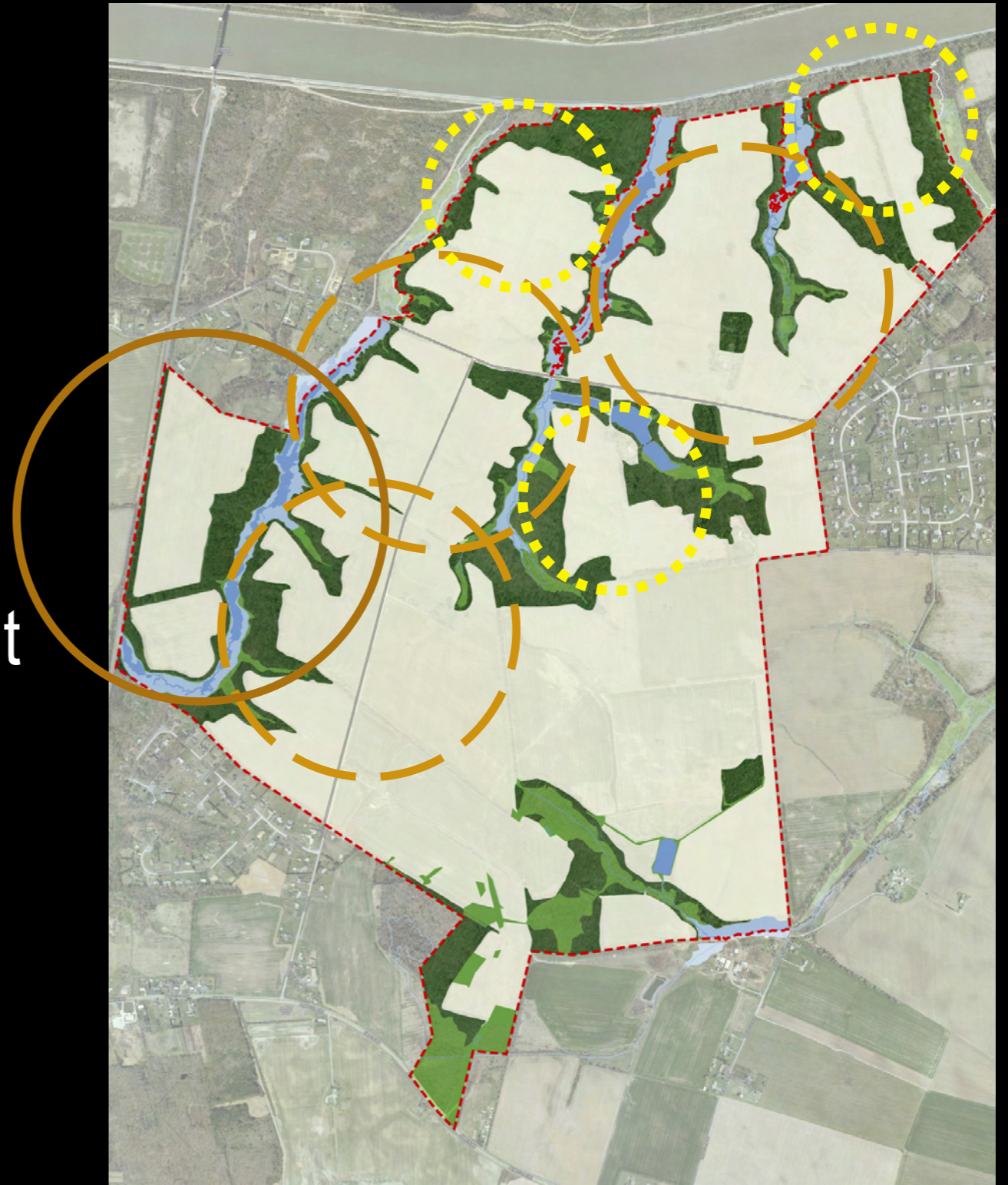
Step 2. Determine Community Type

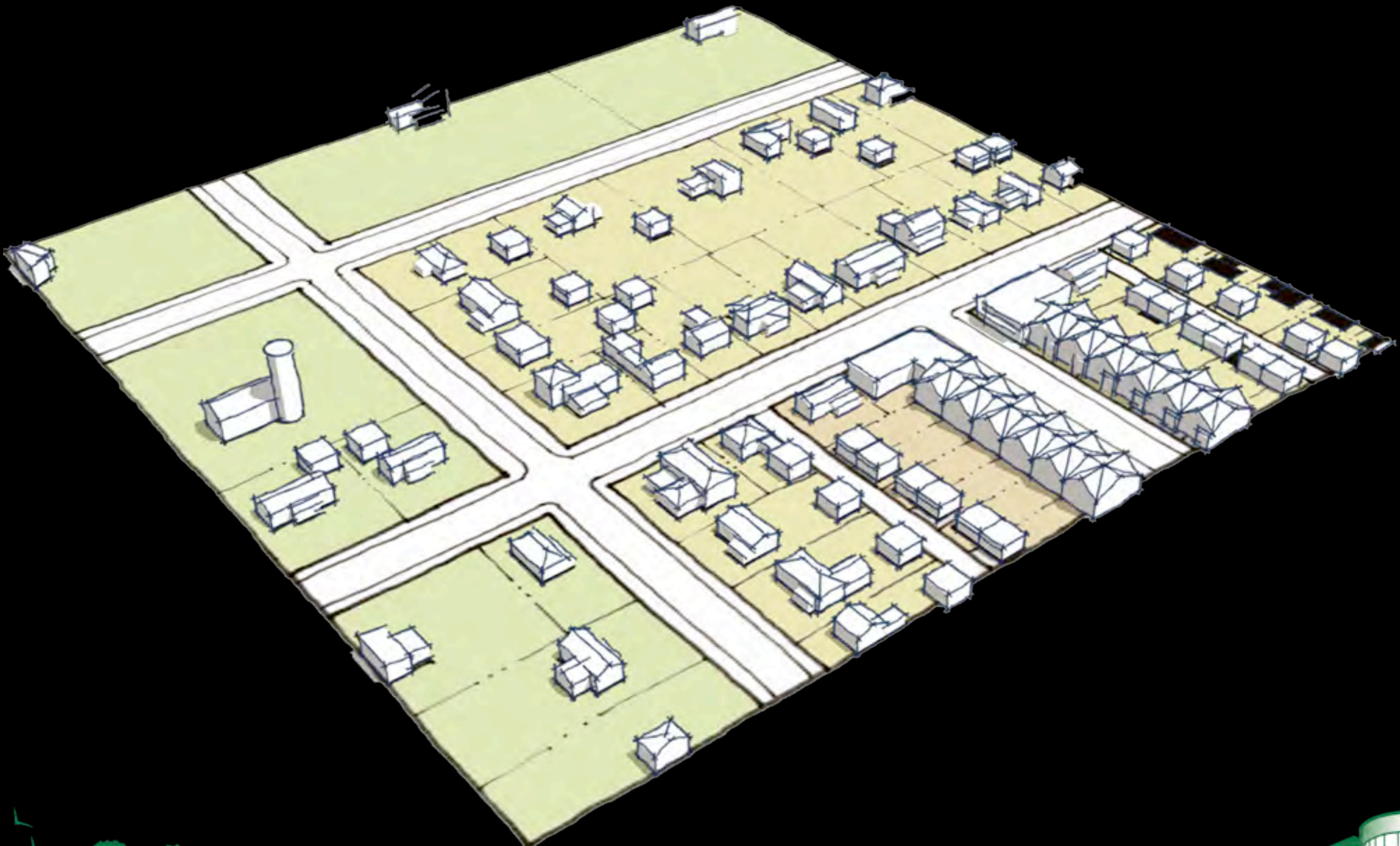
- **Hamlet** - Cluster Development
- **Village** - Traditional Neighborhood Development

