

THE LEXICON OF NEW URBANISM

DUANY PLATER-ZYBERK & CO.

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Y

Yard	8.2
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Z

Zero Lot Line House	9.5.2
Zig Zag	4.3
Zoning	12.4.2
Zoning Map	12.4.2

REGION, CITY, TOWN, & VILLAGE:

1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.
 2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.
 3. The metropolis has a necessary and fragile relationship to its agrarian and natural landscapes that is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.
 4. Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.
 5. Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban centers and edges, and planned for a balance of jobs and housing, not as bedroom suburbs.
 6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
 7. Cities and towns should comprise a spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to be near job opportunities and to avoid concentrations of poverty.
 8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.
 9. Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions upon the automobile.
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NEIGHBORHOOD, DISTRICT, & CORRIDOR:

1. The Neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.
 2. Neighborhoods should be compact, pedestrian-friendly, and mixed use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.
 3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number, and length of automobile trips, and conserve energy.
 4. Within neighborhoods, a range of housing types and price levels can bring people of diverse ages, ethnicities and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.
 5. Transit corridors should be planned and coordinated to help organize metropolitan structure and revitalize urban centers. They should not displace investment from existing centers.
 6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.
 7. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.
 8. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.
 9. A range of parks, from playgrounds and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.
-

BLOCK, STREET, & BUILDING:

1. A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.
 2. Individual architectural projects should be seamlessly linked to their surroundings. This principle transcends style.
 3. The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.
 4. In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.
 5. Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.
 6. Architecture and landscape design should grow from the climate, topography, history, and building practices of the region.
 7. Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.
 8. All buildings should provide their inhabitants with a clear sense of location, weather, and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.
 9. Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society.
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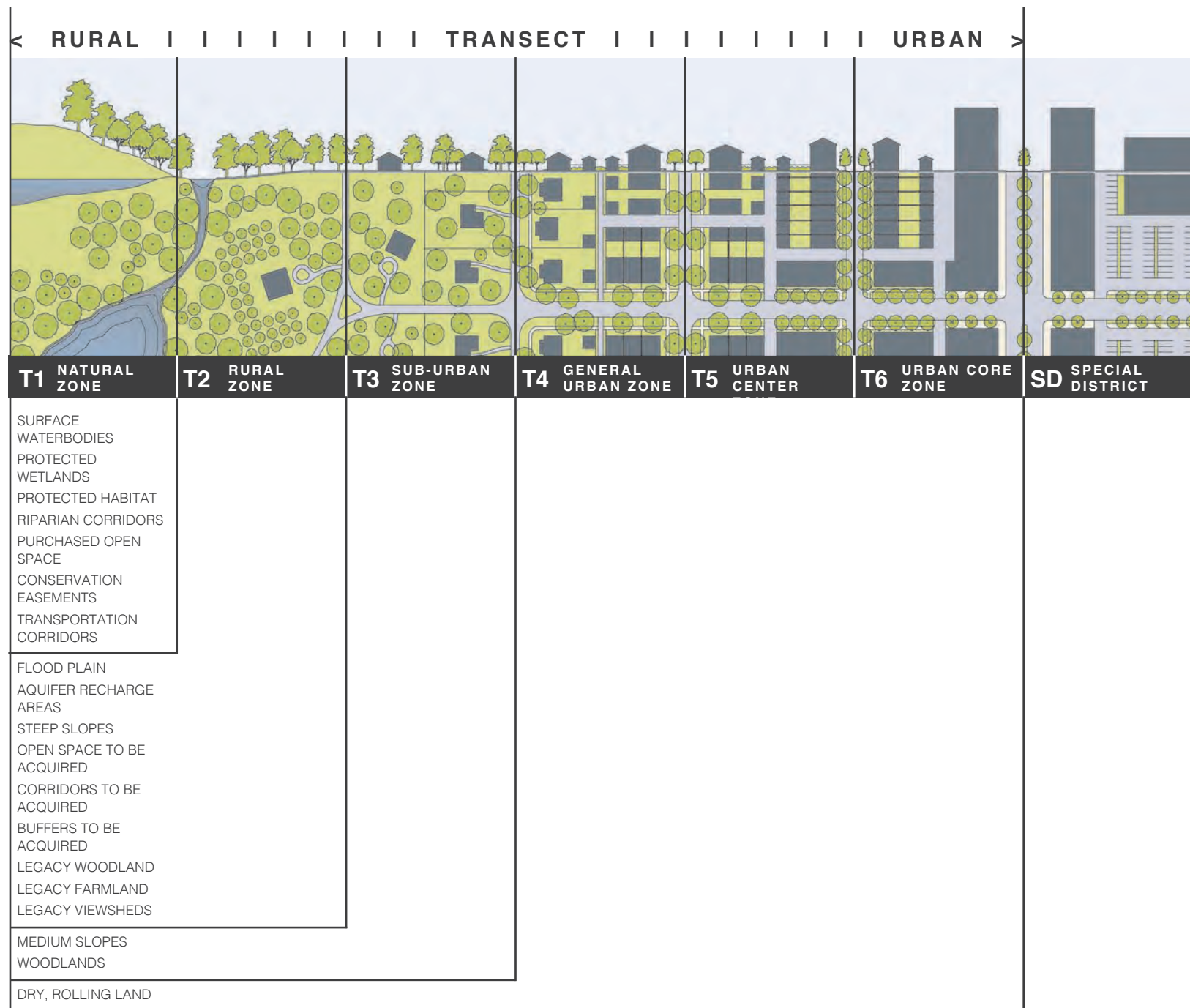
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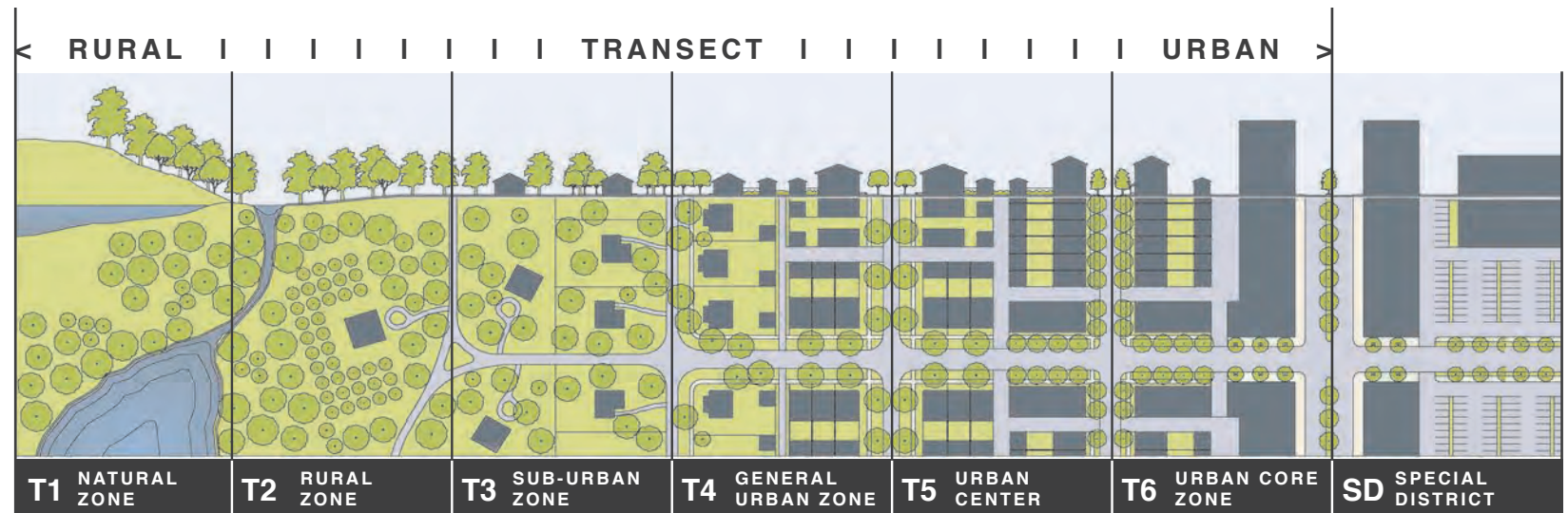
The Urban to Rural Transect: Like other species, Human beings also thrive in different habitats. There are those who could never live in an urban center; and there are those who would wither in a rural hamlet. Humans need a system that preserves and creates meaningful choices in their habitats. Near the close of the 20th century, New Urbanist designers recognized that sprawl was eradicating the pre-war American transect of the built environment. They began to analyze it and extract its genetic material for replication. In this way, they extended the natural transect to include the built environment, thus establishing the basis for the SmartCode.

Urban-to-Rural Transect: a system that identifies the varieties of human and natural habitats by intensity and mix, both for analysis and to project future urbanism through codes. It replaces the current system of Euclidean or single-use zoning.

The rural-urban Transect is divided into six Transect Zones for application on Regulating Plans. These six habitats vary by the level and intensity of their physical and social character, providing immersive contexts from rural to urban. **See: Regulating Plan**

A transect of nature, first conceived by Alexander Von Humboldt at the close of the 18th century, is a geographical cross-section of a region intended to reveal a sequence of environments. Originally, it was used to analyze natural ecologies, showing varying characteristics through different zones such as shores, wetlands, plains, and uplands. It helps study the many elements that contribute to habitats where certain plants and animals thrive in symbiotic relationship to the minerals and microclimate.





LOWER DENSITY.....	HIGHER DENSITY
PRIMARILY RESIDENTIAL USE.....	PRIMARILY MIXED USE
SMALLER BUILDINGS.....	LARGER BUILDINGS
MORE GREENSPACE.....	MORE HARDSCAPE
DETACHED BUILDINGS.....	ATTACHED BUILDINGS
ROTATED FRONTAGES.....	ALIGNED FRONTAGES
YARDS & FRONTAGES.....	STOOPS & STOREFRONTS
DEEP SETBACKS.....	SHALLOW SETBACKS
ARTICULATED MASSING.....	SIMPLE MASSING
WOODEN BUILDINGS.....	MASONRY BUILDING
GENERALLY PITCHED ROOFS.....	GENERALLY FLAT ROOFS
SMALL YARD SIGNS.....	BUILDING MOUNTED SIGNAGE
LIVESTOCK.....	DOMESTIC ANIMALS
ROAD & LANES.....	STREETS & ALLEYS
NARROW PATHS.....	WIDE SIDEWALKS
OPPORTUNISTIC PARKING.....	DEDICATED PARKING
LARGER CURB RADII.....	SMALLER CURB RADII
OPEN SWALES.....	RAISED CURBS
STARLIGHT.....	STREET LIGHTING
MIXED TREE CLUSTERS.....	SINGLE TREE SPECIES
LOCAL INSTITUTIONS.....	REGIONAL INSTITUTIONS
PARKS & GREENS.....	SQUARES & PLAZAS

Urbanism: collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic, and sociocultural aspects.

Suburban: sub-urban or less than urban. A term usually applied to urban growth at the edge of, and dependent upon a city. A more promising term is the Greek • Proaction which means "before the city" implying before becoming a city and before entering the city. The German •Vorstadt or forecity is similar. *Source: Stef Polyzoides*

Ecozone: a defined sub-unit of the urban-to-rural Transect.

Ecosystems: a set of ecozones that, in combination, is able to create an environment affecting or influencing circumstances surrounding an organism's growth and development.

Entropy: a system's tendency toward disorder or the unavailability of energy to do work. Derived from the second law of thermodynamics, entropy theoretically increases as time passes. Disorder is mathematically defined as randomness.

Design: the conceptualization and the enactment of intent on the built environment responsive to specific sets of human needs and desires.

Planning: the organization of urban design, policy, and management.

Urban Design: the physical planning and design of the built environment in response to human needs and desires. See **Town Planning**.

Urban Policy: the rationalization of legal and financial systems to fulfill human needs and desires.

Urban Management: the methods and procedures that sustain and protect human needs and desires.