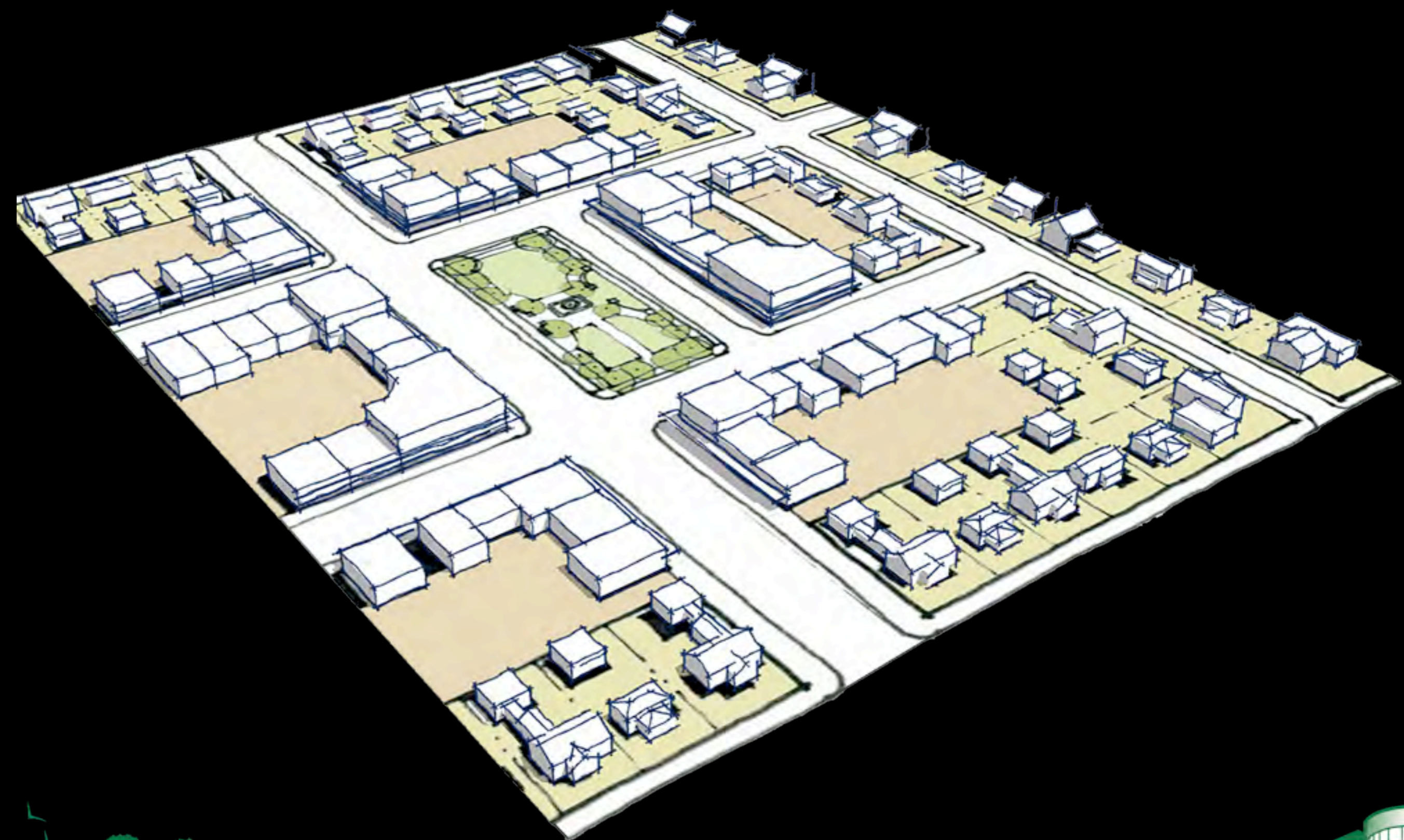


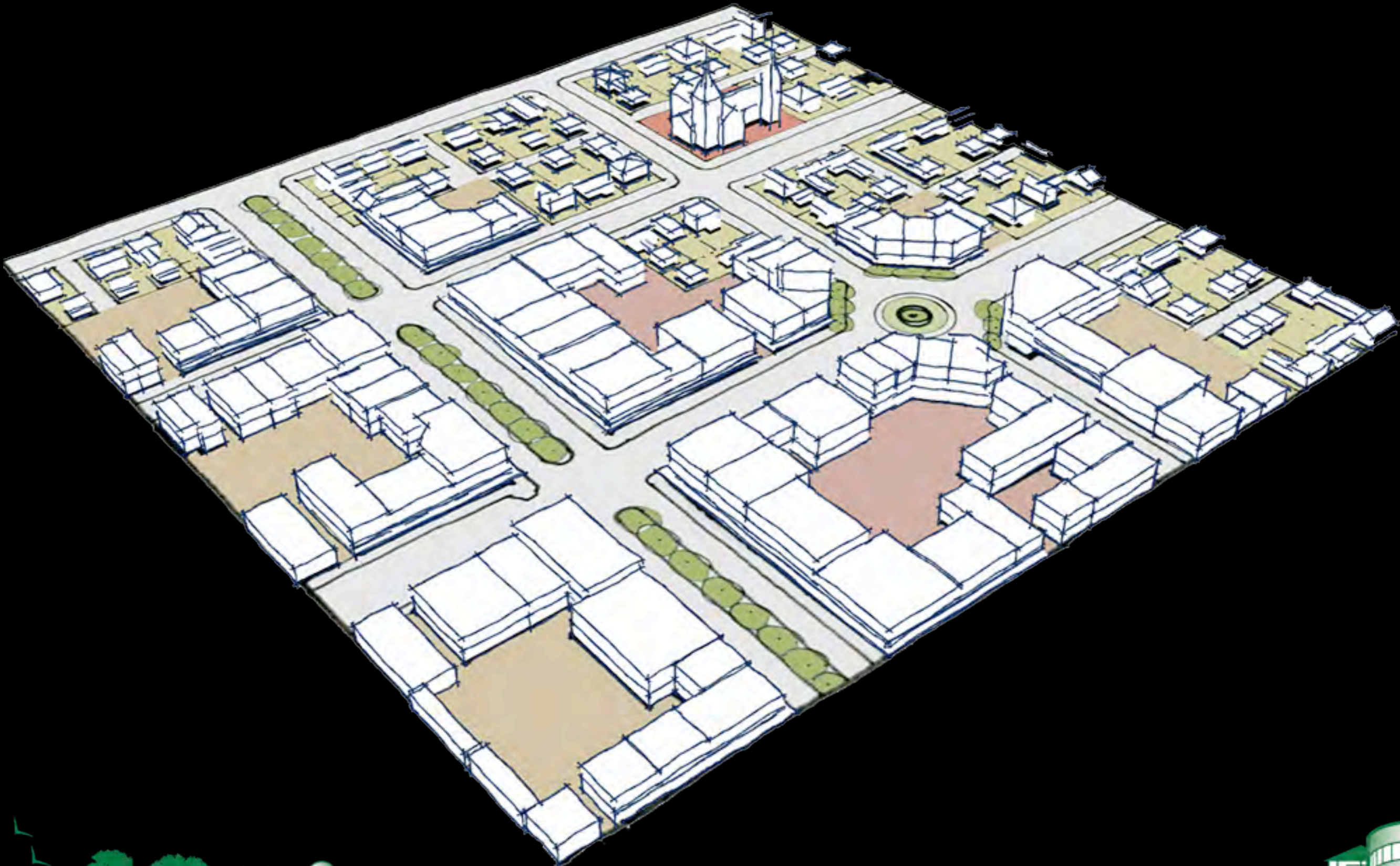
Step 2. Determine Community Type

- **Hamlet** - Cluster Development
- **Village** - Traditional Neighborhood Development
- **Town** - Future Transit-Oriented Development









Community Types

Determine neighborhood size. Density from two (2) units per acre for a Rural Cluster to 40+ units per acre for a TOD.



Community Types

Determine neighborhood size. Density from two (2) units per acre for a Rural Cluster to 40+ units per acre for a TOD.



Step 3. Locate Mixed-Use Centers

- Serve Multiple Neighborhoods: Regional/ Sub Regional Focus
- Locate near the Thoroughfare or Intersection with the most traffic
- Destination Locations (waterfront)
- Mixed-Use Neighborhood Center



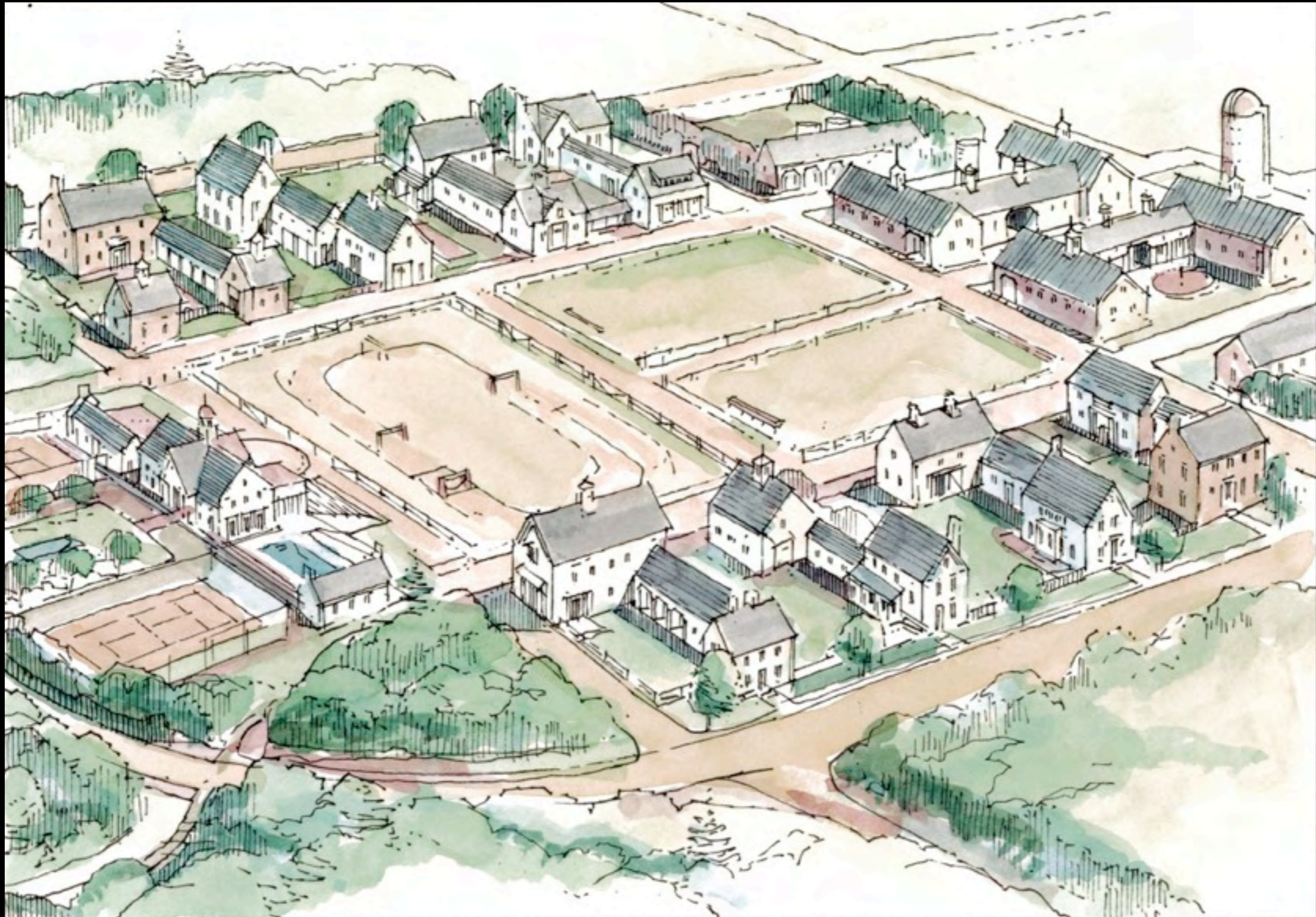






Neighborhood Types





Neighborhood Types



Neighborhood Types



Neighborhood Types



Neighborhood Types

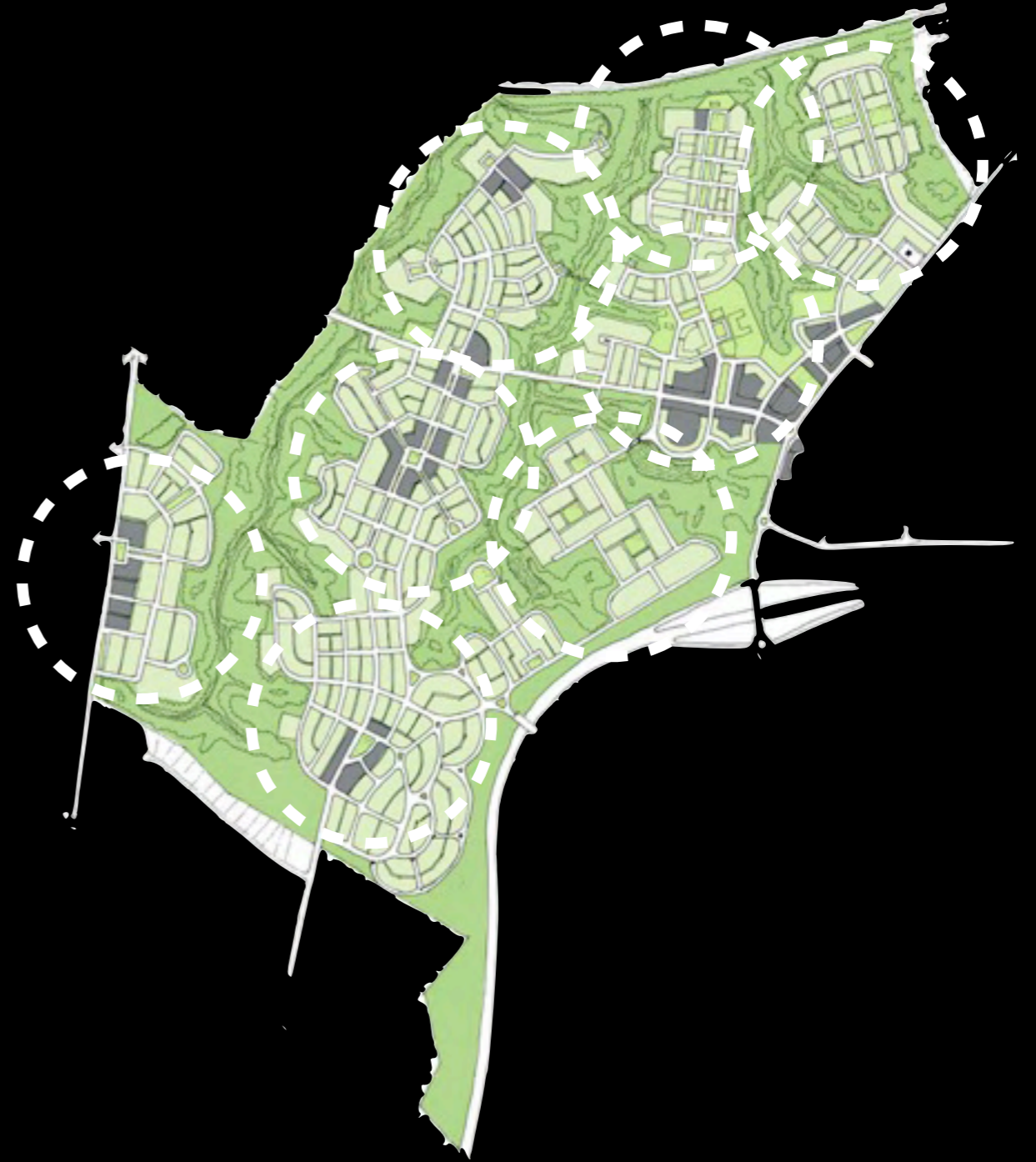


Neighborhood Types



Step 4. Locate Pedestrian Sheds

The Pedestrian Shed is the primary structuring element for neighborhoods at the sub-regional scale.



Step 5. Refine Pedestrian Sheds

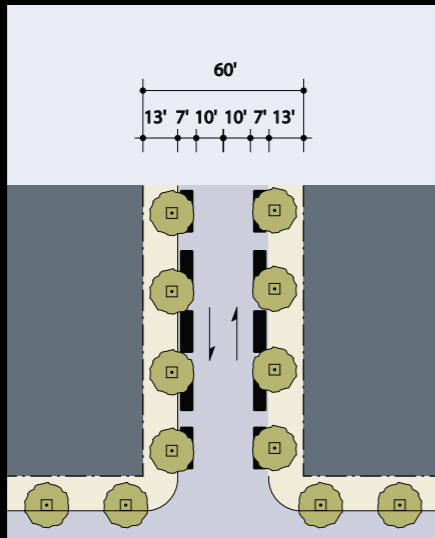
Refine the Pedestrian Sheds into Network Pedestrian Sheds that delineate the actual walkable catchment area.



Step 6. Connect Neighborhood Centers

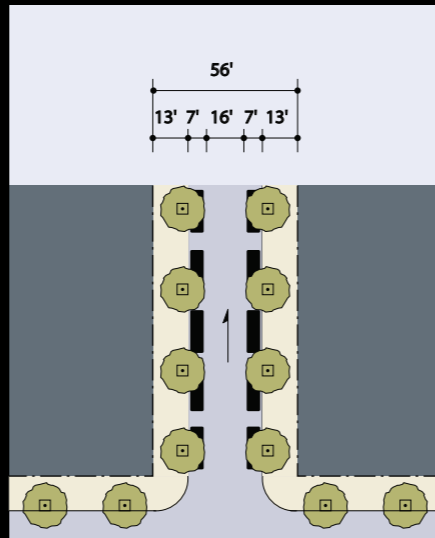
Connect neighborhood
centers to each other





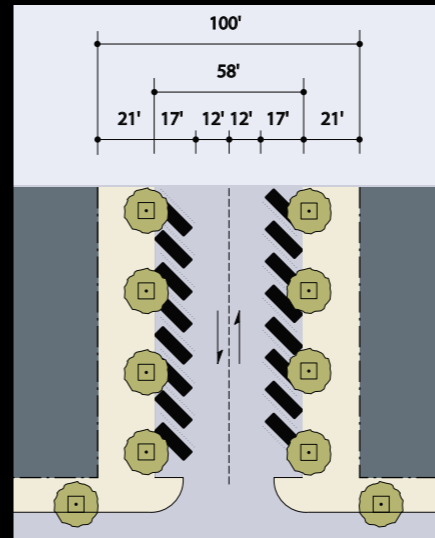
ST-60-34

Street
T4, T5
60 feet
34 feet
Slow Movement
20 MPH
9.7 seconds
2 lanes
Both Sides @ 7 feet marked
10 feet
ST, FC, DY/LC, PF
6 foot Sidewalk
4'X10' tree well
Curb
Trees at 30' o.c. Avg.
BR, SH, TR



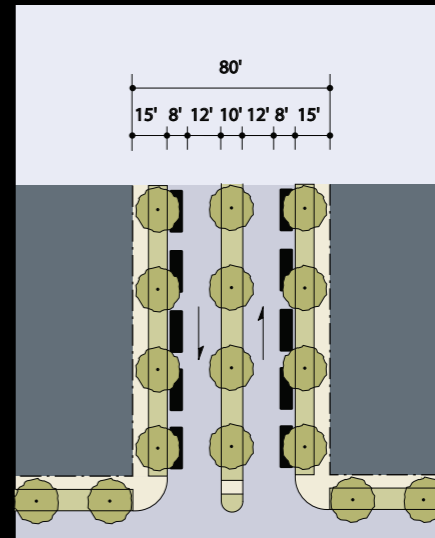
CS-56-30

Commercial Street
T5
56 feet
30 feet
Slow Movement
20 MPH
8.5 seconds
1 lane
Both Sides @ 7 feet marked
10 feet
Gallery/Arcade, Shopfront/Awning
13 foot Sidewalk
4'X10' tree well
Curb
Trees at 30' o.c. Avg.
BR, SH, TR



CS-100-58

Commercial Street
T5
100 feet
58 feet
Slow Movement
25 MPH
8.5 seconds
2 lanes
Both Sides @ 17 feet marked
10 feet
ST, FC, DY/LC, PF
21 foot Sidewalk
9'X9' tree well
Curb
Trees at 30' o.c. Avg.
BR, SH, TR



AV-80-40

Avenue
T3, T4, T5
75 feet
40 feet
Slow Movement
25 MPH
5.7 seconds - 5.7 seconds
2 lanes
Both Side @ 8 feet marked
10 feet
ST, FC, DY/LC, PF
6 foot Sidewalk
9' foot Continuous planter
Curb or Swale *
Trees at 30' o.c. Avg.
BR, SH, TR



Step 6.1. The Neighborhood has a Center & an Edge

- Center - Main Civic Space w/in 1,000' of geographic center
- Third Place or Civic Building
- Defined Edge - basis for calculations



Step 6.2. The SmartCode works with Block Structure

- Thoroughfares Connect to Other Thoroughfares
- Playgrounds within 1,000' of each Residence
- Consider Quarters w/ secondary Civic Spaces
- Block Structure forms Civic Space



Step 6.3. Block Perimeter is a Frontage

- Measured at Perimeter along connected Thoroughfares
- Frontage is at Perimeter
- Secondary Frontages
- Block Structure Forms Civic Space
- Enclosure Builds Value



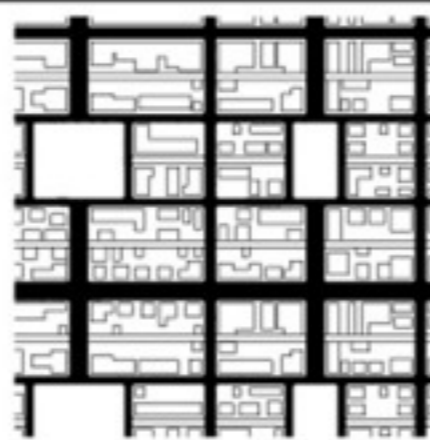
SAVANNAH PATTERN

Advantages

- Excellent directional orientation
- Controllable lot depth
- Provides end grain of blocks for fast traffic
- Even dispersal of traffic through the web
- Straight lines enhance rolling terrain
- Efficient double-loading of alleys and utilities

Disadvantages

- Monotonous unless periodically interrupted
- Does not easily absorb environmental interruptions
- Unresponsive to steep terrain
- Syn.: Orthogonal Grid, Gridiron



NANTUCKET PATTERN

Advantages

- Hierarchy with long routes for through traffic
- Even dispersal of traffic through web
- Responsive to terrain
- Easily absorbs environmental interruptions
- Monotony eliminated by terminated vistas
- Follows traces on the landscape

Disadvantages

- Uncontrollable variety of blocks and lots
- Syn.: Sitte Model, Townscape



MARIEMONT PATTERN

Advantages

- Hierarchy with diagonals for through traffic
- Even dispersal of traffic through the web
- Monotony interrupted by deflected vistas
- Diagonal intersections spatially well-defined

Disadvantages

- Tends to be disorienting
- Syn.: Unwin Model, Spider Web



WASHINGTON PATTERN

Advantages

- Hierarchy with diagonals for through traffic
- Even dispersal of traffic through the grid
- Diagonals focus on terrain features
- Diagonals interrupt monotony of the grid

Disadvantages

- Uncontrollable variety of lots
- High number of awkward lot shapes
- Diagonal intersections spatially ill-defined
- Syn.: City Beautiful, Haussmann Model



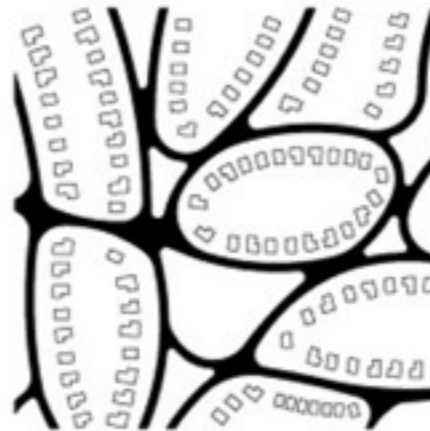
RIVERSIDE PATTERN

Advantages

- Monotony interrupted by deflected vistas
- Easily absorbs environmental interruptions
- Highly responsive to terrain
- Even dispersal of traffic through the web

Disadvantages

- Highly disorienting
- Uncontrollable variety of lots
- No intrinsic hierarchy
- Syn.: Olmstedian



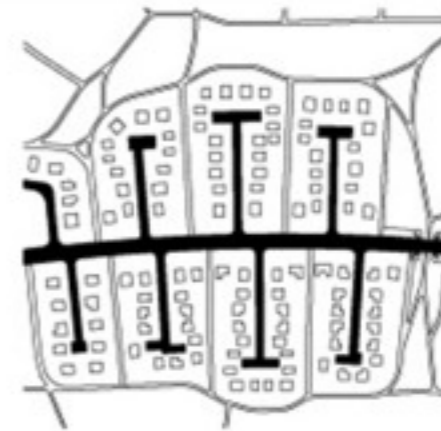
RADBURN PATTERN

Advantages

- Good street hierarchy for locals and collectors
- Controllable variety of blocks and lots
- Easily absorbs environmental interruptions
- Responsive to terrain

Disadvantages

- Congestion of traffic by absence of web
- Syn.: Cul-De-Sac



SQUARE BLOCK

The Square Block was an early model for planned settlements in America. It was sometimes associated with agricultural communities with four large lots per block, each with a house at its center. When the growth of the community produced additional subdivision, the replatting inevitably created irregular lots (Figure 1).

While this may provide a useful variety, it is more often regarded as a nuisance by building industry accustomed to standardized products.

A disadvantage is that discontinuous rear lot lines prevent double-loaded alleys and rear-access utilities. Despite these shortcomings, the square block is useful as a specialized type. The forced variety of platting assures a range of lot prices. When platted only at its perimeter with the center open (Figure 2), it can accommodate the high parking requirements of civic buildings. The open center may also be used as a common garden or a playground, insulated from traffic.

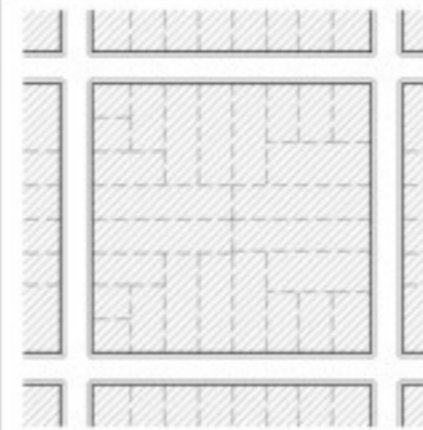


Figure 1

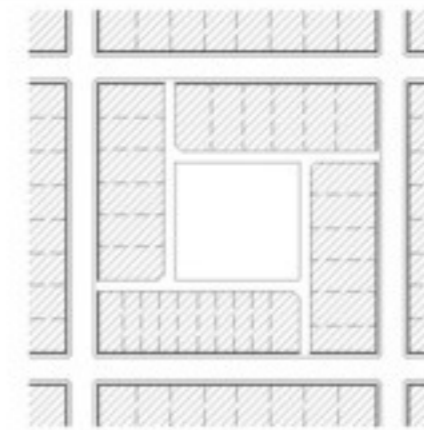


Figure 2

ELONGATED BLOCK

The Elongated Block is an evolution of the square block which overcomes some of its drawbacks. The elongated block eliminates the uncontrollable variable of lot depth, while maintaining the option of altering the lot width. Elongated blocks provide economical double-loaded alleys with short utility runs. The alley may be placed eccentrically, varying the depth of the lot (Figure 3-1). By adjusting the block length, it is possible to reduce cross-streets at the rural edges and to add them at the urban centers. This adjustment alters the pedestrian permeability of the grid, and controls the ratio of street parking to the building capacity of the block.

The elongated block can bend somewhat along its length.

giving a limited ability to shape space and to negotiate slopes (Figure 4). Unlike the square block, it provides two distinct types of frontage. With the short side or end grain assigned to the higher traffic thoroughfare, most buildings can front the quieter long side of the block (Figure 3-2). For commercial buildings, the end grain can be platted to take advantage of the traffic while the amount of parking behind is controlled by the variable depth (Figure 3-3).



Figure 3



Figure 4

IRREGULAR BLOCK

The Irregular Block is characterized by its unlimited variations. The original organic block was created by the subdivision of land residual between well-worn paths.

It was later rationalized by Sitte, Cullen, Krier, and Olmsted to achieve a controllable picturesque effect and to organically negotiate sloping terrain. An important technique in the layout of irregular blocks is that the frontages of adjacent blocks need not be parallel (Figure 5). The irregular block, despite its variety, generates certain recurring conditions which must be resolved by sophisticated platting. At shallow curves, it is desirable to have the facades follow the frontage smoothly. This is achieved by maintaining the side lot lines perpendicular

to the frontage line (Figure 6-1). It is important that the rear lot line be wide enough to permit vehicular access (Figure 6-2). At sharper curves, it is desirable to have the axis of a single lot bisect the acute angle (Figure 6-3). In the event of excessive block depth it is possible to access the interior of the block by means of a close (Figure 6-4). Syn.: Organic Block (note: discuss topography)



Figure 5



Figure 6



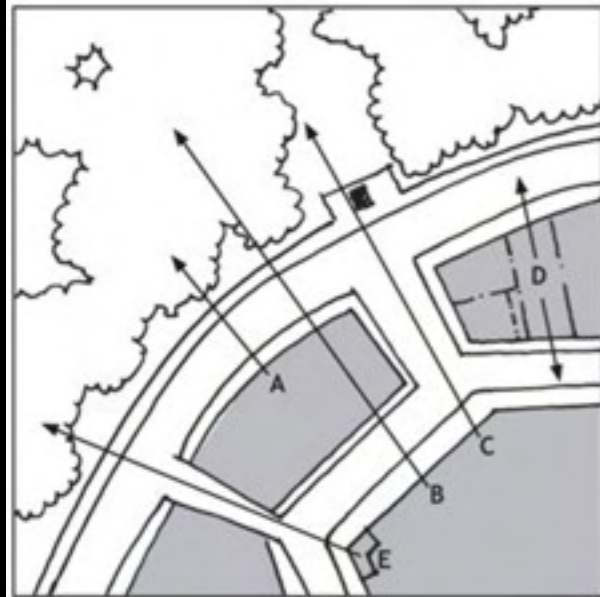
Step 6.4. Build Character with Terminated Vistas

- Special Requirement
- Civic uses are essential to the social fabric of the neighborhood
- Locate at important, prominent locations: this builds value



PRIVATE VIEWS

A number of strategies are identified for establishing a diverse hierarchy of views to the surrounding landscape and village from private units. Views may be captured thorough windows, balconies, verandas, and exclusive top floor loggia.