Town Planning: the method and discipline by which the future physical form, functions, and policies of a community are planned. The method requires the documentation and study of existing conditions as well as planning for the future. Town Planning is distinct from Urban Design, since it embraces the technical, legal, and social spheres as well as the physical and functional. See **Urban Design**.

Urban Fabric: the physical aspect of urbanism. This term emphasizes building types, thoroughfares, open space, streetscapes, and frontages, while excluding without prejudice ecological, functional, economic, and sociocultural aspects.

Public Realm: Those parts of the Urban Fabric that are held in common, either by physical occupation or visual association. This includes, but is not limited to plazas, squares, parks, vistas, thoroughfares, public frontages, private frontages, civic buildings, and certain commercial entities like the common areas of malls and hotels. Beyond the physical and utilitarian, there is also a virtual component to the public realm, as in print or digital media. There is an ethical and civic connotation to the term that is beyond the physical, the legal, and the utilitarian. On a thoroughfare, the public realm is the entire space formed by the enfronting buildings. See **Frist Layer, Enfronting**. *Source: Charles Moore*.

Private Realm: The portions of the urban fabric that are behind the facades of private building (in their lots' second and third layers). The private realm constitutes the bulk of the urban fabric. See **Second Layer, Third Layer**.

Civic Art: Coined ca.1920, the term is currently used to describe a body of knowledge that combines art and technique to create and to improve upon all aspects of the urban fabric and the public realm in particular. Also, the title of an encyclopedic and still relevant book by Werner Hegemann and Elbert Peets (1922 & 1988).

Neotraditionalism: an ethos characterized by the pragmatic selection of available options. This is distinct from the concurrent traditionalism and modernism which are purist and ideological. Coined by the Stanford Research Institute ca.1988 to describe the ethos of the baby-boom generation, it is expected to be dominant until 2020. A typical Neotraditional product is the Mazda Miata: the character of old British roadster with modern Japanese dependability. It is manifested in housing by spatially traditional rooms stocked with high-tech appliances; in retailing by Main Street managed as a shopping center; in social mores by the cafe plugged into the internet. Neotraditionalism permeates New Urbanist technique.

Quality of Life/Standard of Living: two conventional measures of human well-being.

Standard of Living: a quantitative measure which measures such benchmarks as family income, cars owned, miles of highway, dwelling size, and number of bathrooms or appliances. A commitment to Conventional Suburban Development necessitates the pursuit of a high standard of living but virtually precludes a high quality of life, as discretionary time is consumed by the inevitable driving about and discretionary income is committed to automobile ownership costs.

Quality of Life: a qualitative measure which measures availability of leisure time and discretionary income, both requisites of personal choice. A commitment to Traditional Neighborhood Development necessitates the pursuit of a high quality of life, which can mean trading the opportunity to accumulate goods for the opportunity to enjoy time with oneself and others.

Built Environment: the human habitat as envisioned jointly by urbanists and environmentalists. Although technically a general description of all urbanism, this term is acquiring through usage the specific connotation of the symbiotic integration of manmade and natural systems. Syn.: **Urban Ecology**

Community: a sustainable human habitat that is complete and compact. Its smallest theoretical manifestation is the neighborhood or the village. Alt: a group of people with common interests dwelling in proximity.

Environmental/Ecological: similar, but not interchangeable terms. "Environmental" refers to abiotic processes pertaining to the vitality of an organization. "Ecological" refers to biotic processes pertaining to the vitality of an organism. The Charter of the New Urbanism, when implemented on a regional scale, is both environmentally and ecologically sound. Usage: "A village is a viable human environment within a protected ecology".

Domain / Range: the domain is the portion of the world that is directly altered by a plan or intervention. The range is the portion of the world that affects or is affected by the alteration. *Source: David Heymann*

Cultural: the elements introduced into the natural world by the human species. *Source: Cicero alteram naturam*.

Culture: an ethos characterized by consistency in attitude and behavior.

Natural: all that is not the creation of man. Currently the meaning of "natural" has taken an environmental overlay as being without artificial supplements. A related term, "naturalistic", means to be composed informally. Both definitions may have become confused when applied to urbanism, as connoting an informal layout that seems to be more responsive environmentally.

Naturalistic: a design tending to an irregular, curvilinear, organic, episodic composition. Naturalistic design is usually on the more rural end of the Transect. Syn.: **informal**

Private Sector: development entities operating for profit. The majority of the urban fabric of the United States has been created by the private sector.

Public Sector: government operating for the common good by bridging gaps left by the private sector because they cannot be profitable. The public sector creates virtually all of the low-income housing, as well as the majority of the infrastructure that supports development by the other sectors.

Civic Sector: religious, civic, cultural, and educational institutions operating for the common good. Private sector developers can incorporate public sector subsidies, generally towards the creation of low-income housing. Syn.: **non-governmental organizations (NGO)**

Not-For-Profit Sector: development entities that operate for the common good, incorporating public sector subsidies, generally toward the creation of low-income housing.

Environmental Responsibility: urban ecological stewardship that refrains from unduly degrading the natural environment and the unfettered expansion of the built environment.

Social Equity: the inclusiveness, wherein the built environment provides for the needs and desires of a population varied in gender, age, and income.

Economic Sustainability: the balance between consumption and investment wherein a built environment protects its viability and projects its evolution.

Traditional Neighborhood Development (TND)/Transit-Oriented Development (TOD): a comprehensive planning system with the mixed-use **Neighborhood** as its basic element and the single-use **District** as an exception.

The **Neighborhood** is a mixed-use, mixed-income urban sector whose limit is defined by walking distance instead of population density. The neighborhood fulfills most ordinary human needs, including those of transportation. A network of thoroughfares variously detailed for character and capacity serves the neighborhood as a public realm suitable for both pedestrian and vehicular usage.

The **District** is an urbanized area that is specialized for a single activity.

Neighborhoods and districts are embedded within a regional system of **Rural Areas** and **Corridors** defined by rural and/or urban boundaries.

The **TND** and **TOD** are rationalizations of the vernacular pattern of human settlement. They are the successors of the Neighborhood Unit formulated in 1929.

Conventional Suburban Development: a comprehensive planning system characterized by single-use zones, with the **housing pod**, the **shopping center**, and the **business park** as its basic elements and the mixed-use zone as the exception. **Open space** is conceived as residual to the other zones.

The separate zones are connected by a dendritic pattern of thoroughfares designed for the rapid movements of cars, creating a public realm that is usually hostile to the pedestrian.

During implementation, each single-use zone is considered normative and vested while mixed use must be justified. The regional system is usually devoid of comprehensive open space protection.

Conventional Suburban Development is a recent invention that has been mitigated by certain improvements such as the planned unit development, which allows mixed-use by negotiation.

TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND) *consists of the following:*

Rural Areas: sectors designated to remain free of urbanization.

Rural areas include those of special environmental as well as historical, cultural, and aesthetic value. Certain rural sectors shall be designated as **preserves** for permanent safeguard or **reserves** for later release. These areas may be preserved through a transfer of development rights or acquired for public use at pre-zoning cost. All assignments to rural areas should be justified to make them resistant to legal challenge.

Corridors: linear sectors for transportation and greenway connections.

The corridors include natural and technological components ranging from wildlife trails to rail lines.

The natural corridors are formed by the systematic accretion of natural, agricultural, and recreational open spaces (such as parks, school yards, and golf courses). These continuous spaces can be part of a larger network, connecting the urban open spaces to the countryside.

The transportation corridor is determined by its intensity. Heavy rail corridors should remain tangent to all urbanized areas. Light rail and streetcar corridors may occur at boulevards at the edges of neighborhoods. Bus corridors may pass into neighborhoods on streets. The corridor may also be a continuous parkway, providing long-distance walking and bicycle trails.

A corridor should not be the residual space between different zones, but a positive element characterized by its visible continuity.

Districts: an area, that by its intrinsic Function, Disposition, or Configuration cannot or should not conform to one or more of the normative Community types or Transect Zones specified by the SmartCode. Special Districts may be mapped and regulated at the Regional Scale or the Community Scale.

Districts are exempted from the full range of activities of a neighborhood. They are justified only if they accommodate uses that cannot be incorporated into the neighborhood structure. Examples are theater districts, capitol areas, and college campuses. Other districts accommodate large-scale transportation or manufacturing uses, such as airports, container terminals, refineries, and the like.

The structure of a district should parallel that of the neighborhood: an identifiable focus encourages orientation and identity, while clear boundaries facilitate the formation of special management organizations. Interconnection with adjacent neighborhoods encourages pedestrian access. Districts benefit from transit systems and should be appropriately located within the regional network.

Neighborhoods: urbanized sectors that are compact, diverse, and walkable.

Neighborhoods provide for a balanced set of activities: shopping, work, schooling, recreation, and dwelling. This balance is particularly useful for those too young, old, or poor to drive.

The neighborhood provides housing for a variety of incomes. Inclusive housing may consist of backyard ancillary apartments, apartments above shops, and apartment buildings adjacent to workplaces, in addition to rowhouses, regular houses, and mansions.

A variety of business types are also accommodated, from retail and professional offices to live-work units and outbuildings for business incubation.

The neighborhood has a center and edge. A centroidal focus and a limit contributes to the social and political identity of the community. The center is a public space, which may be a plaza, a square, a green, or an important street intersection. It is located near the physical center of the urbanized area, unless compelled by geographic and economic circumstance to be elsewhere. Eccentric locations may be justified by a shoreline, a transportation corridor, or a compelling view.

The neighborhood's center is where its civic buildings are located. With the addition of a transit stop within walking distance of most homes, the neighborhood's center bolsters its economic viability.

Shops and workplaces are usually associated with the center, especially in a village. However, within an amalgamation of neighborhoods that would constitute a town or a city, shops and workplaces should be located at the periphery along major thoroughfares where they gain heavier pedestrian use by coalescing with those of other neighborhoods.

The edges of a neighborhood vary in character. In villages, the edge is usually defined by open space. In towns and cities, the edge is often another neighborhood or an intervening corridor.

The optimal size of a neighborhood is a quarter-mile from center to edge. This distance is the equivalent of a five-minute walk at an easy pace. This limit assures residents that many of their daily needs can be met within walking distance.

Neighborhood size is determined not by density but by a maximum walking radius. Larger sites should be reapportioned as multiple neighborhoods; smaller ones should be concurrently planned with adjoining sites.

The neighborhood is structured on a fine-grained network of thoroughfares; this shortens pedestrian travel and provides multiple routes that diffuse traffic.

Neighborhood thoroughfares are designed to provide equitably for pedestrian comfort and for automobile movement. Increasing pedestrian activity encourages the casual meetings that form the bonds of community.

The neighborhood reserves special sites as locations of civic buildings. These enhance community identity and foster civic participation.

CONVENTIONAL SUBURBAN DEVELOPMENT (CSD) *consists of the following:*

Open Space: the residual areas that are not encumbered by building, or a collection of wetlands.

Housing Pod: a sector containing buildings dedicated exclusively to residential use. Residential Areas are usually segregated by market segment as enclaves dedicated to apartments, town homes, homes, or luxury homes.

Business Park: a sector containing buildings dedicated exclusively to commercial use. Business Parks range from the class A office campus to the industrial park.

Shopping Center: a sector containing buildings dedicated exclusively to retail use. Shopping centers range from the convenience center to the regional mall.

REGIONAL PLANNING METHODS

Regional Planning: the method or discipline of planning the structure of Rural Areas, Corridors, Neighborhoods, and Districts across a Metropolitan Region. See **Town Planning**.

In its short history as a discipline, regional planning has generated a great number of patterns for assembling these elements. When these patterns are redrawn in a standardized graphic form (taken from *Sir Ebenezer Howard's Garden Cities of Tomorrow* [1902]), the myriad of options are condensed into three fundamental models of development which are used by most regional plans.