- A. Direct to an uninterrupted view
- B. Layered over village roof lines
- C. Framed through a block opening within the village fabric
- D. Double Sided with both village views and mountain views
- E. Loggia and Veranda, exclusive framed views



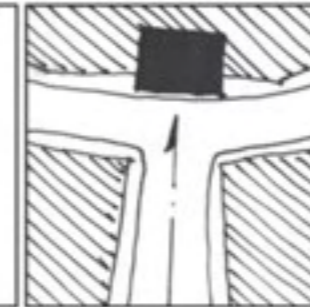
Loggia: The exclusive loggia is a covered, private porch on the top story that takes advantage of a framed viewshed through the village fabric.

VILLAGE VISTAS

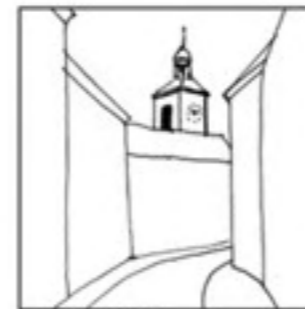
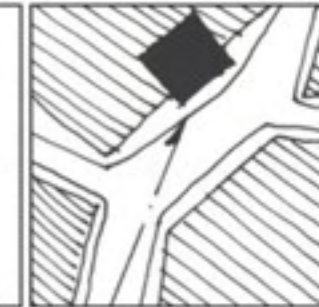
Emulating the complex character of medieval towns, vistas created within the village provide both aesthetic charm and a means of wayfinding through the public realm of the village. Vistas are typically directed at foreground buildings and spectacular views.



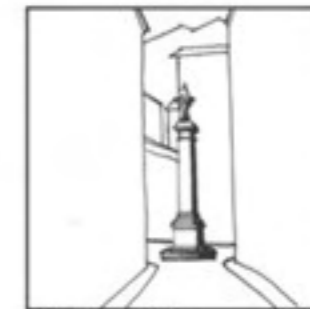
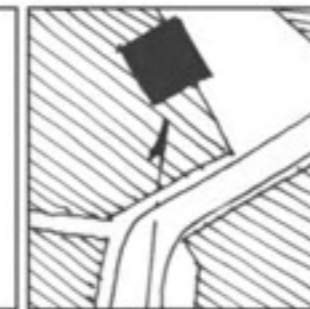
Terminated Vista



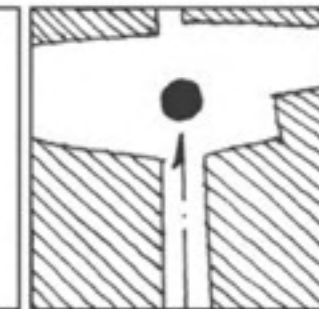
Deflected Vista



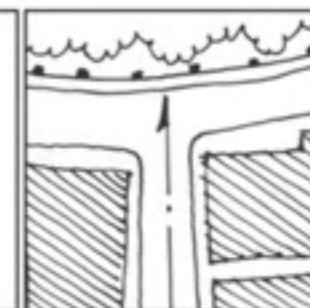
Layered Vista



Public Art Vista



Direct Viewshed Vista





Civic Spaces



Civic Spaces

- Civic Spaces are required to be 5% of the Community Unit and qualify as Parks and Open Space.







a. **Conservancy:** A natural preserve available for unstructured recreation. A Conservancy may be independent of surrounding building Frontages. Its landscape shall consist of Paths, bike trails and pedestrian trails, meadows, water bodies, woodland and open shelters, all naturalistically disposed. Conservancies may be lineal, following the trajectories of natural resource corridors, although wetlands may be part of the Conservancy, the wetlands shall not count toward Conservancy acreage. Buffers may be included. The minimum size should be 8 acres. Conservancies may be approved by Administrative Approval as Special Districts in all zones.



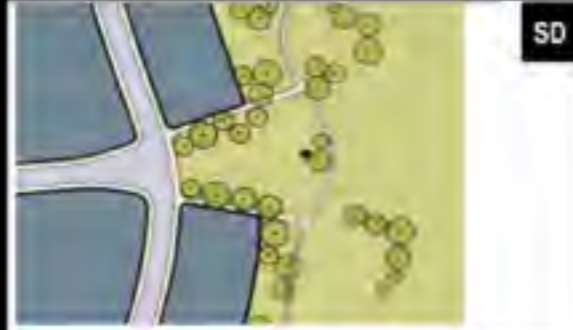
T1
T2
T3

Plaza: An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size should be 1/4 acre and the maximum should be 2 acres.



T5

b. **Neighborhood Park Special District:** A Neighborhood Park SD may be independent of surrounding building Frontages and may occur outside a Pedestrian Shed. The minimum size shall be 5 acres. Neighborhood Park SDs should include junior size play apparatus, softball diamond, 1/2 basketball court, area for lawn and field games, area for crafts, open area for general play, volleyball area, soccer field, picnic tables and benches, and / or shelters. They may include bike and pedestrian trails as well.



SD

g. **Playground:** An Open Space designed and equipped for the recreation of children. A Playground should be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.



T1
T2
T3
T4
T5

c. **Neighborhood Park:** An Open Space, available for structured recreation. Landscaping may spatially define a Green rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size should be 4 acres and the maximum shall be 5 acres. Neighborhood Parks should include junior size play apparatus, softball diamond, 1/2 basketball court, area for lawn and field games, area for crafts, open area for general play, volleyball area, soccer field, picnic tables and benches, and / or shelters, bike trails and pedestrian trails.



T1
T2
T3
T4

h. **Community Garden:** An Open Space designed and equipped for garden plots. A Community Garden should be fenced and may include a tool shed. Running water is required. Community Gardens shall be interspersed within Residential areas and may be placed within a Block or included within Parks and Greens. There shall be no minimum or maximum size.



T1
T2
T3
T4
T5

d. **Green:** An Open Space, available for unstructured recreation, and may include bike trails. Landscaping may spatially define a Green rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size should be 1/2 acre and the maximum should be 8 acres.