As cities expand incrementally, these diagrams tend to be distorted due to circumstances that are both natural and man-made. The diagram of each model is therefore accompanied by an example of its application to an actual place.

Urban Boundary/Rural Boundary: alternative tools of regional planning used to control and direct urban growth. There are two models, each with its own physical, political, and transportation implications.

These boundaries have been metaphorically depicted as the Lake & Dam model and the Stream & Levee model. The Urban Boundary restrains the flood of urban growth by surrounding the city with a single continuous boundary as a dam contains a rising lake. The Rural Boundary surrounds the open space with multiple lines, as levees protect valuable areas while allowing the urban flood to stream past.

The urban boundary was conceptualized from the point of view of the city by the urbanist Ebenezer Howard, around 1900. The rural boundary was conceptualized from the point of view of nature by the environmentalist Benton McKaye, around 1920.

URBAN BOUNDARY MODEL:

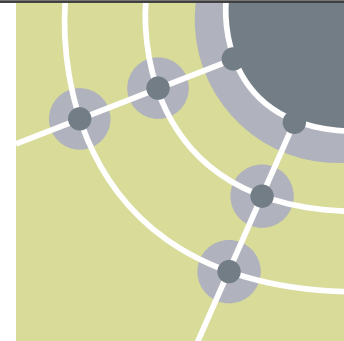
The Urban Boundary method uses statistical projection to distinguish urban areas from surrounding rural ones. By limiting urbanization's geographical extent, this pattern, proposed by Sir Ebenezer Howard, protects the countryside while promoting a high level of urbanization in defined urban areas. Growth outside the boundary is envisioned as freestanding villages based on the SmartCode.

This exemplary classical pattern clearly defines a core city composed of neighborhoods and surrounded by towns and villages that are connected by rail but

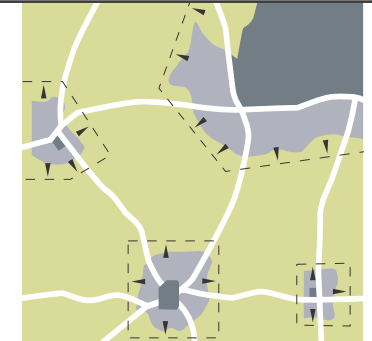
separated by greenbelt. Ideally, each element is relatively self-sufficient.

This pattern, most influenced by the social structure of a community, emerged organically and was reinforced by the advent of the railroad. The railroad's fixed route with infrequent stops created high density, nodal settlements.

Syn.: **town and country pattern, garden city, towns and villages, railway suburb.**



Pattern



Application: Madison, Wisconsin 1993

RURAL BOUNDARY MODEL:

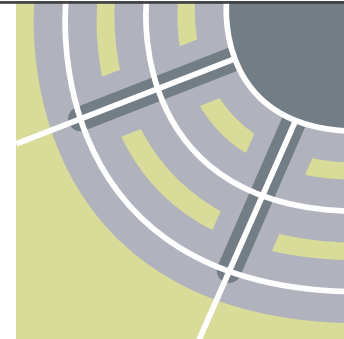
The Rural Boundary method uses ecologically based cultural criteria to protect certain open spaces from urbanization. This method, originally rationalized by Paul Wolf and Benton McKaye, strictly defines the boundaries of urban growth to safeguard valuable open space while enabling urbanization to stream past ecologically sensitive areas.

With the advent of the streetcar, planned urban corridors allowed the city to be channelized past these boundaries without geographical limit, thus pristinely defining wedges of open space. These wedges house valuable natural features, and when taken together, form an irregular but continuous web of open space called the **Greenbelt**. The Greenbelt is further subdivided into two categories: temporary **reserves** and permanent **pre-**

serves to help determine a greenfield's potential for further urbanization. In addition to preserving green open space, planned urban corridors, structured by the SmartCode, facilitate densification at designated intersections and transit stops. The Greenbelt's Deferred Development Area and preserve system blocks leapfrog development. However, the rise of the automobile undermined not only the Rural Boundary method of open space preservation, but also the densification of key intersections in the urban transit system.

This is the pattern most influenced by ecological concerns.

Syn.: **linear city, streetcar suburb, stream & levee model.**



Pattern



Application: Baltimore, Maryland 1950

REMEDIAL TRANSIT ORIENTED DEVELOPMENT (TND)

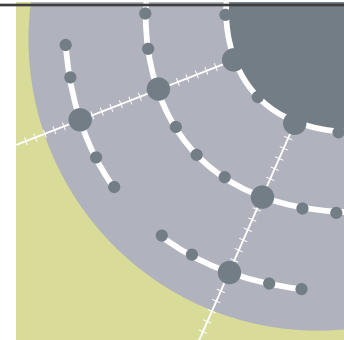
Conceived by Peter Calthorpe and Douglas Kelbaugh, the Remedial TOD method creates efficiently spaced nodes for a light rail. These nodes are mixed-use areas limited in size by walking distance to the transit stop. This method is compatible with either the Urban Boundary Model or the Rural Boundary Model.

Called Urban Transit Oriented Developments (TODs), these nodes are typ-

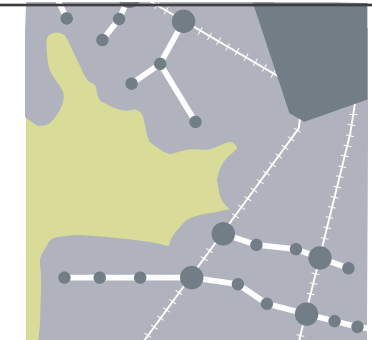
ically surrounded by a residential hinterland. These residential areas are structured as Neighborhood TODs connected by a feeder bus system. Each Urban TOD may be specialized, with only the system as a whole being functionally complete.

This is the pattern most influenced by the requirements of transportation.

Syn.: **Pedestrian pocket**



Pattern



Application: Portland, Oregon 2020

THE METROPOLIS:

Metropolis: an urbanized portion of a region, composed of an amalgamation of neighborhoods, centered on a city and including a variety of urban conditions. The American metropolis usually consists of several types of locales, generally decreasing in density from center to edge. These types of locales rarely form perfectly concentric rings; the higher-income residential locales usually develop an axial distortion

toward the more pleasant environments of high ground or shoreline, while industrial locales cluster toward harbors and river, rail, highway, and air transportation. The lower-income locales usually infill the areas residual to the two determinant locales.

Metropolitan Region: The region including both the metropolis and the rural areas surrounding and supporting it.

THE INNER CITY *consists of the following:*

Central Business District (CBD): the dense core of 19th century urban fabric, usually a rectilinear street grid with mid- and high-rise buildings of 1880-1930 and 1950-1980 vintage. The spatial quality of the CBD can vary from excellent to dismal, depending on the width of the streets and the quality of the frontages. The CBD is usually heavily commercial, having difficulty in sustaining retail because of the midday-only clientele. Since the 1980s, effective governance has increasingly been by private management associations, quasi-independent of the municipal structure. While usually healthy economically, many CBDs have become vulnerable to suburban office parks. Examples: Wall Street, the downtowns of Houston, Dallas, Los Angeles, and Dancity Providence. Syn.: **urban core**

Inner City Neighborhoods: the medium-density, late 19th century neighborhood fabric, often composed of rectilinear street grids served by alleys. The buildings are often good-quality rowhouses or small-lot houses of 1870-1930 vintage. The spatial quality of the combination, although seldom intact, can be very good. Nevertheless, the inner city is vulnerable to, if not synonymous with, urban blight. The worst areas display widespread abandonment and brownfields, poverty rates of 40% or more, and hypersegregation of minorities. These are the results of deindustrialization, white flight, and the failure of essential city services like schools and policing. However, other areas show a tenacious sense of community and the beginning of infill redevelopment spearheaded by non-profit community development corporations. Examples: South and West Side Chicago, North Philadelphia and Camden NJ, South Central Los Angeles, Bedford-Stuyvesant, Brooklyn.

THE INNER RING *consists of the following:*

Streetcar Suburbs: the urban extensions planned as unified communities by developers during the affluent period of 1910 to 1930. These are low- and medium-density neighborhood patterns on rectilinear and curvilinear street networks. They are to some extent mixed-use and mixed-income, and may be organized along "streetcar strips." These are streetcar-served main streets. Most are self-governing municipalities, independent of the host city. They are usually the most valuable real estate of their corresponding metropolitan regions. Examples: Coral Gables, Myers Park, Mariemont, Forest Hills, Beverly Hills, Shaker Heights, Highland Park, Mountain Brook, Lake Forest, and the Canadian Pacific Railway Neighborhoods. Syn.: **first suburbs**

Post-War Suburbs: the post-war highway-dependent suburban housing subdivisions. These are the widespread, residential locales, simplified by standard mortgage criteria that were built by developers during the housing shortage of the 1950s and 60s. These suburbs consist of normalized, small, and single-family houses on curvilinear street networks (not cul-de-sacs). The retail is provided by isolated shopping centers. These locales are often self-governing municipalities but without adequate commercial tax base for public maintenance and safety. Many of these suburbs are currently vulnerable as their building stock, never excellent, requires maintenance. They have become receiving areas for lower-income exurbanites. These communities have promise as their street network accepts retrofitting to the neighborhood model. Examples: Levittown, General Development Corporation-style subdivisions.

THE OUTER RING *consists of the following:*

Edge Cities: suburbs that include major shopping centers and business parks, but are cities only statistically. The segregation of their component elements and the consequent oversizing of their thoroughfares negates the experience of pedestrian community that is inherent in the neighborhood model. These suburbs represent the current practice of Conventional Suburban Development. The outer ring suburbs are difficult to retrofit to the neighborhood pattern. Nevertheless, they are likely to survive economically in the long term, as they are usually equipped with effective chambers of commerce and homeowners' associations. Examples: Reston, Columbia, The Woodlands, Hilton Head, The Hammocks. Source: Joel Garreau

Rural Communities: rural areas currently under development pressure. Development of the rural edge is usually contested politically. Within these locales, half of all entitlements and permits take place. Most regional plans attempt to redirect this urban pressure well before the location becomes critical. The rural edge should provide the setting for new, compact towns and villages. Examples: Laguna West, Civano, Abacoa, Templeton. Syn.: **exurbs**

Greenfield: an area that consists of open, wooded or farm land that is undeveloped. Although they are the common loci of building activity, Greenfields should not be developed until the supply of infill sites have been exhausted since unwarranted extensions of the urban infrastructure can compromise the economy and social cohesion of a region. In practice however, onerous regulations and negotiations associated with infill sites discourage developers from redeveloping Greyfields and Brownfields.

Infill: n. new development on land that had been previously developed, including most Greyfield and Brownfield sites and cleared land within Urbanized areas.
v. to develop such areas.

Brownfield: an area previously used primarily as an industrial site now available for reurbanization. Such infill sites are well suited for redevelopment, as the requisite infrastructure is usually in place. However, the Brownfields often have the additional liability of required expensive cleanup operations.

Grayfield: an area previously used primarily as a parking lot. Shopping centers and shopping malls are typical greyfield sites.

Infill Rural Cluster Development (RCD): a Community type within an Urbanized Greyfield or Brownfield area based on a Long or Linear Pedestrian Shed and consisting of T-4, T-5, and/or T-6 Zones. An Infill RCD is permitted by Right in the G-4 Infill Growth Sector and is regulated by [Article 4](#).

Infill Traditional Neighborhood Development (TND): a Community type within an Urbanized Greyfield or Brownfield area based on a Standard Pedestrian Shed and consisting of T-3, T-4, and/or T-5 Zones. An Infill TND is permitted by right in the G-4 Infill Growth Sector and is regulated by [Article 4](#).

Clustered Land Development: a Community type structured by a Standard Pedestrian Shed oriented toward a Common Destination such as a general store, Meeting Hall, schoolhouse, or church. CLD takes the form of a small settlement standing free in the countryside.