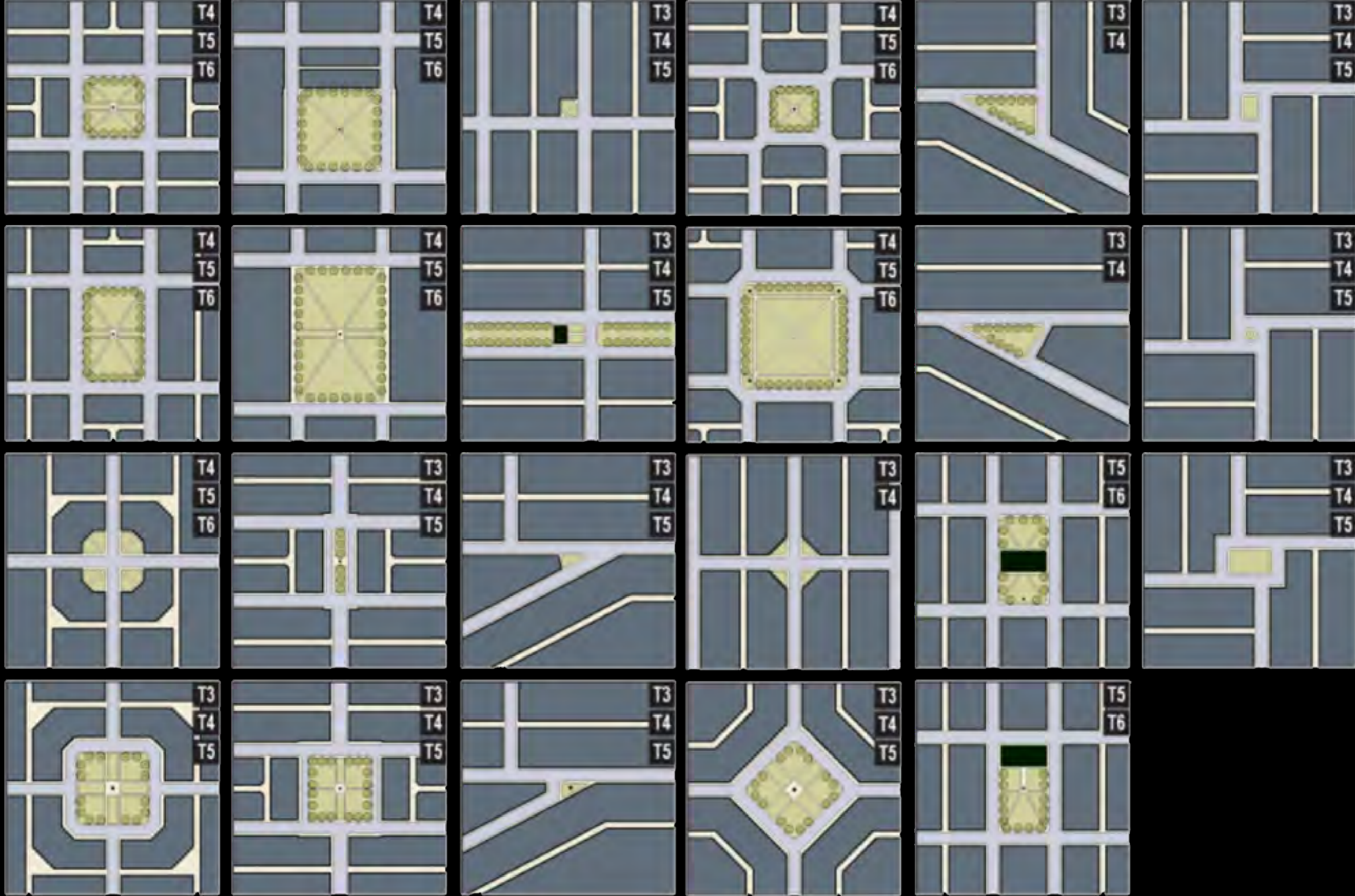
T3
T4

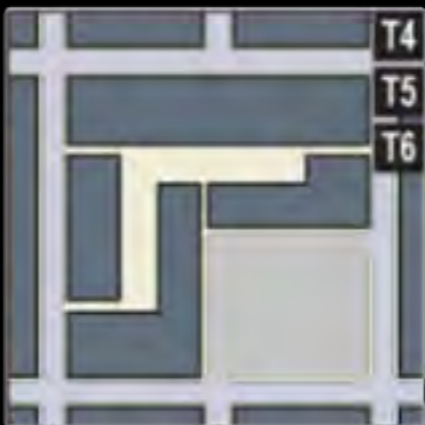
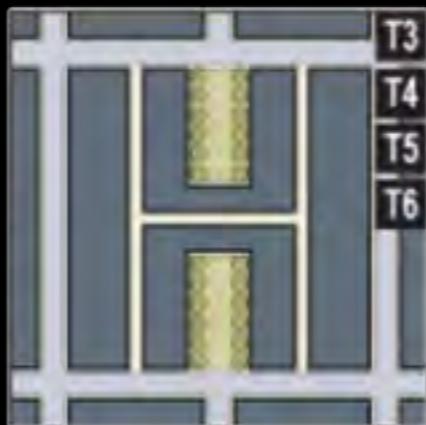
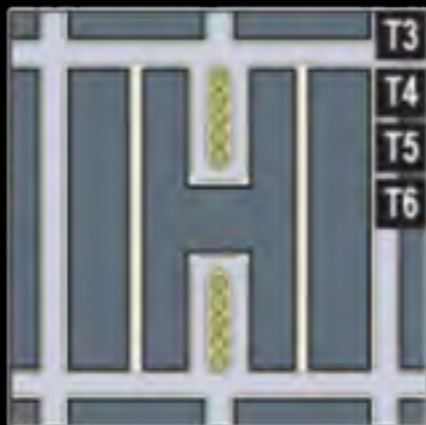
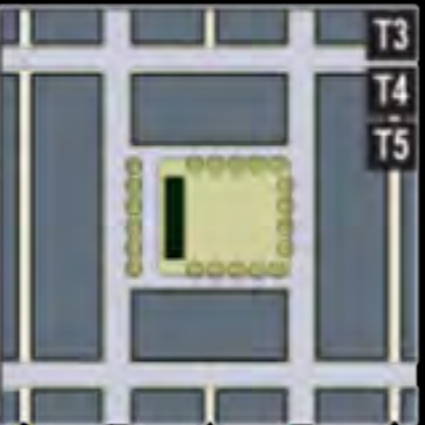
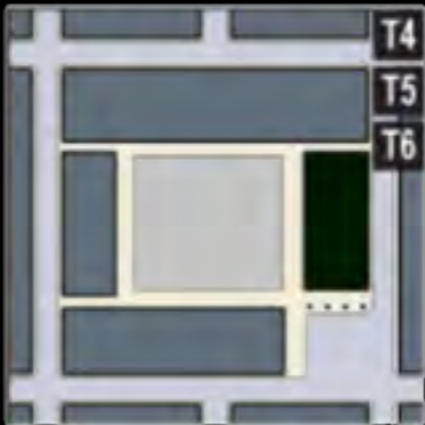
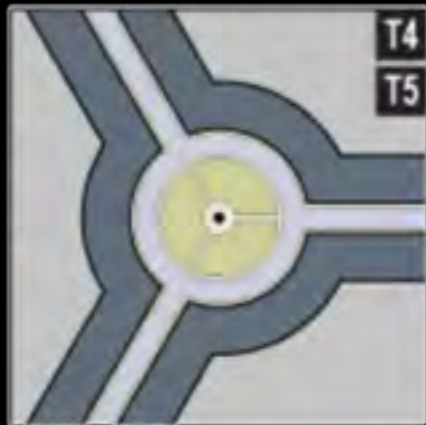
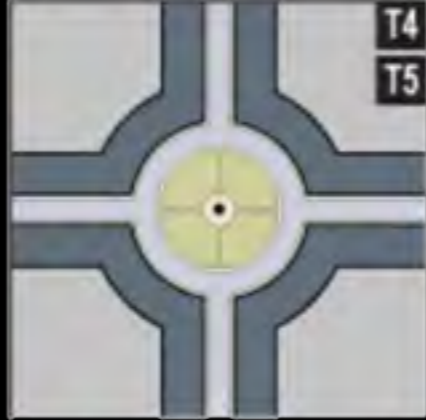
e. **Square:** An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size should be 1/2 acre and the maximum should be 5 acres.



T4
T5



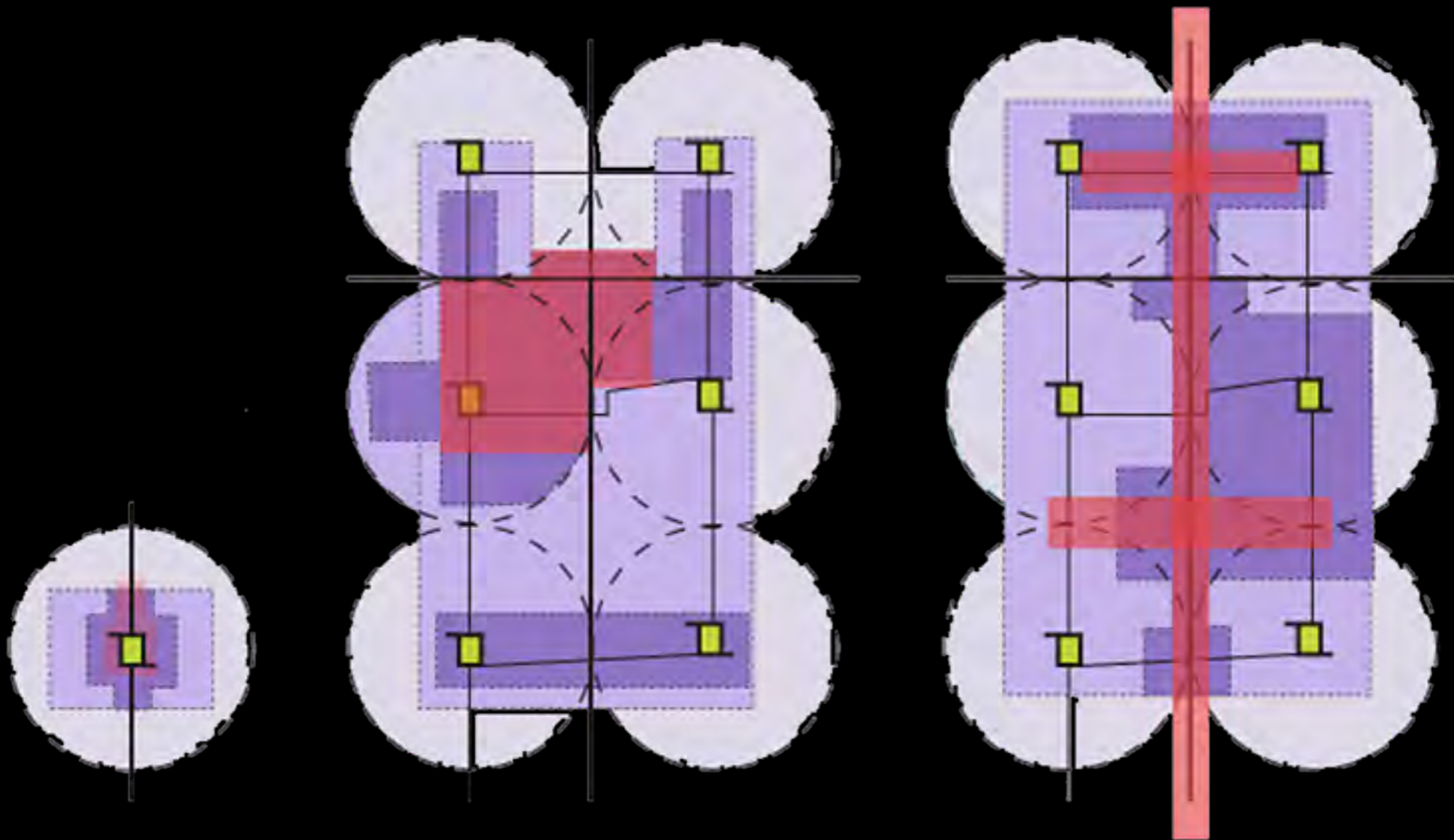




#7 Detail Transect Zones

- The Transect analyzes and coordinates the built environment to the block and parcel level.
- Assign Percentages.
- What is desired result?
- What is the context?





Rationale





T3 Design Intensity



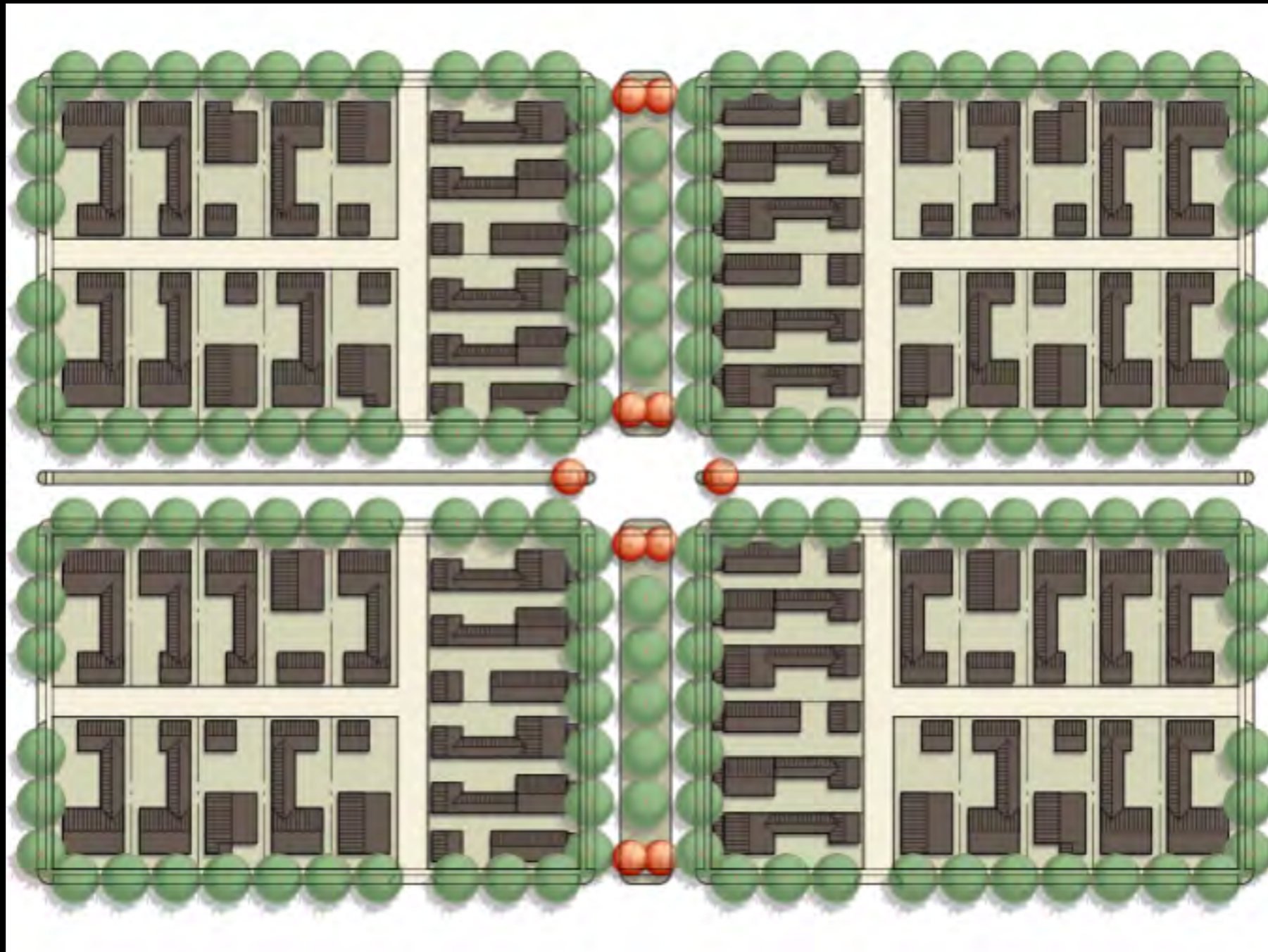




T4 Design Intensity

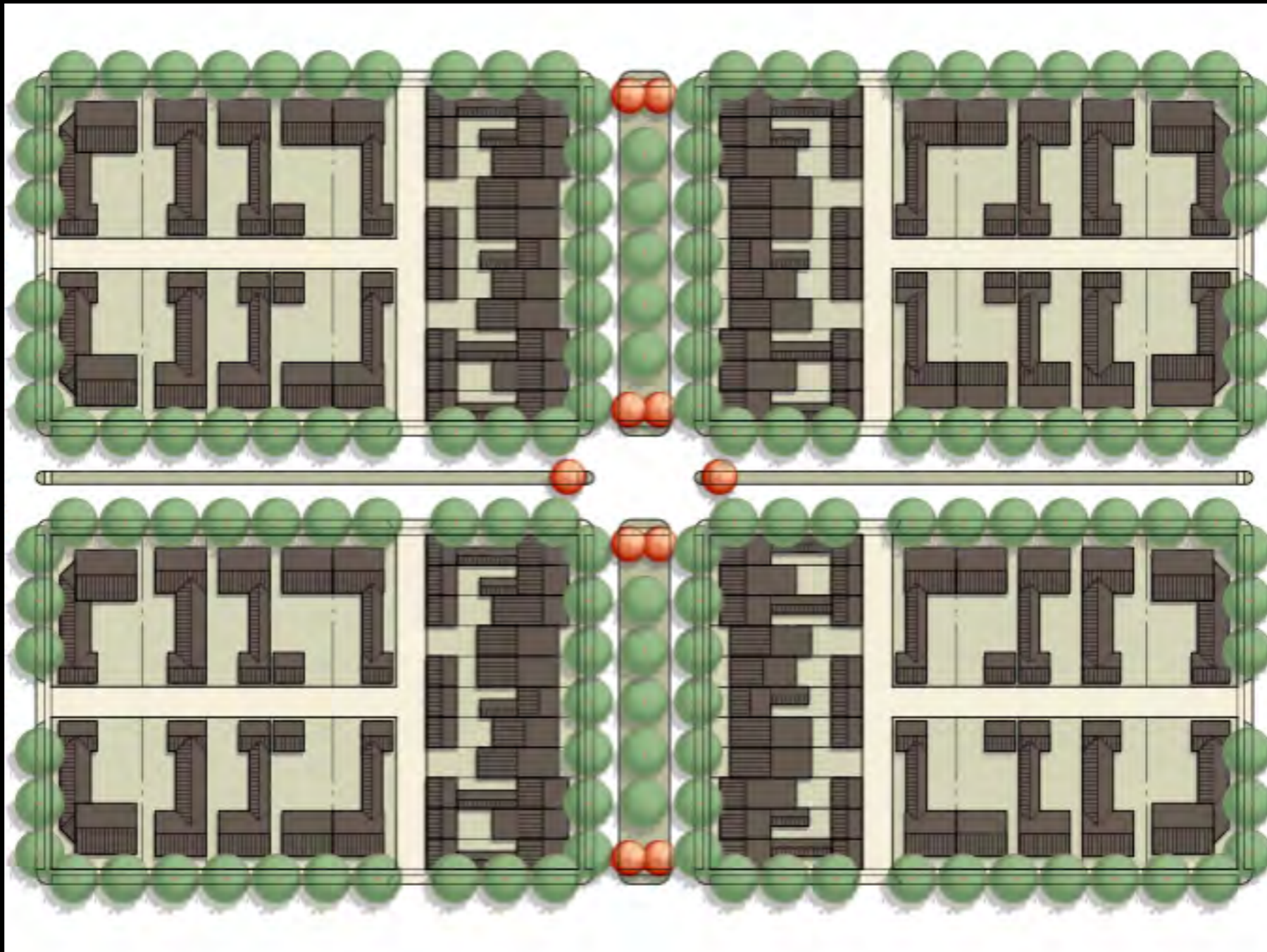






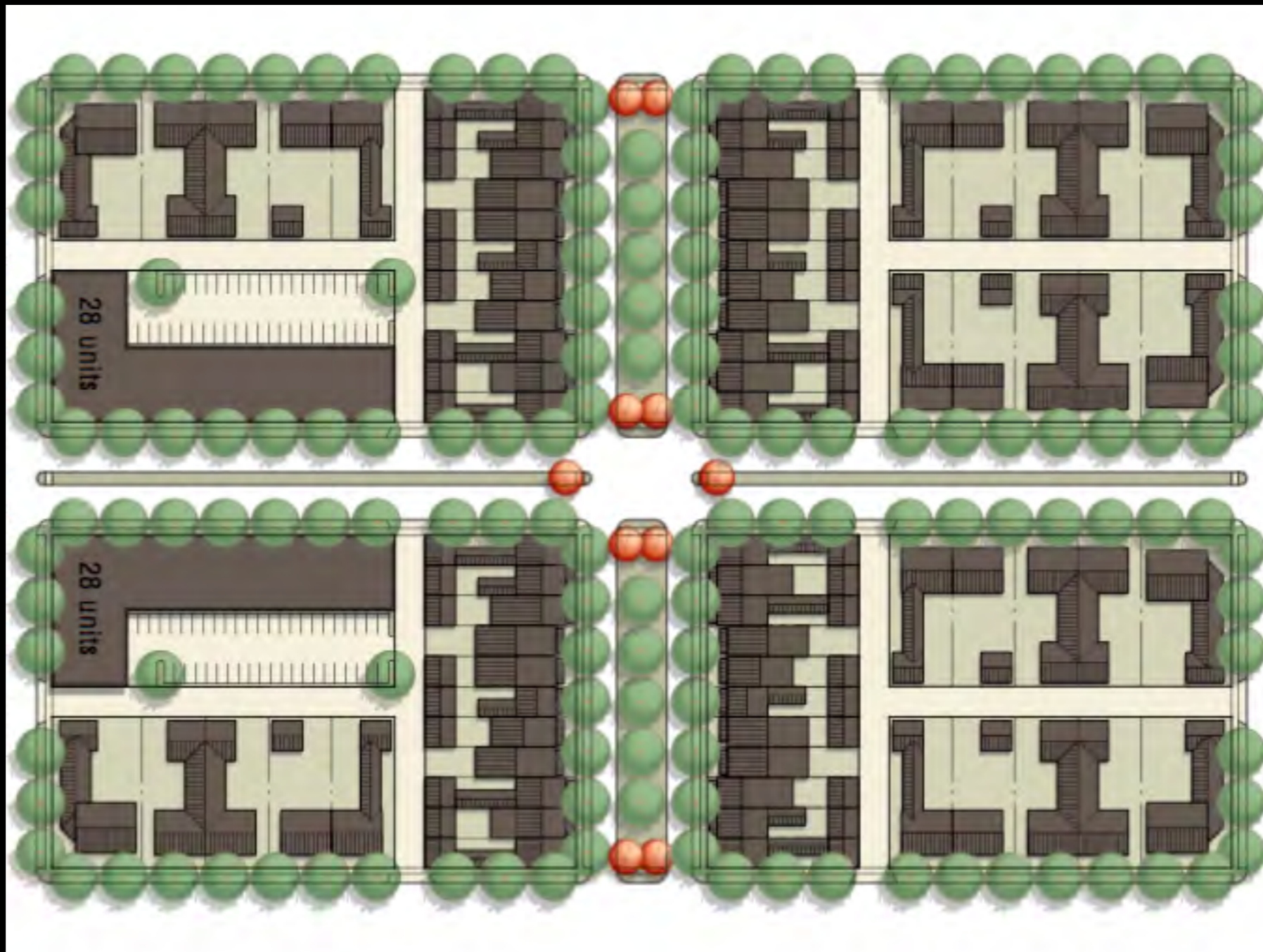
Edgeyard and Sideyard
5.5 du/acre





Edgeyard, Sideyard and Rearyard
7.2 du/acre





Edgeward, Sideyard and Rearyard
11.2 du/acre





T5 Design Intensity





Infill Neighborhood Design

Article 4 Design Considerations





Community Type

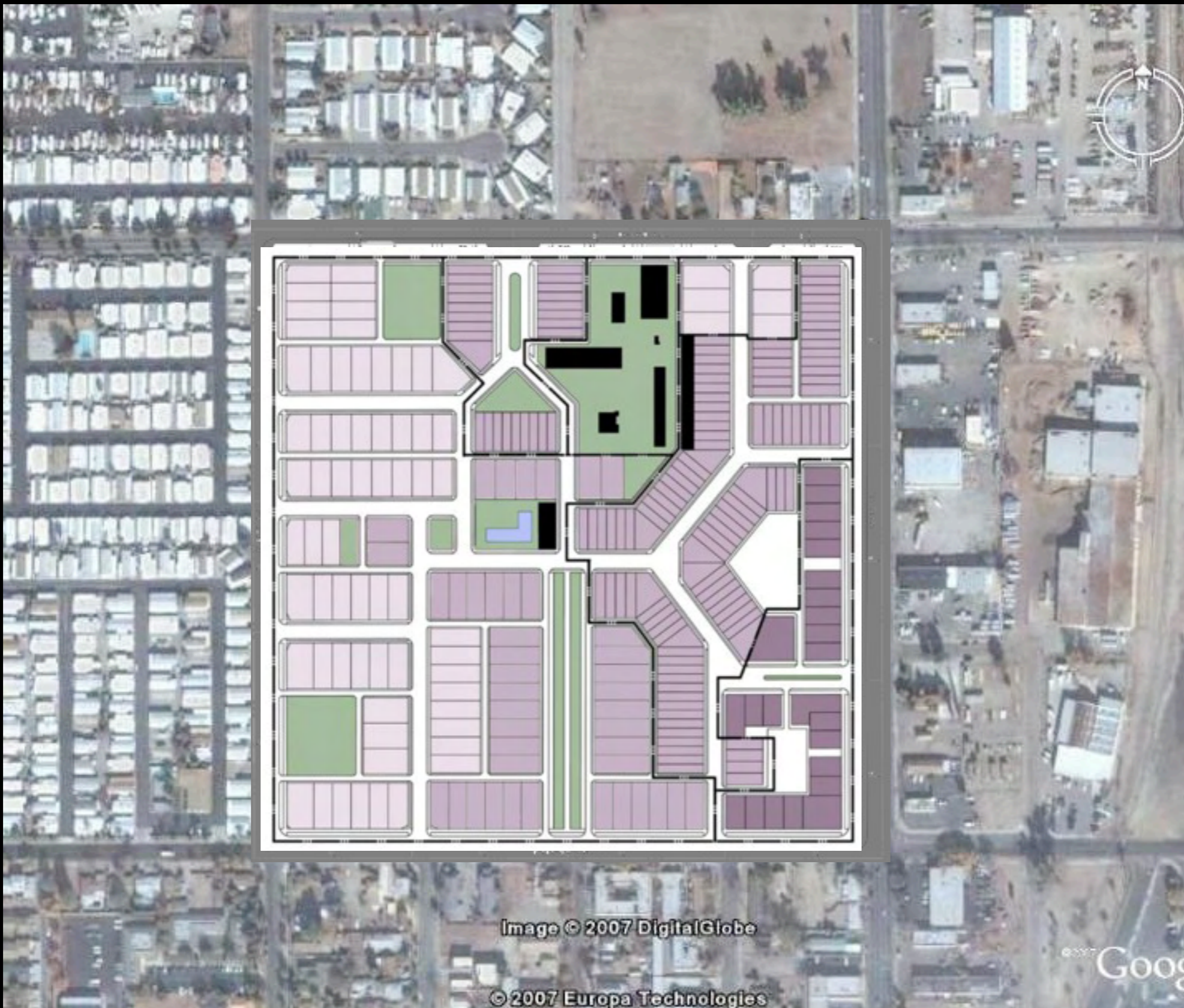




Zoning/Transect Map











- Build half-streets as lanes on property line
- Use thoroughfares to divide parcel
- Use existing vegetation for public space



Work with Parcel Lines



- Build half-streets as lanes on property line
- Use thoroughfares to divide parcel
- Use existing vegetation for public space



Work with Parcel Lines





Mix of Housing: Courtyard, Sideyard, Row Houses, and Edge Yard

Civic Building (Community Center or Religious)

Shared Full Soccer Field (Two Junior Fields Inset)

Possible Live/Work at Corner

Single Family T-3 provide interface at edge.