Urban Extension: an urban development at the edge of an existing urban fabric that is seamlessly integrated with adjacent urbanized sectors. This is the correct pattern of urban growth as opposed to the sequential, piecemeal agglomeration of housing pods, shopping centers, and business parks that characterizes CSD. Syn.: **ensanche** (Spanish)

Sprawl Repair: the overlay of a New Urban pattern onto a Brownfield, Grayfield, or CSD context. Suburban retrofit generally wholly or partially defrays its own cost through a net increase in development intensity of value.

Clustering: the grouping of buildings on a portion of the site in order to preserve open space. Clustering is the equivalent of a transfer of development rights within a single site. As a smaller lot has a lesser market value than a large lot, the value differential of clustering is usually equalized by increasing the number of units. Additional motivation occurs as the units at the edges of the cluster usually have long views over open space and therefore retain the value of a larger lot. Also, infrastructure is decreased by the simple expedient of reducing its length. Caution: mere clustering does not constitute a neighborhood, and while it preserves open space, in the absence of mixed use, it produces sprawl. See: **Cluster Zoning**

GIS: Geographic Information Systems. A computerized program in widespread municipal use that organizes data on maps. The program offers users the capability of working with a diverse array of geographic data such as the location of wetlands, thoroughfares, water and sewage lines, boundaries, building footprints, schools, zoning, land-use, etc. all on an integrated platform. Rather than accessing individual sets of geographic data in varying formats, GIS standardizes the data in a comprehensive layered database. GIS can process this information to identify locations that fulfill user specified criteria. However, with GIS garbage in equals garbage out -- if the information that is input is inaccurate, the output will be inaccurate as well. The protocol for preparing a Regional Plan should be based on accurate GIS information.

Urban Growth Boundary: an instrument of regional planning that defines the extent of potential urban growth as determined by the projected demographic needs of a region. The Urban Boundary Line may be adjusted from time to time.

Greenbelt: a permanent reservation of open space surrounding a community. Ebenezer Howard determined that a greenbelt must be large enough to provide agricultural autonomy to the urbanized area. Trucking and refrigeration have made this concept obsolete, replacing it with socially and environmentally based criteria, which are variable in size. See: **Greenway** Syn.: **Greenedge**

Sprawl: to spread out carelessly. An attribute and a common appellation of Conventional Suburban Development (CSD).

Garden City: a community of standard size, program, and location as conceptualized by Ebenezer Howard ca. 1890. Garden cities are balanced and self-sufficient, surrounded by a substantial greenbelt, and served by rail transit, with the appreciation of land value reverting to the community. The prototypical garden cities were Letchworth and Welwyn in England. Many others sharing the name were incomplete or ill-conceived, and the term is now stereotyped, alluding to a low-density urbanism suffused with gardens and parks. A **Garden Suburb** is a version of a garden city, incomplete but directly attached to and dependent upon a city. Hampstead Garden Suburb was the prototype. A garden suburb is similar to a Neighborhood Unit, a TOD and a TND. Syn.: **New Town** See: **Town & Country Pattern**.

New Town: a community projected on a greenfield site with buildings for dwelling, shopping, working, and schooling assembled into a neighborhood structure. Similar buildings, when assembled into single-use districts, create **Edge Cities**. See: **Balanced Use**.

Edge City: a term that implies urbanism but is in fact only the agglomeration of housing, subdivisions, shopping centers, and business parks. An edge city is the statistical equivalent but not the functional equal of a city.

Shared Development Rights (SDR): the technique of reallocating building activity from an economically active locale, usually within a suburb, to an urban area which is dormant. The SDR process involves a permit to build the requested number of housing units on a suburban site granted on the condition that a certain additional number of units be built within the urban area. The number of units requested for the suburban site is not reduced, as this would increase the economic risk of the combined operation. Joint planning jurisdiction of urban and rural areas is required for an SDR policy, as it requires the designation of sending and receiving areas. *Source: Elizabeth Plater-Zyberk*

Transfer of Development Rights (TDR): a method of reallocating existing zoning rights from areas to be preserved as Open Space to areas to be more densely urbanized.

TDR Sending Area: an area previously zoned for development within a designated Reserved Open Sector (O-2) of the SmartCode, from which development rights may be transferred to a Growth Sector.

TDR Receiving Area: an area intended for development that may be made more dense by the purchase of development rights from TDR sending areas.

While this is an elegantly simple conception, in some situations it is difficult to implement because of:

1. the unwillingness of the sending areas to sell rights at wholesale price;
 2. the absence of a market for higher density in a receiving area;
 3. the lack of a mechanism for such transfers. The latter problem is usually overcome by the planning department acting as a broker. The former problem is usually overcome by informal coercion as an exaction or proffer as a condition of entitlement.
-

City-State: a region under unified municipal administration that integrates a city with its surrounding suburbs, to the economic and social benefit of both. A city-state proposes that government functions most effectively at the level of the neighborhood and of the region, not at the level of the city or the nation. Jane Jacobs concurs. *Source: Neal Peirce*

Natural Patches & Corridors: areas of high ecological value and corridors of lesser value that link them into an ecosystem. Biological cores and linkages would be exactly coincident with greenbelts and corridors if the sole determinant of the latter were ecological performance. Greenbelt and corridor zones, however, should be more broadly defined to include sociocultural concerns.

Biological Core: locales preserved to conserve vulnerable species, especially in large blocks or patches.

Biological Linkages: locales preserved to connect biological cores in order to ensure that species can move between a range of habitats.

View Shed: a defined panorama which, for aesthetic or cultural reasons, is to remain free of noncontributing visual elements. Certain buildings within a view shed may be considered positive contributions. A view shed is one of the criteria which may define the permanent greenbelt.

Incrementalism: the usual process of Conventional Suburban Development. Incrementalism involves permitting one project at a time, with each justified by free-market requirements. The demonstrated logic of each project, whether a shopping center, a business park, or a housing pod, rarely results in a locally balanced locale, transportation planning, nor to an adequately connected thoroughfare network. The TND process, in contrast, projects growth by complete neighborhoods.

Pattern: a definite arrangement of parts which is needed to solve a recurrent social, psychological or technical problem. *Source: Christopher Alexander.*

Convention: a pattern having acquired substance and meaning through long-term common use.

Affordable Housing: dwelling consisting of rental units or for-sale units within the economic means of the starting salary of a local elementary school teacher. Ten percent of the housing stock of a neighborhood should qualify as affordable. Affordable housing must be not only interspersed amongst, but also tectonically confluent with adjacent market-rate housing in order to avoid the stigmatization of such housing. The building types accommodating affordable housing are generally apartments, rowhouses, and accessory dwellings.

Business Incubator: premises specifically conceived by type, size, and cost to accommodate start-up businesses. Incubators are the commercial equivalent of affordable housing and a component of balanced use. Building types accommodating business incubators are live-work units and outbuildings.

Pod: a single-use district common in conventional suburban development, equivalent to "housing pod". The biomorphy implied by the term accurately represents the soft and imprecise quality of CSD zoning diagrams as well as the dendritic circulation system to which the pod is attached. See: **Stem & Web**

Walled Community: an enclave of housing (community is a misnomer) common to CSD that is surrounded partially or entirely by a wall and accessed by a single vehicular entrance which may be guarded. The putative purpose of this is to provide security, but it is usually provided only as a sales promotion device. Syn.: **Gated Community**

Strip Development: a regional pattern common to CSD wherein commercial development is strung along an arterial thoroughfare. While this is usually considered negative, strip development is in fact similar to the Corridor & Wedge Pattern. It can be efficiently served by bus and streetcar. Its negative connotation may be ascribed to the effect that the countryside is masked from view.

Concurrency: the requirement written into a regional plan that mandates existing infrastructure be adequate to service the development proposed or that funding be dedicated to this purpose as a prerequisite for a permit. See: **Infrastructure**

Inclusive Housing: a conception that housing within a neighborhood should fulfill a broad range of needs and desires, including residential typologies ranging in character from urban to rural, and in price from affordable to expensive. Inclusive housing accommodates demographic segments from single person households to retirees, with families in between.

Balanced Use: a combination of land uses within a locale, usually a neighborhood, such that the daily needs of the residents can be met within the area. This unattainable ideal remains one of the principal goals of TND. Striving toward balanced use fosters community formation and to have positive effects for traffic capture rates, a more stable tax base, and a predictable school population. This particular mix of inclusive housing, ordinary retail, workplaces, schools, and recreational facilities may vary regionally; but, as a rule of thumb for North America, this mix should be: 2.4 residents per household, each household requiring 40 square feet of retail and 120 square feet of workplace, as well as .5 places for elementary school students. Regional planning policy may require a balanced-use neighborhood or, alternatively, an unbalanced one intended to correct an existing imbalance in an adjacent locale. See: **Capture Rate**

Mosaic Zoning: *tbd Source: Peter Katz*

Naturally Occurring Retirement Community (NORC): a neighborhood in which the post family segment (the elderly) has gradually come to dominate the neighborhood's demographics because its urban fabric affords the possibility of walking to ordinary social and commercial needs after the loss of the ability to drive. The disappearance of the neighborhood as a planning model in the postwar period has catalyzed the widespread need for retirement communities as a mitigation of the problem. Retirement District is a more accurate term.

Retirement Community: a type of special district common to conventional suburban development, wherein elderly persons are housed and provided with support services that compensate for their inability to drive or walk to their ordinary needs. Retirement communities did not exist prior to widespread suburbanization, as they are unnecessary within the walkable neighborhood structure.

Community and Privacy: a basic dialectic of urbanism.

Carrying Capacity: the maximum capability of an environmental domain to sustain a community. TNDs have a higher carrying capacity than conventional suburbia.

Retro-Innovation: cutting-edge technology that is designed to evoke or allude to a real or imagined past as a means of refuge from an increasingly disorienting present. *Source: Bakery Institute in France*, describing "le retro," a baguette baked from a recipe that harkens back to pre-war tastes. Other examples: the Volkswagen Beetle, the Olympus Retro camera, HUD's HOPE VI program, and TND. See **Neotraditionalism**.

Smart Growth: a set of priorities and policies generally supporting the New Urbanism. Syn.: **livable communities**

Time Horizon: an important ingredient of planning, equivalent of the evolutionary time of the biological sciences. A generation is necessary for the advantages of mixed use to be maximized, and urbanism molts periodically until it reaches a climax condition (this is analogous to biological succession.) Therefore, code zones should be re-considered on a generational time horizon.

Planned Unit Development (PUD): a zoning category intended to allow innovation in development by the suspension of standard prescriptions to be replaced by negotiation. Originally, PUD was specifically intended to permit the clustering of units to save open space as an adjunct to Design With Nature. PUDs are also a useful vehicle for the implementation of TND. Introduced in the 1960s, PUDs have gradually acquired an overlay of non-negotiable standards (parking requirements, separated uses, buffers, and standard thoroughfares) that have degraded their original function. The term PUD is currently tainted with the attributes of Conventional Suburban Design.

Master-Planned Community: an umbrella term for large-scale coordinated development with a range of land use. Presumably superior to piecemeal subdivision, master-planned communities can cover both Conventional Suburban Development and TND. Like so much planning terminology, its meaning is imprecise to the point of including any large-scale project.

Regional Planning: planning at the largest possible scale. This can include planning on the scale of the Appalachian Trail, which is a national system with urban implications reaching from New England to Georgia and the urban agglomeration of BAMA (the Boston-Atlanta Metropolitan Axis). In practice, regional planning operates at a much smaller scale, usually at the scale of county government, although in certain states (Florida for example) regional planning councils include clusters of mutually dependent counties.

Design with Nature (DWN): an environmental design methodology and the title of a book written by Ian McHarg, ca.1963. The method involves a system, of overlays separately analyzing the site determinants. It is fundamental to the Rural Boundary Model. The site is analyzed sequentially for:

1. Environmentally sensitive areas.
2. Unstable or unbuildable slopes.
3. Elements of cultural or aesthetic value such as farmsteads and woodlands.
4. Traces on the land such as hedgerows, paths, and field walls.