Plaza/Plazuela serves as central gathering space

Work with Parcel Lines

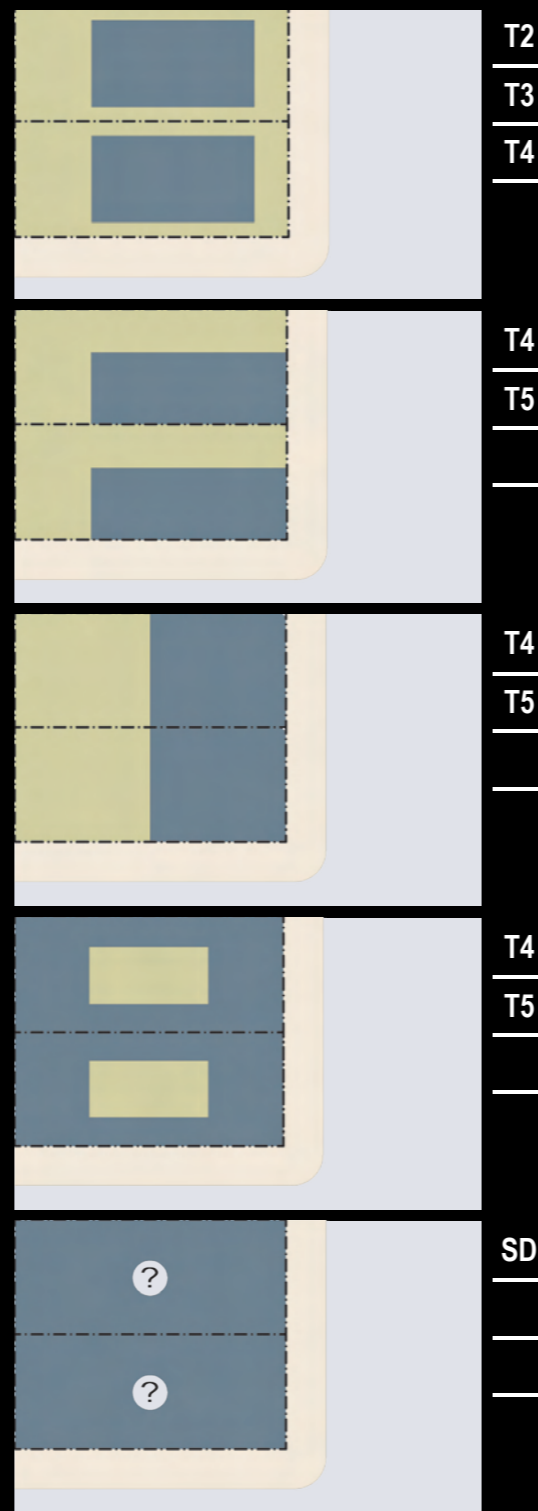




Parcel Design

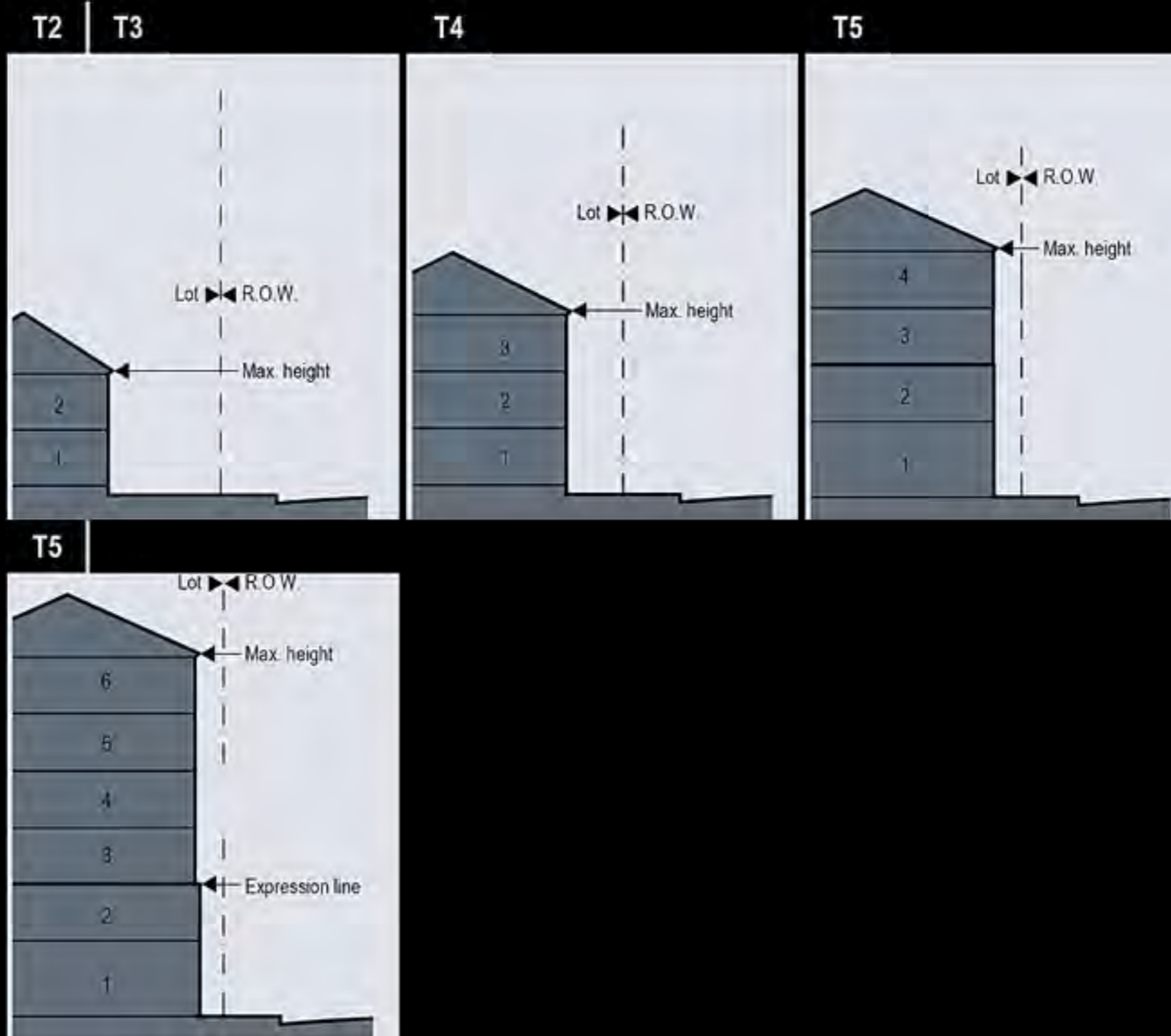
Article 5 Design Considerations





Disposition

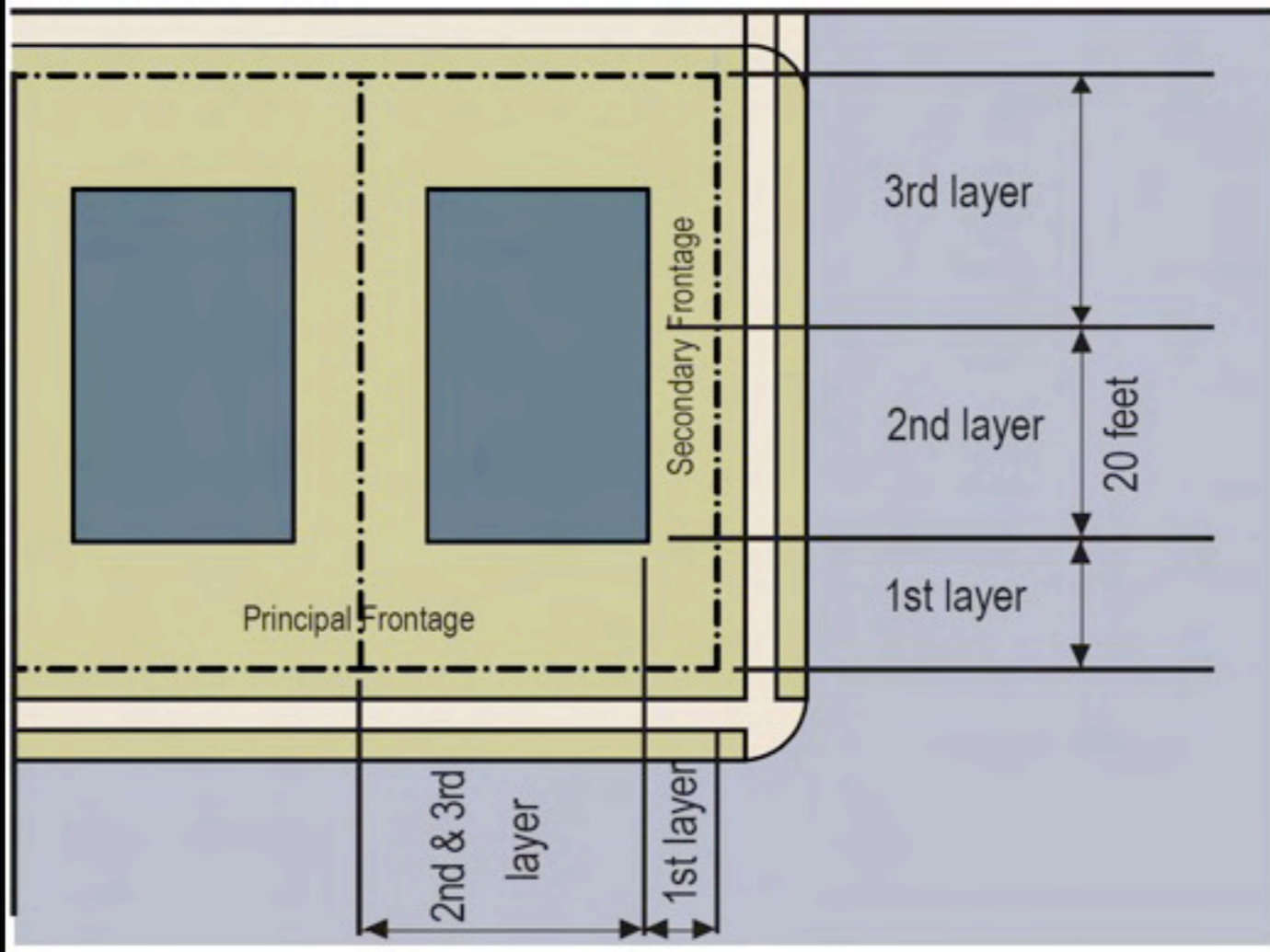




Configuration



d. LOT LAYERS

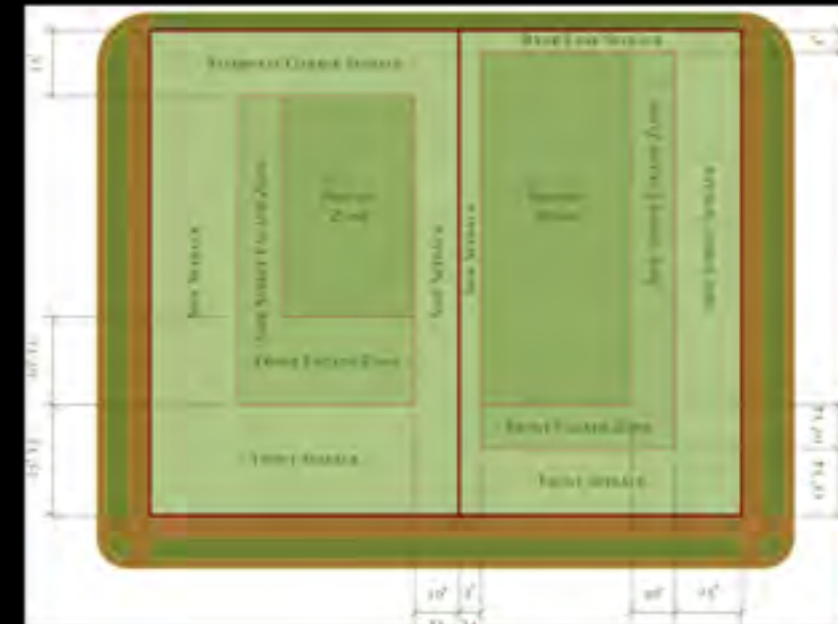


HOUSE LOTS

LOT DIMENSION VARIATIONS BY CONTEXT T-ZONES

DIMENSION	T2	T3	T4	T5
FRONT SETBACK		25'	15'	
SIDE SETBACK		10'	5'	
SIDE STREET SETBACK (ONLY AT CORNER LOT)		20'	15'	
REAR: ONLY ONE OPTION BELOW APPLIES AT OWNER'S OPTION				
ALTERNATE GARAGE & REAR SETBACK		15'	15'	
REAR LANE SETBACK		5'	5'	

* Garage setback from lane may be exactly 5' or a minimum of 15' at the Owner's option. The alternate garage setback allows room for a car to park off the lane in the driveway.

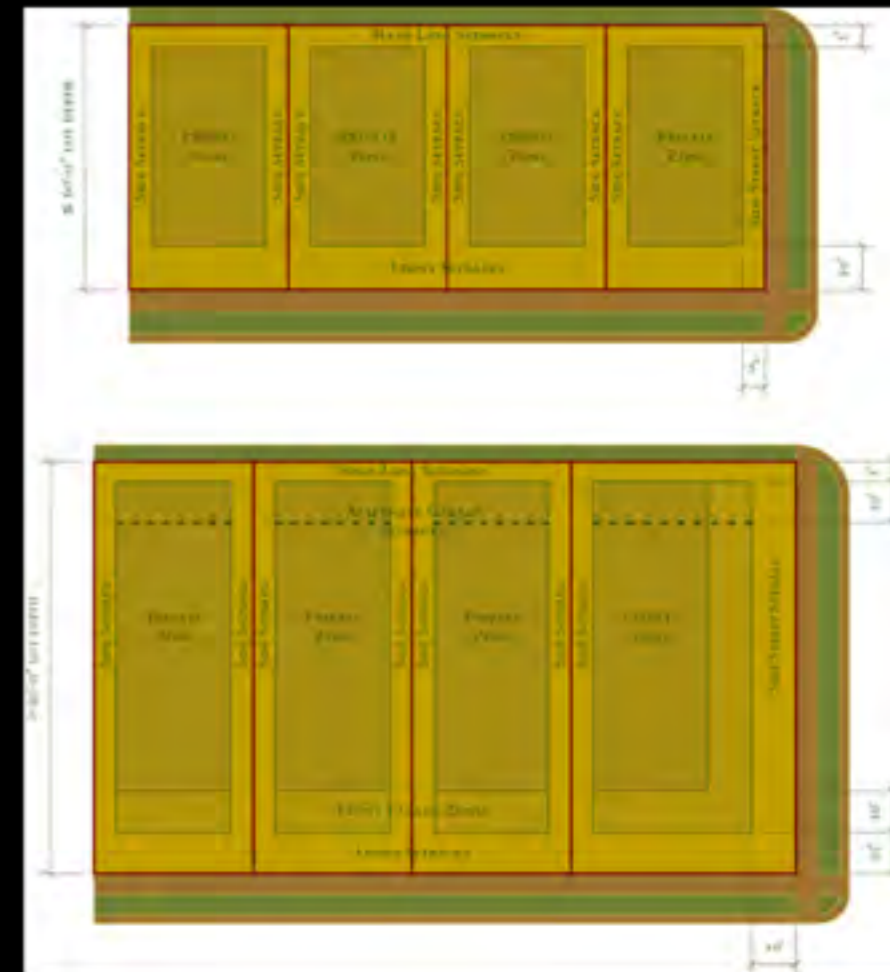




COTTAGE LOTS

LOT DIMENSION VARIATIONS BY CONTEXT T-ZONES

DIMENSION	T2	T3	T4	T5
FRONT SETBACK			VARIES	
SIDE SETBACK				
SIDE STREET SETBACK (ONLY AT CORNER LOT)			15'	
REAR: ONLY ONE OPTION BELOW APPLIES AT OWNER'S OPTION				
ALTERNATE GARAGE SETBACK			VARIES	
REAR LANE SETBACK			5'	





SIDEYARD HOUSE LOTS

Dimensions specified by number and name in the drawing below do not change from one Context T-Zone to another. Dimensions specified by name only in the drawing below do change as follows from one Context T-Zone to another:

LOT DIMENSION VARIATIONS BY CONTEXT T-ZONES

DIMENSION	T2	T3	T4	T5
FRONT SETBACK			10'	
SIDE SETBACK			5'	
SIDE STREET SETBACK (ONLY AT CORNER LOT)			5'	
REAR: ONLY ONE OPTION BELOW APPLIES AT OWNER'S OPTION				
ALTERNATE GARAGE SETBACK			15'	
REAR LANE SETBACK			5'	

Sideyard house lots will be platted with Side Yard Use Easements as shown below. The Use Easement is available to the house of the adjacent property. Garage setback from lane may be exactly 5' or a minimum of 15' at the Owner's option. The alternate garage setback allows room for a car to park off the lane in the driveway.