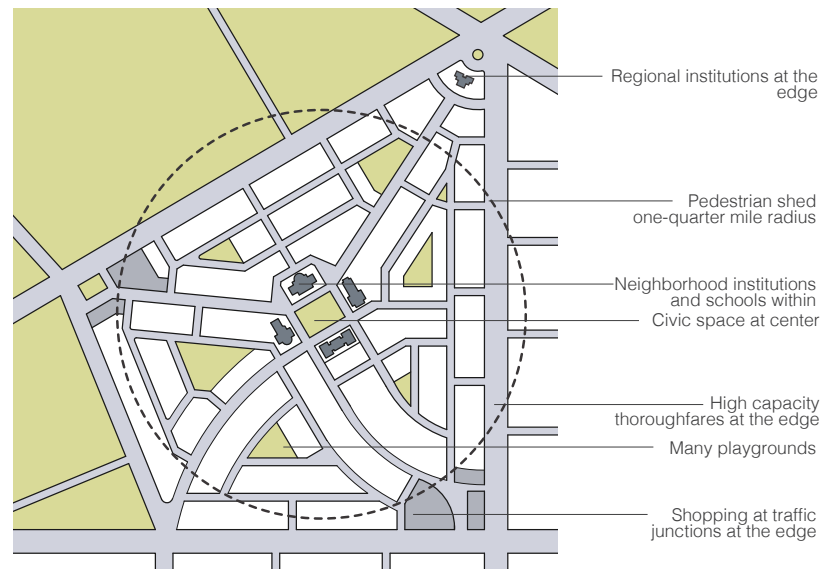
The areas are mapped and either entirely or partially withdrawn from development, the remainder being available for urbanization. This system is the effective core of current environmental methodology and legislation as it is for the rural boundary of regional planning. A weakness of DWN is that it is an incompatible solution to planning problems while making no proposals for the development of the "residual" area (outside its domain. This area is usually executed in a pattern indistinguishable from conventional sprawl. Traditional Neighborhood Development is a symbiotic model for the completion of the urbanized section. Equal consideration of DWN and TND criteria would resolve conflicts that are usually resolved categorically one way or the other in such matters as human connectivity across greenbelts, disruption of the pedestrian continuity within the neighborhood proper, and the decay of function in "captured" wetlands. Negotiations should ideally lead to the mitigation of environmental areas by transferring development rights (TDRs) so that the continuity of both the natural and the built environments maintain as much continuity as possible. See **Transfers of Development Rights**, **Rural Boundary Model**, and **SmartCode Sector Allocation**.

Commuting Paradox: the paradox that commuters who willingly trade a longer commute for a "better" house, salary, or school are nevertheless satisfied than non-commuters. Bruno S. Frey and Alois Stutzer of the University of Zurich have shown that a typical commuter may have to earn 40% more to be as satisfied as a non-commuter.

Drive 'Till you Qualify (DTYQ): pronounced "Dee-Tic;" refers to the practice of seeking housing at a long commute's distance. *Source: Joe Cortright in his book, Driven to the Brink.*

Neighborhood: the fundamental human habitat; a community sustaining a full range of ordinary human needs. In its ideal form, the neighborhood is a compact walkable urban pattern whose environment provides a balanced range of activities: dwelling, working, shopping, and recreational and educational uses. There exists a variety of models, some old and some of relatively recent derivation, that incorporate the attributes of the neighborhood.

NEIGHBORHOOD UNIT 1927



Neighborhood Unit: A diagram and description from the First Regional Plan of New York (1929) which conceptualizes the neighborhood as the fundamental element of planning.

Size is determined by a walking distance of five minutes from center to edge, rather than by the number of residents. Density is determined by the market. A community coalescing within a walkable area is the invariant.

An elementary school is located at the center within walking distance of most children. This is the most useful civic building, providing a meeting place for the adult population as well.

Local institutions are located within the neighborhood. Regional institutions are placed at the edges so that their traffic does not enter the neighborhood.

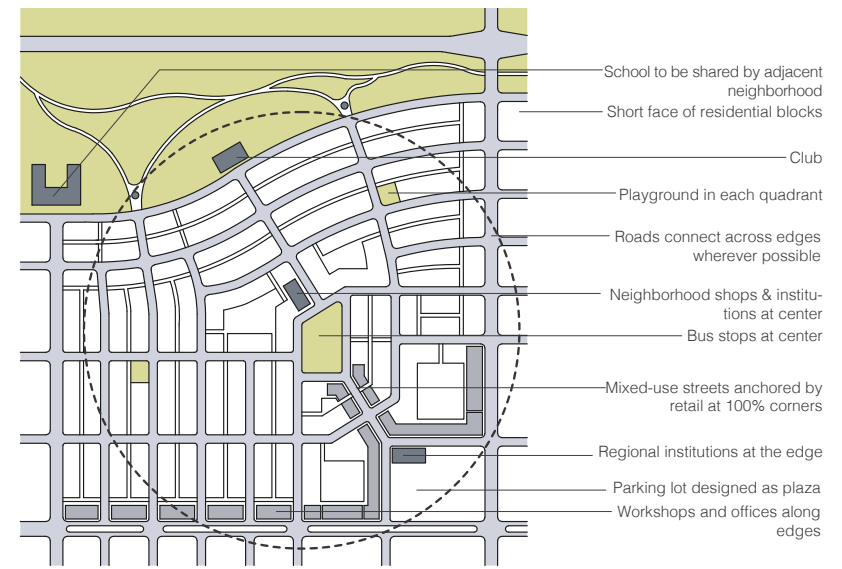
There is a civic open space at the center of the neighborhood, and several smaller playgrounds, one in close proximity to every household.

A network of small thoroughfares within the neighborhood disperses local traffic.

Larger thoroughfares channel traffic at the edges.

Retail is confined to the junction having the most traffic, accepting the realities of the automobile.

TRADITIONAL NEIGHBORHOOD DEVELOPMENT 1997



Traditional Neighborhood Development: A diagram that reconciles current urbanization models with the traditional Neighborhood Unit.

Each thoroughfare and Civic Open Space must constitute or be part of an immersive environment. Such environments are shaped by the buildings surrounding them, and are organized by Transect zones. The Transect zones ensure that each portion of the public realm is consistent in itself, and the thoroughfare network ensures that they make a whole.

The school is placed no longer at the center, but at the edge as playing fields would hinder pedestrian access to the center. At the edge, the school can be shared by several neighborhoods, mitigating the problem of the tendency of neighborhoods to age in cohorts, generating large student age populations that then drop off sharply.

There are a few sites reserved for local institutions at the center and more for regional institutions at the edge. Ease of transportation has made membership in institutions a matter of proclivity rather than proximity.

The shops at the busiest intersections have been modified to accommodate larger parking plazas for convenience retail and extended by an attached Main Street for destination and live-work retail. More service alleys and lanes have been added to accommodate the increased parking requirements.

The minor thoroughfares are connected with those outside the neighborhood in order to increase permeability and disperse traffic. This modification, however, increases the possibility of shortcuts.

The thoroughfare types support a transect from rectilinear streets at the urban center to curvilinear roads toward the rural edge.

The traffic along the boulevards at the edges is more unpleasant than Clarence Perry envisioned. Three mitigating strategies are proposed: the provision of an end-grain of blocks at all edges, a green buffer shown along the bottom edge, and the location of resilient building types, such as office buildings, shown along the bottom edge.

The traffic along the highway shown at the top is assumed to be hostile and therefore buffered within a parkway.

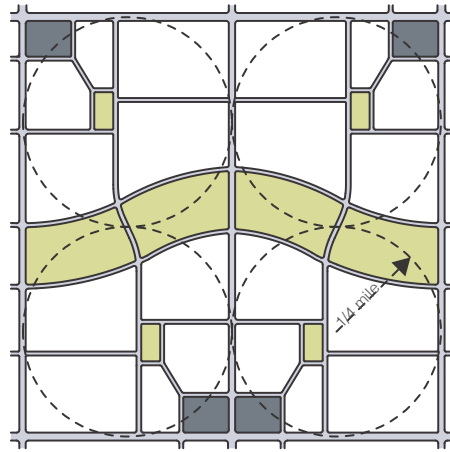
The neighborhood or TND is an elemental building block of the regional plan. The neighborhood model may be structured by a variety of criteria, and there are social implications to each of the variants.

There are three neighborhood models currently proposed. They are very similar, differing primarily in the conception of the pedestrian shed: the location of its centroid, and its extent. These differences manifest secondary consequences regarding the density of the required model and the social quality of the center.

The alternatives can be easily compared when all are overlaid on the standard mile-square grid of the Continental Survey of the United States.

Although each of the models proposes a comprehensive regional strategy, their optimal application varies. All three should therefore be considered available for the appropriate circumstance.

T.N.D. PATTERN



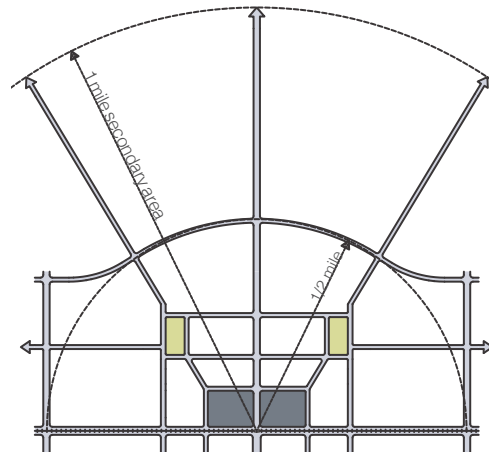
Traditional Neighborhood Development (TND) is similar to the American Neighborhood Unit of 1927 and the European Quartier. It is a Community type structured by a Standard Pedestrian Shed oriented toward a Common Destination consisting of a Mixed Use center or Corridor, and in the form of a medium-sized settlement near a transportation route.

An advantage of the TND model is the high ratio of the neighborhood area that is within the pedestrian catchment. Taking the mile-square as a comparative matrix, the shed includes 70% of the developable area. Because a substantial proportion of the inhabitants are with-

in walking distance of the center, bus transit will tend to be efficient, even at relatively low densities. Another advantage is that, because the center is not bisected by a high capacity thoroughfare (these remain at the edges), its spatial quality as a social condenser is not degraded by excessive traffic.

A disadvantage of the TND is that the commercial use at the center may only sustain neighborhood retail, as it does not benefit from the traffic straddling a main thoroughfare. This model tends to have only neighborhood institutions at the center, with regional institutions and commercial use at the edges shared by other neighborhoods.

T.O.D. PATTERN



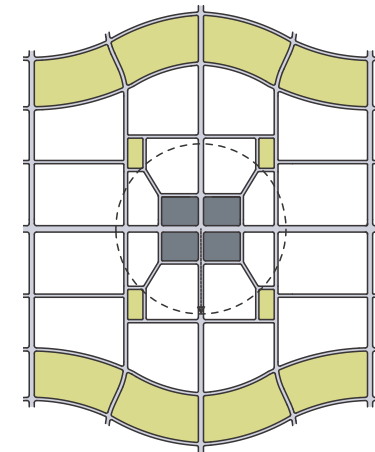
Transit-Oriented Development (TOD) is similar to the railway suburb of the 19th century. Its pedestrian shed is centered on a rail transit station that, if possible, coincides with a major thoroughfare. This center is often at the edge of the centroid within the neighborhood area. Note: the pedestrian shed of the TOD model is traditionally drawn as a semicircle, although there is no intrinsic reason why this should be so.

An advantage of the TOD model is that rail is the most efficient form of transit. As it is also the most expensive, this model provides for its support by a high population density within the pedestrian catchment of each station – a minimum of 14 dwelling units per acre. Another advantage is that institutional as well as commercial uses are concentrated around a transportation node. This is likely to create retail that is well-supported by pedestrian and automobile traffic. The regional character of this transit center, however, may warrant

the creation of local centers internal to the neighborhood, similar to the TND model. Another potential problem is the spatial degradation resulting from the traffic and parking requirement of a transit station at the center. This is mitigated by the dilution of the traffic by a one-way pair of principal thoroughfares at one block's spacing.

A disadvantage of the TOD is that the density required to support transit use may not be acceptable in certain markets. This is exacerbated by the low net ratio of area that is within a five-minute pedestrian shed: taking the mile-square as a comparative matrix, such a shed includes only 7% of the gross developable area. However, the credible argument is made that the advantages of rail transit (as opposed to the bus mode of the other models) are sufficiently compelling that an effective pedestrian shed can be increased to a 10 minute/half-mile radius. This raises the catchment to 40% of the developed area.

LIVABLE NEIGHBORHOOD PATTERN



The Livable Neighborhood combines aspects of the TND and the TOD. It was conceptualized as a correction to the British Cell model, particularly as it was applied at Milton Keynes, a community held to have failed as the cells failed to coalesce into the greater social scale of a city, despite having the population and all the necessary elements (statistically).

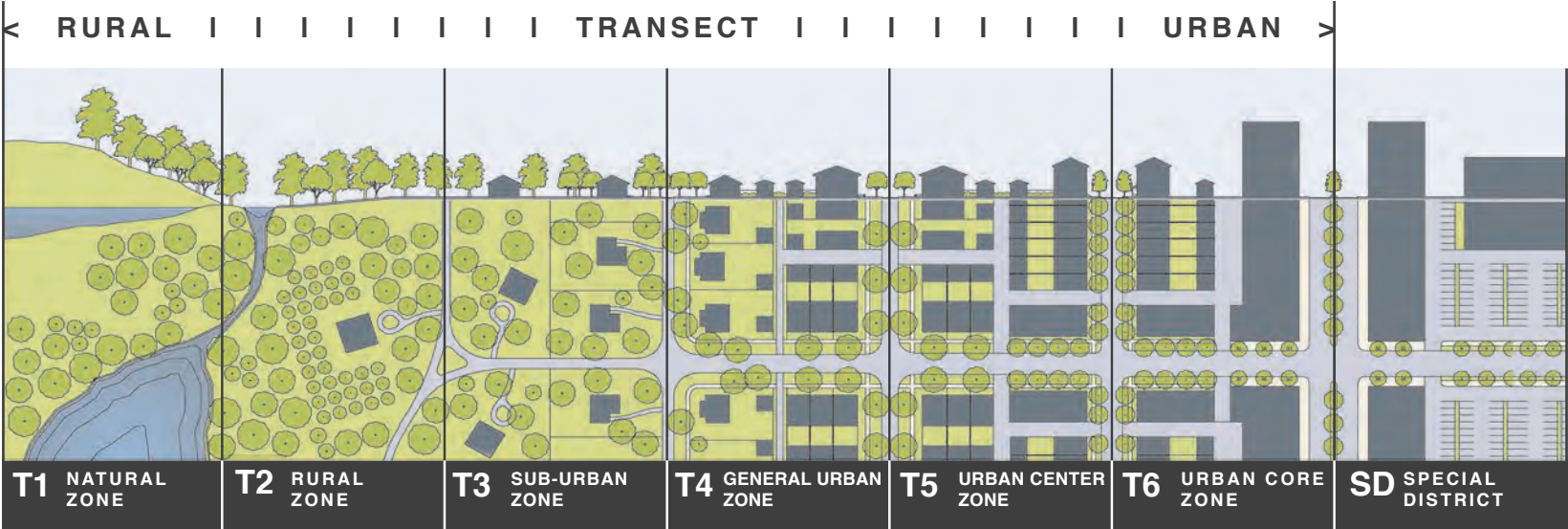
The Australian Livable Neighborhood has a pedestrian shed that appears to be eccentrically on a major edge thoroughfare, like the TOD; but actually, the neighborhood itself is centered on the regional thoroughfare. As with the TND and unlike the TOD, its pedestrian shed (this term itself derives from Australian usage) is conceptualized as a quarter-mile circle.

Like the TND, an advantage of this model is the high ratio of the neighborhood area that is within the pedestrian catchment.

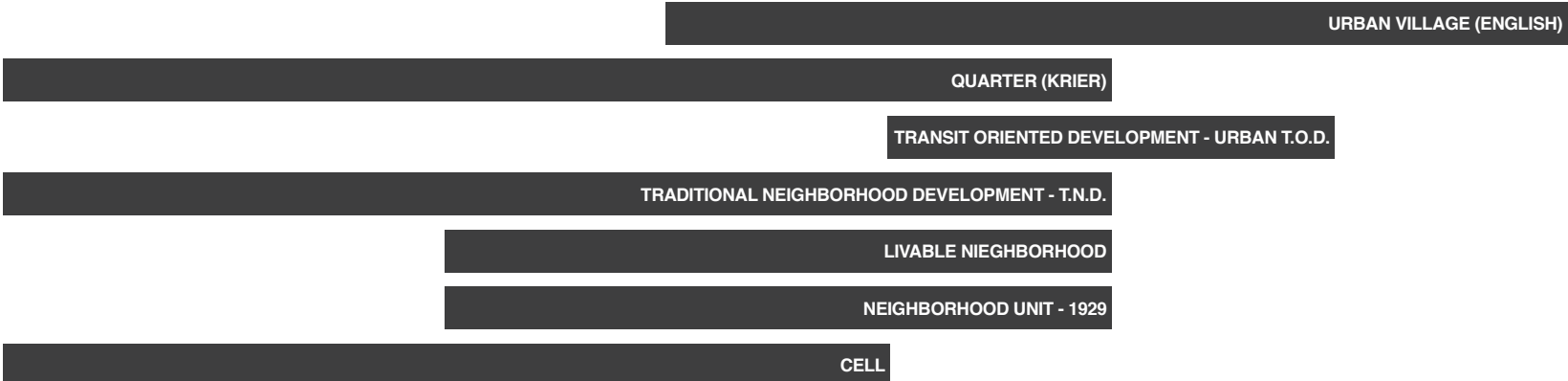
Taking the mile-square as a comparative matrix, the shed includes 70% of the developable area. Because a substantial proportion of the inhabitants are within walking distance of the center, transit will tend to work, even at relatively low densities. Also, the trajectory of bus transit is more direct than that of the TND.

The Australian Livable Neighborhood has the disadvantage that, because the center of the neighborhood is bisected by what is a high-capacity thoroughfare, its spatial quality as a social condenser may be degraded. A strategy to minimize this negative impact is the careful design of the thoroughfare as a boulevard. The strategy of the one-way pair proposed by the TOD may also apply. Note: in a repeated pattern of neighborhoods, with even dispersal of traffic, not all the neighborhood centers would have the traffic intensity to warrant either of these mitigating strategies.

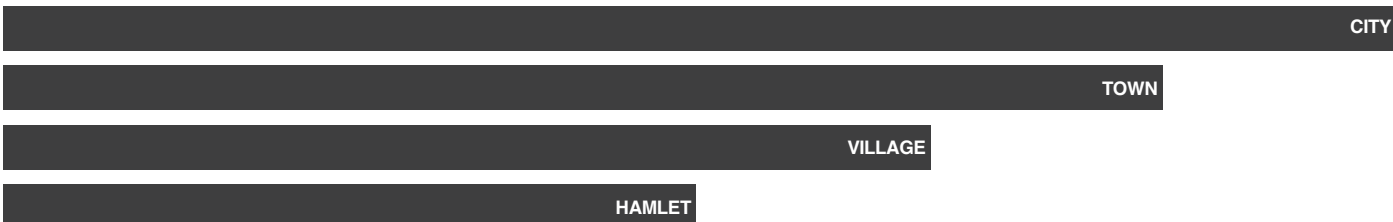
Community Nomenclature: A number of community concepts take the neighborhood as a model. Variations are due to a particular emphasis on density, spatial definition, transportation, or implementation. They have in common that they are socially and functionally variegated communities that are walkable and manifest an urban gradient from urban center to rural edge.



Neologisms: The **Urban Village**, formulated by Patrick Geddes early in the 20th century, is used both in the U.K. and Seattle. The **Quarter**, a transnational European term, was rationalized by Leon Krier. The **Neighborhood Unit**, the most influential U.S. proposal, was formulated by Clarence Perry in 1929 for the New York Regional Plan. The **Cell** proposal of Team X is influential in the British New Town movement and permeates the former colonies. **Traditional Neighborhood Development (TND)**, **Transit-Oriented Development (TOD)**, **Pedestrian Pocket**, and the **Australian Livable Neighborhood** are New Urbanist models.

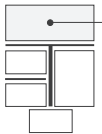


Traditional Terms: A **Hamlet** is a neighborhood in the making. Standing free in the countryside, by virtue of its location away from transportation, the hamlet has a weak center. A **Village** is a complete neighborhood standing free in the countryside. The strong center of a village can usually be attributed, not to the population, but to its location on a transportation corridor. A **Town** is an assemblage of several neighborhoods sharing a substantial center. A **City** is similar to a town in its neighborhood structure but has a strong core supported by the surrounding region.



Each zone is an immersive environment, a place where all the component elements reinforce one another to create and intensify a specific urban character. Several such immersive environments within a single neighborhood provide variegation, in contrast to the homogenous locales of conventional suburbia. This integrated system of zoning integrates the prescription of specialists.

T3	Suburban
T4	General Urban
T5	Urban Center
T6	Urban Core



NEIGHBORHOOD STRUCTURE: ZONING CATEGORIES 3.3

During the implementation process, Traditional Neighborhood Developments should be vested, which is to say, permitted administratively. All other types of development are not precluded but must undergo the conventional public process of justification, for denial or permit as a district.

Vesting is a strong incentive for development of TNDs, which is assumed to be socially and environmentally benevolent. This system, however, is vulnerable to abuse by false or incomplete neighborhoods. A checklist of criteria can address this problem by forming a basis for acceptance.

The checklist enumerates the many qualities that distinguish TNDs from conventional suburban sprawl. While there are always exceptions, TNDs embody the majority of the principles that follow. All of the principles have a significant impact on the quality of a development, but those marked with an asterisk (*) are essential and non-negotiable.

This list was compiled for the development of greenfield sites. The principles do not apply to smaller projects or to infill projects.

The checklist can serve in different ways. For developers, the list allows them to review their plans to determine whether they can expect to realize the market premium that has been demonstrated to accrue to TNDs. For planning officials, the list allows them to determine whether submitted plans are likely to provide the social benefits associated with TNDs, to qualify for increased density allocation and vesting.

LONG CHECKLIST

Regional Context

- ☐ Is the TND located within a comprehensive regional plan with a transit and an open space preservation strategy?
- ☐ Is the TND connected in as many locations as feasible to adjacent developments and thoroughfares?
- ☐ Do highways approaching the TND either pass to its side, or take on low-speed geometries when passing through it?*

Site Context

- ☐ Are most wetlands, lakes, streams, and other water amenities retained?*
- ☐ Are significant natural amenities at least partially fronted by thoroughfares rather than hidden behind back yards?*
- ☐ Is the site developed in such a way as to preserve as many trees as possible, with emphasis on saving specimen trees?*
- ☐ Does the plan develop civic spaces such as greens, squares, and parks, located at significant tree-save areas and other natural amenities?*
- ☐ Does the plan work with the topography to minimize the amount of grading necessary?*
- ☐ Are significant high points reserved for civic spaces and/or civic buildings?