TOWNHOUSE LOTS

LOT DIMENSION VARIATIONS BY CONTEXT T-ZONES

DIMENSION	T2	T3	T4	T5
FRONT SETBACK			10' RT	10' RT
SIDE SETBACK			0'	0'
SIDE STREET SETBACK (ONLY AT CORNER LOT)			10'	10' RT
REAR: ONLY ONE OPTION BELOW APPLIES AT OWNER'S OPTION				
ALTERNATE GARAGE SETBACK			15'	15'
REAR LANE SETBACK			5'	5'

* Garage setback from lane may be exactly 5' or a minimum of 15' at the Owner's option. The alternate garage setback allows room for a car to park off the lane in the driveway. If buildings are not located at the 5' lane yard setback, a fence, wall, or hedge shall be used to maintain the lane edge.





LIVE/WORK AND OFFICE LOTS

LOT DIMENSION VARIATIONS BY CONTEXT T-ZONES

DIMENSION	T2	T3	T4	T5
FRONT SETBACK				0' BT
SIDE SETBACK				0'
SIDE STREET SETBACK (ONLY AT CORNER LOT)				0'
REAR: ONLY ONE OPTION BELOW APPLIES AT OWNER'S OPTION				
ALTERNATE GARAGE SETBACK				15'
REAR LANE SETBACK				5'

* Garage setback from lane may be exactly 5' or a minimum of 15' at the Owner's option. The alternate garage setback allows room for a car to park off the lane in the driveway.

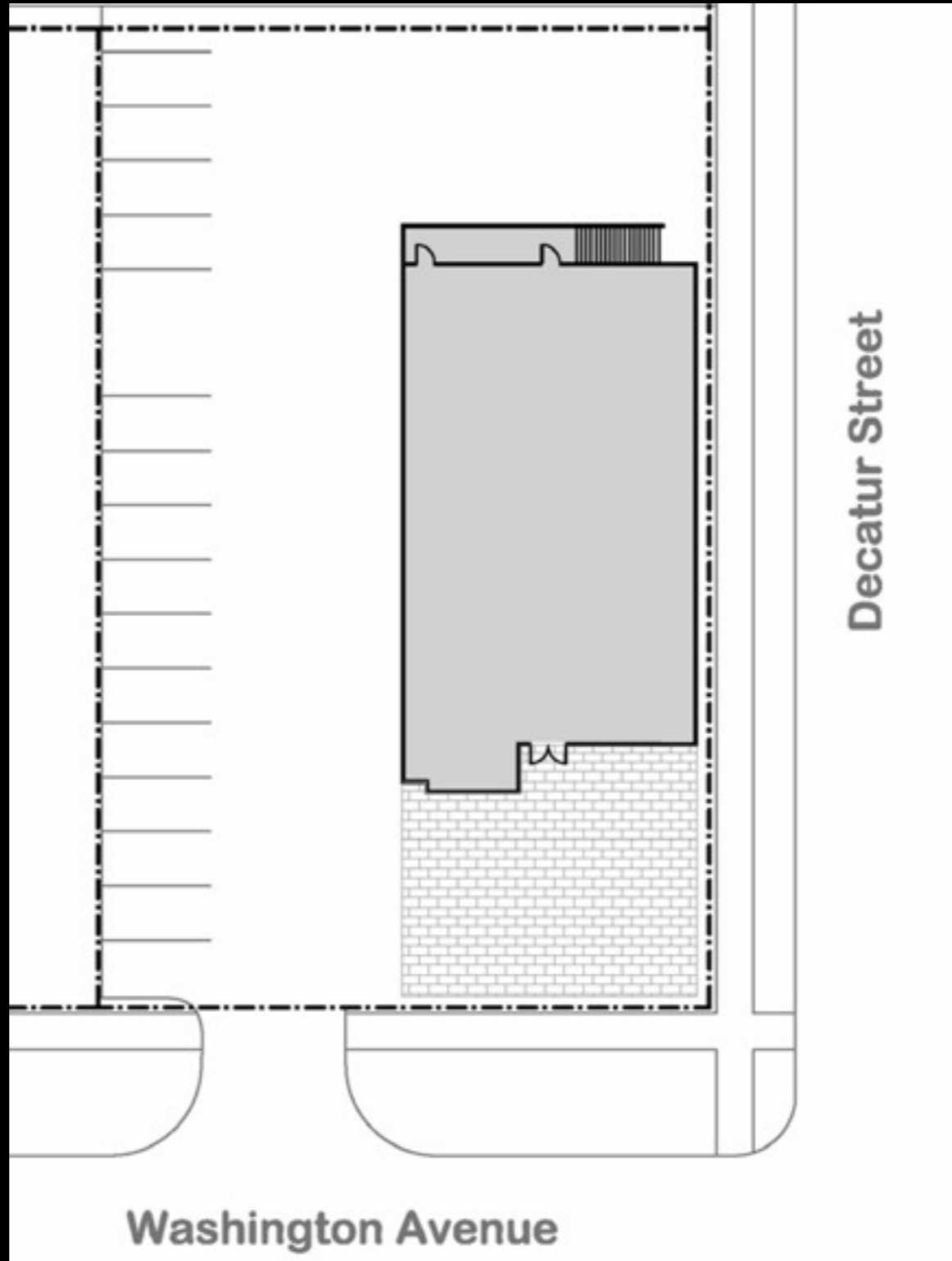


TABLE 19. PARKING CALCULATIONS

The gross minimum number of parking spaces listed below shall be multiplied by the "occupancy rate" as found in Table 20, for each use for the weekday night, daytime and evening periods respectively, and weekend night, daytime and evening periods respectively. The gross minimum numbers of parking spaces for each of the purposes referred to for each time period shall be added to produce the aggregate gross minimum numbers of parking spaces for each time period.

	T2	T3	T4	T5
RESIDENTIAL	2.0 / dwelling		1.5 / dwelling	1.0 / dwelling
LODGING	1.0 / unit		1 / unit	1.0 / unit
OFFICE	3.0 / 1,000 s.f.		3.0 / 1,000 s.f.	2.0 / 1,000 s.f.
RETAIL	4.0 / 1,000 s.f.		4.0 / 1,000 s.f.	3.0 / 1,000 s.f.
CIVIC	1 / 5 seats assembly use 1 / 1,000 square feet of exhibition or indoor recreation area		1 / 5 seats assembly use 1 / 1,000 s.f. exhibition or indoor recreation area Parking requirement may be reduced according to the Parking Occupancy Rate Table 20. 1 Bicycle Rack Space / 20 vehicular spaces required Parking for civic uses may be provided off-site within a distance of 1,000 feet.	1 / 5 seats assembly uses 1 / 1,000 s.f. exhibition or indoor recreation area Parking requirement may be reduced according to the Parking Occupancy Rate Table 20. 1 Bicycle Rack Space / 20 vehicular spaces required Parking ratio may be reduced within ½ mile radius of TOD and within ¼ mile radius of a Transit Corridor by thirty percent (30%). Parking may be provided by ownership or lease offsite within 1000 feet.
OTHER	To be determined by Administrative Waiver			



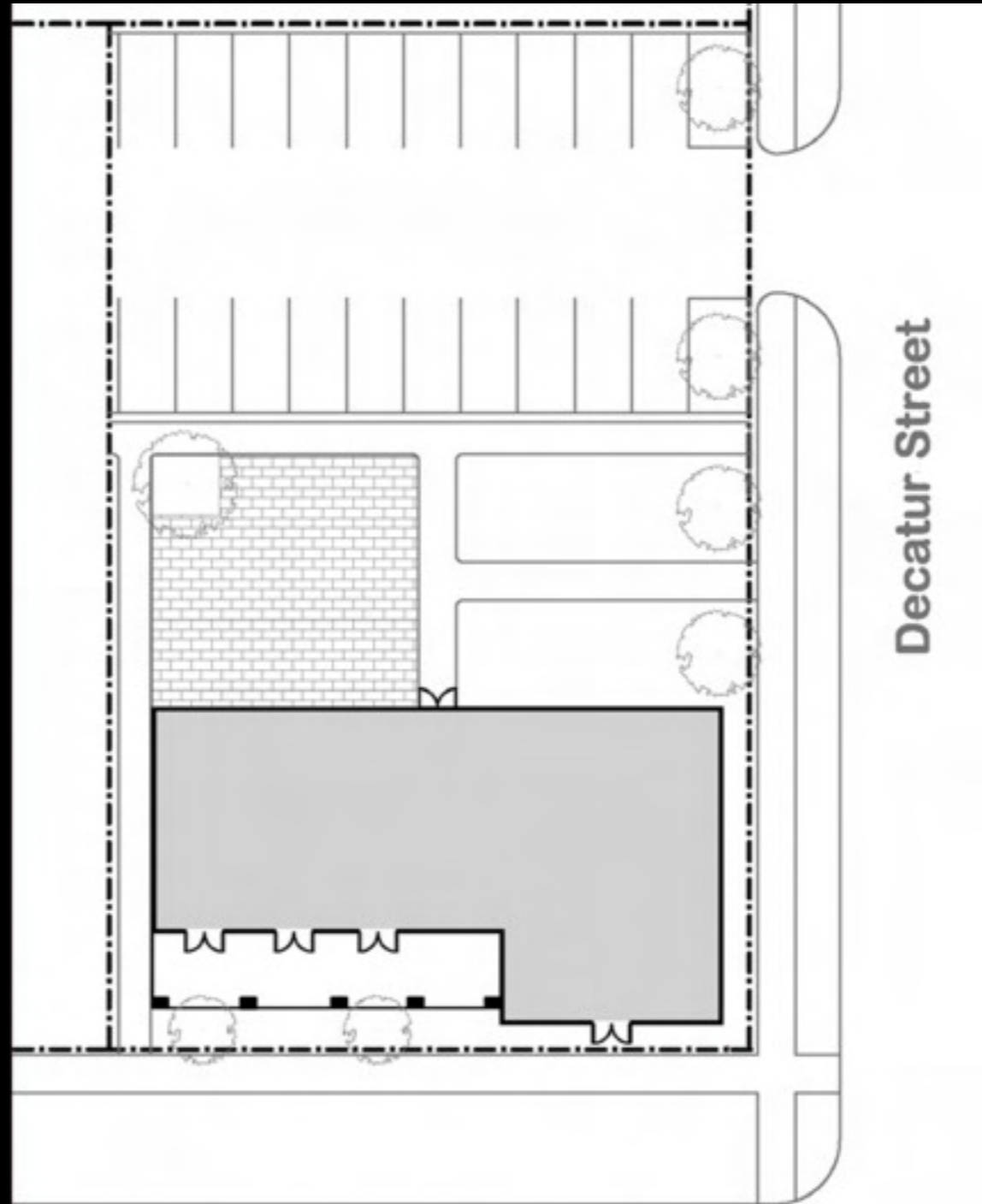


Decatur Street

Washington Avenue

Washington Avenue





Decatur Street

Washington Avenue

Washington Avenue