Plan Structure

- ☐ Is the plan broken down into neighborhoods?
- ☐ Is each neighborhood roughly a ten-minute walk from edge to edge? (one-half mile)*
- ☐ Is the greatest density of housing toward the center?*
- ☐ Is the center the location of retail space (a corner store is required) and, ideally, employment, located in mixed-use buildings?* (Centers can be peripherally located in response to site conditions.)
- ☐ Is there a dry, dignified place to wait

for transit at the center?*

- ☐ Is there a public space such as a square, plaza, or green at the center of the neighborhood?*
- ☐ Are buildings zoned, not by use, but by compatibility of building type?*
- ☐ Do zoning changes occur at mid-block rather than mid-street so that streets are coherent on both sides?
- ☐ Are there small playgrounds distributed evenly through the neighborhood, roughly within one-eighth of a mile of every dwelling?*
- ☐ Is there an elementary school located within two miles of the TND, and sized accordingly?
- ☐ Does each neighborhood reserve at least one prominent site for a meeting hall?*
- ☐ Are the large areas of open space between neighborhoods connected into continuous corridors?

Thoroughfare Network

- ☐ Are cul-de-sacs avoided except where absolutely necessary due to natural conditions?*
- ☐ Are streets organized in a network, where the average perimeter of blocks is appropriate to its T-zone(s)?
- ☐ Does the network vary in the character of the streetscape to support the urban-to-rural transect structure of the neighborhood?*
- ☐ Are most street vistas terminated either by a building carefully sited, or deflected by an angle in the street?
- ☐ Do most roads that curve maintain their cardinal orientation over their entire trajectory?

Streetscape

- ☐ Do the thoroughfares conform to the T-zones? (See Thoroughfares)
- ☐ Does every street have a sidewalk on at least one side, 4 to 5 ft in width, and three times that wide on the

Main Street?* (Roads do not need sidewalks.)

- ☐ Does every thoroughfare have a tree planter, 4 to 10 ft in width, of indigenous shade trees planted on average at approximately 30 ft on center?*
- ☐ Is the curb radius at intersections a maximum of 15 ft, with a typical measurement of 10 ft at Main Streets?*
- ☐ Are buildings placed relatively close to the street, such that they are generally set back the equivalent of one-quarter the width of the lot?*
- ☐ Do the building setbacks permit the encroachment of semi-public attachments, such as galleries, porches, bay windows, stoops, and balconies?

Buildings

- ☐ Is there a wide range of housing types located within close proximity to one another?
- ☐ Is there at least a minimum of 5% representation from each of the following categories:
 1. live-work buildings
 2. apartment buildings
 3. rowhouses
 4. sideyard houses or duplexes
 5. cottages on small lots (30 ft- 40 ft wide)
 6. houses on standard lots (40 ft-70 ft wide)
 7. houses on large lots (70 ft and above)
- ☐ Are most lots smaller than 70 ft wide served by a rear alley to access garages?*
- ☐ Are all garages not served by an alley set back a minimum of 20 ft from the front of the building?
- ☐ Are parking lots located behind streetwalls or buildings, such that only their access is visible from streets?*
- ☐ Do townhouses have privacy fences on shared side property lines?*
- ☐ Do all commercial buildings front di-

rectly on the sidewalk, with parking lots to the side or the rear?*

- ☐ Is each house permitted to have a small accessory dwelling unit in the rear?
- ☐ Do commercial buildings have a second story (or more) for other uses?
- ☐ Is all subsidized housing:
 1. distributed in ratios of no more than one unit in five?
 2. similar in architecture to the other units?
- ☐ Do most buildings have a minimum of two stories and a maximum of four?
- ☐ Do most buildings have flat facades, with wings and articulations occurring to the rear?

Architectural Syntax

- ☐ Is a regional architectural syntax provided as a source of ecological responsibility?
- ☐ Are all windows and other openings either square or vertically proportioned?
- ☐ Are pitches within a harmonious range for the principal roofs?
- ☐ Are colors and materials limited to a harmonious range?

SHORT CHECKLIST

A neighborhood includes most of the following:

- ☐ There is a discernible center. This is often a plaza, square, or green, and sometimes a busy or memorable intersection. A transit stop should be located at this center.
 - ☐ Buildings in higher T-zones are placed close to the sidewalk and to each other, creating an urban sense of spatial definition. Buildings in lower T-zones are placed further away and farther apart from each other, creating a more rural environment.
 - ☐ Most of the dwellings are within a five-minute walk from the center. The standard pedestrian shed averages one-quarter of a mile, but may be larger if it serves a particularly bustling and transit-accessible center.
 - ☐ There is a variety of dwelling types. These take the form of houses, row-houses, and apartments, such that younger and older, singles and families, the poorer and the wealthier, can find places to live.
 - ☐ There are places to work in the form of office buildings or live-work units.
 - ☐ There are shops sufficiently varied to supply the ordinary needs of a household. A convenience store, a post office, a teller machine, and a gym are the most important among them.
 - ☐ A small accessory building is permitted within the backyard of each house. It may be used as a rental apartment or as a place to work.
 - ☐ There should be an elementary school close enough so that most children can walk from their dwelling. This distance should not be more than one mile.
 - ☐ There are playgrounds near every dwelling. This distance should not be more than one-eighth of a mile.
 - ☐ Thoroughfares within the neighborhood form a continuous network, providing a variety of itineraries and dispersing traffic. The thoroughfares connect to those of adjacent cities as often as possible.
 - ☐ Thoroughfares are relatively narrow and shaded by rows of trees that slow traffic and create an appropriate environment for pedestrian and bicyclist.
 - ☐ Parking lots and garage doors rarely end or front the thoroughfares. Parking is relegated to the rear of buildings and usually accessed by alleys or lanes.
 - ☐ Certain prominent sites are reserved for public buildings. A building must be provided at the center for neighborhood meetings.
 - ☐ The neighborhood should be self-governing, deciding on matters of maintenance, security, and physical evolution.
-

Transit-Ready Community (TRC): a Transit-Oriented Development before there is a prospect of transit for it. The theory of a TRC is a chicken-egg problem. Transit is not economically viable without a land use pattern that will support it. Therefore it is politically easier to create a region with a transit-supportive pattern that, over time, will draw transit to itself.

Rustic: intensely rural, implying crude and primitive. Rustic is one extreme of the Transect, beyond rural. The other extreme is perhaps **cosmopolitan**, implying sophistication beyond that available within any single city.

Greenbelt: a continuous area peripheral to a town or village reserved as open space in perpetuity. The greenbelt is a concatenation of countryside, wetlands, retention ponds, playing fields, golf courses, and other large open spaces that are likely to disrupt the urban fabric of the neighborhood proper. The greenbelt may be subdivided into large private lots (no less than 10 acres) to assign maintenance and supervision.

Neighborhood Proper: the portion of a neighborhood that is within its Pedestrian Shed. The remainder of the neighborhood is termed its "remnant". See **Pedestrian Shed**.

Remnant: a developable area that remains when the site to be developed is larger than a full neighborhood as determined by maximum walking distance. Remnants should be incorporated into adjacent neighborhoods.

Fragment: a developable area, too small to be a complete neighborhood unless joined to an adjacent area. TND policy includes incentives towards the joint design of small adjacent parcels.

Civic Equipment: the social or institutional infrastructure of community such as meeting halls, town halls, community centers, schools, playgrounds, playing fields, post offices, and the like.

Pedestrian Shed: a determinant of urban size, defined as the distance that may be covered by a five-minute walk at an easy pace from the outer limit of the neighborhood proper to the edge of the neighborhood center. This is the distance that most persons will walk rather than drive, provided that the environment is pedestrian-friendly. This distance is an axiomatic component of the neighborhood unit. It also defines the extent of the quartier, the TND, and the TOD. The pedestrian shed is conventionally one quarter of a mile or 1,320 feet. By variance, this dimension may be adjusted to accommodate site conditions:

1. For TNDs of low density, by extension to a median distance of a half-mile or 2,640 feet (this in order to increase the population catchment).

2. For TNDs having an eccentrically located center, by calculating an average of the various edge-to-center distances. In CSD practice, the extent of parking lots and the length of shopping malls is similarly disciplined by walking distance.

Source: Australian Usage. See: **Transit Use**

Standard Pedestrian Shed: An area, approximately circular, that is centered on a Common Destination. A Standard Pedestrian Shed is 1/4 mile radius or 1320 feet, about the distance of a five minute walk at a leisurely pace. It has been shown that provided with a pedestrian environment, most people will walk this distance rather than drive. The outline of the shed must be refined according to actual site conditions, particularly along thoroughfares. Syn: **walkshed**, **walkable catchment**. See **Standard**, **Long**, **Linear**, **Composite**, or **Network Pedestrian Shed**.

Long Pedestrian Shed: A Pedestrian Shed of 1/2 mile radius used for mapping RCDs and TODs, when a transit stop (bus or rail) is present or proposed as the Common Destination. See **Pedestrian Shed**.

Linear Pedestrian Shed: A Pedestrian Shed elongated along an important Commercial corridor, such as a main street. The resulting shed is shaped like a lozenge. It is usually half a mile across by any length. Syn: **Elongated Pedestrian Shed**.

Network Pedestrian Shed: A pedestrian shed that is determined by a five-minute walk measured along actual Thoroughfares. This determinant usually results in an irregular polygon.

Composite Pedestrian Shed: A large, amorphous pedestrian shed, determined by multiple centers with mutually reinforcing functions, within approximately 1/4 mile of each other.

Remnant: Land within a New Community Plan but outside of a mapped Pedestrian Shed.

Center Extended: the locale approximately coinciding with the Center or Core zones. The locus of the walking limit may be determined by the spine of the center rather than by a single point. The most common variation occurs in the form of a Main Street describing a walking limit in the shape of a lozenge.

Neighborhood Density: neighborhoods are quantified by area, which is a constant, rather than density, which must vary according to the local market or ethos. A New England village may be 4 units/acre, while a New York City neighborhood approaches 200 units/acre. A traditional neighborhood is defined by the area generally circumscribed by a quarter-mile radius, which is between 120 and 160 acres.

Neighborhood Quadrant: a portion of a pedestrian shed roughly corresponding to the walking distance of a child, and roughly to the catchment of a playground: a walking distance of about 800 feet. The term refers to the fact that neighborhoods with **Standard Pedestrian Sheds** tend to break down naturally into quadrants.

Common Destination: an area of focused community activity defining the centroid of a Pedestrian Shed. It may include without limitation one or more of the following: a civic space, a civic building, a commercial center, a bus stop. A common destination may act as the social center of a Neighborhood.

Locale: a portion of land. The term locale is free of the semantic overlay of Neighborhood or District. Other semantically loaded terms are **Parish**, which is ecclesiastical; **Ward**, which is political; and **Precinct**, which is administrative.

~~**Enclave:** a circumscribed urban area dependent upon the creation of an urban edge. The term implies more discontinuity than the locale. The creation of an enclave is a marketing device, alien to TND, that values centers over edges.~~

Ecological Footprint: the impact, inevitably negative, that a projected building or development would have on its natural environment. Traditional Neighborhood Development has a lighter ecological footprint than Conventional Suburban Development.

Distal: remote from the center.

Proximal: Close to the center. Nomenclature that may be used to determine location based on the Transect, as in Proximal Zones and Distal Zones relative to an urban center.

Gradation: progressive change or transition from one extreme to another. The controlled gradation of the rural-to-urban Transect is the basis for TND coding.

Immersive Environment: a locale wherein the urban elements of building type, frontage, function, public space, and streetscape mutually reinforce each other toward the creation of a specific character. See: **Transect**

Feathering/Cauterizing: two methods for adjusting the form of a neighborhood or other locale at its edge. As a general principle, the pods of CSD cauterize their edges, while TND tends to feather its edges.

Feathering: the gradual adjustment of the design of an urban fabric to blend seamlessly with an adjacent fabric for purposes of continuity.

Cauterizing: the sealing-off of an urban fabric from an adjacent one for the purposes of isolation.

~~**Generica:** those features of the built environment, that are subject to a corporate identity, being the same whatever the location. Generica is at odds with regionalism. Usage: "We were so lost in generica we actually forgot what city we were in."~~

Conflicted Environment: **tbd**

Hybrid Development: a development in which an evolution towards a more complete TND pattern is resisted rather than enabled by the original design, and which is ultimately incapable of achieving a unified community. Source: Bruce F. Donnelly.

Blended Hybrid: a pervasive blend of conventional and NU elements, such as sidewalks and porches, but on cul-de-sacs. It may also take the form of a modified thoroughfare grid with front-loaded snout-houses. A blended hybrid may or may not be able to evolve over time. Adapted from Laurence Aurbach.

Smorgasbord Hybrid: a hybrid development with pods of acceptable or even good New Urbanism, side-by-side with pods of typical CSD. Adapted from Laurence Aurbach.

Network: the arrangement of thoroughfares that is the most fundamental structure of the urban fabric. Six patterns of thoroughfares constitute the range of options available. While five of these options employ a webbed pattern, the sixth, Radburn, uses a stem pattern.

Trivium: a dominant formalized triplet of roads, as in Baroque planning, in which a royal or governmental structure anchors radial streets terminating at its doorstep (as at Versailles). The term also applies to the convergence of three radial streets upon a square or plaza (as at the Piazza del Popolo, in Rome). Syn.: **Crow's Foot**

Synoeicism: the administrative merging of several proximal villages to form a town. First coined by Aristotle, Synoeicism literally means "living together". The term was used by Spiro Kostoff. See **Succession**.

City Beautiful: a planning movement in the late 19th and early 20th century centered in the United States. The City Beautiful movement combined elements of the Picturesque, the Baroque, and the nearly-contemporary Garden City movement. The City Beautiful movement proposed that the city could be a work of art, with Civic Buildings as its principal ornaments.

Planned Picturesque: the mode of design in which naturalistic features and often faux ruins or follies are arranged to provide a changing set of vistas. In the picturesque mode, the overall parti is usually complex and varied, full of episodic and memorable events.

Grand Manner: a catch-all term for the general attention to axial, formal (as opposed to picturesque) design comprising the Baroque, the Classical, the City Beautiful, and other movements, and including modern work, such as the Palace of the People's axis in Bucharest.

Baroque Planning: the formal mode of design characterized by long and impressive vistas, demonstrating a high degree of rational control over nature and of the human habitat. The Baroque subordinates the design of the individual elements to the harmony of the whole.

SAVANNAH PATTERN

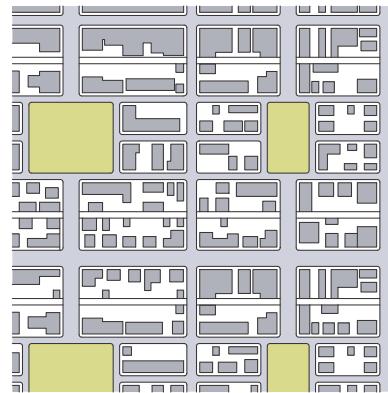
Advantages

- 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**



MARIEMONT PATTERN

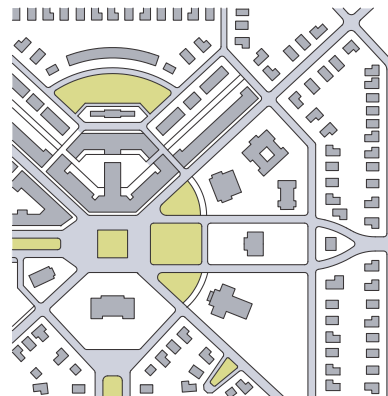
Advantages

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

Disadvantages

- Tends to be disorienting

Syn.: **unwin model, spider web**



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**



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**



WASHINGTON PATTERN

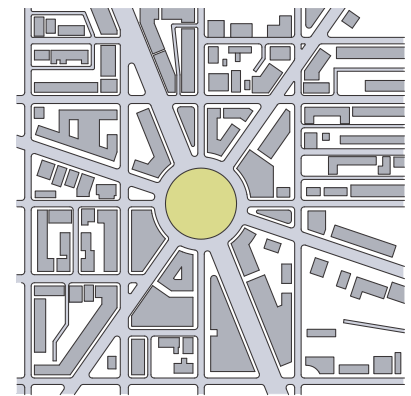
Advantages

- 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**



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**



Block: an aggregate of private Lots, Passages, Rear Alleys, and Rear Lanes circumscribed by Thoroughfares.

The block is the middle scale of town planning. While it is not the determinant of the network or of the building type, it strongly affects both.

There are a large number of block forms as implied by the six models of street networks; however, analysis reduces the variety to three categories: square, elongated, and irregular.

Each block type has distinct technical implications, and all types are useful even within a single neighborhood. For example, the square block accommodates the additional parking of a civic building within itself, useful at the Center Zone. The General Zone usually requires the normative lot sizes easily provided by the elongated block. The rural aspect, desirable at the Suburban Zone is supported by the picturesque qualities of the irregular block.

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 irregularly-sized lots (Figure 1).

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

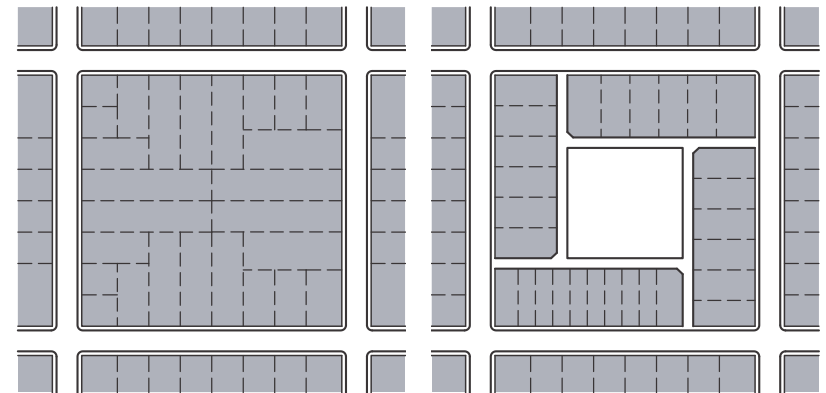


Figure 1

Figure 2

ELONGATED BLOCK

The **elongated block** is an evolution of the square block which overcomes some of that model's drawbacks. The Elongated Block eliminates an uncontrollable variety of lot depths 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

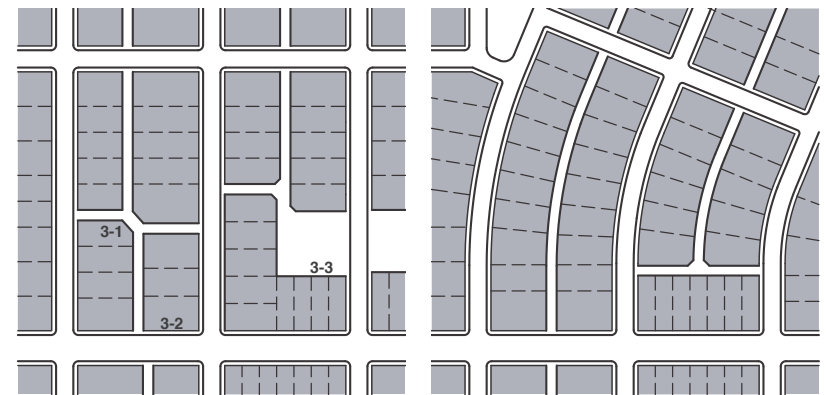


Figure 3

Figure 4

IRREGULAR BLOCK

The **irregular block** is characterized by its unlimited variations. The original organic block was created by the subdivision of land remaining between well-worn paths.

It was later rationalized by Sitte, Cullen, Olmstead, and Krier 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 that 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)

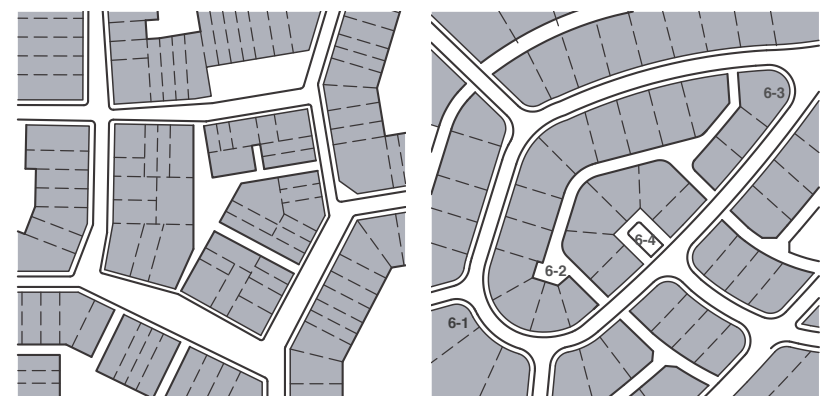


Figure 5

Figure 6

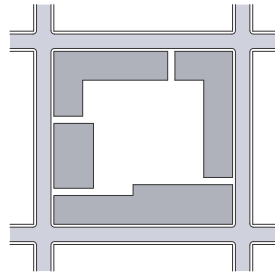
Campus: a block or sector in which buildings are disposed independently of the frontages, usually in a park-like setting. Campuses are justified for educational institutions, which are heavily pedestrian, but not for office buildings, which should be integrated into the thoroughfare network. Syn.: **superblock**

Court: a grouping of several small buildings on a shared lot. The equivalent of a miniature campus, where building design and site planning are coordinated and submitted together for approval. Courts are useful for non-family or communal programs such as co-housing. Syn.: **compound**

Estate Lot: a very large lot located within the Rural Zone. Estate lots maintain rural character while assigning maintenance cost and responsibility to private ownership. The minimum size of an estate lot depends on the ability of the existing landscape to mask the simultaneous view of multiple buildings. In a barren landscape, 30 acres may be a minimum; in a wooded landscape, 10 acres may be sufficient.

Compound: a lot containing several buildings, including separate residences. As it is difficult to code multiple buildings in depth from the frontage, it may be necessary to regulate compounds by negotiating the design as a small PUD. A campus is a large compound.

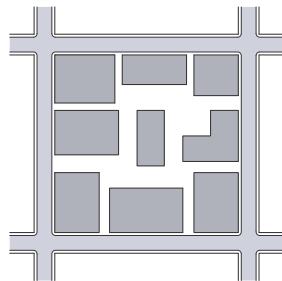
Perimeter Block: a type of block, generally square or equilateral, wherein the buildings form a continuous edge along the frontages. Perimeter blocks define the most urban streetscapes.



Open Block: a type of block that is accessible or pedestrian-permeable.

Private Block: a type of block that is private inside; it may contain parking, a garden, etc. This block type is used in New York, London, Washington.

Krier Block: a type of block layout where building sites have no private or semiprivate open space. In theory, this forces a more intense use of the public realm, implying socialism. It is also useful in co-housing. This block type is used at Bremen by Krier. The prototype was the Cité Industrielle by Garnier, ca. 1917.



Superblock: a type of block similar to a Krier Block but outsized. It is subject to the problems of unassigned space, intensified by a scarcity of thoroughfare frontages.

Train Wreck Pattern: a pattern where buildings are laid out independently of the frontages and in rotation relative to each other. A negative consequence of this technique is disorientation and failure of spatial definition in the absence of disciplined frontages. The train wreck layout is common to CSD, usually in the pursuit of a picturesque effect.

Drowned Worm Pattern: a pattern of thoroughfares, typical of the residential sectors of CSD, characterized by arbitrarily curving trajectories, which tend to be disorienting.

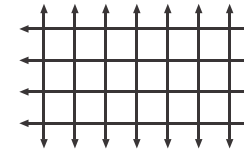
Diamond Grid Pattern: a network of thoroughfares useful for slopes, wherein intersections are adjusted to angles that permit the trajectories of the thoroughfares to follow a designated maximum grade. The diamond grid secures an open network, until extreme slopes justify a discontinuous pattern.

Zig Zag: a thoroughfare or path with alternate left and right turns at sharp angles, usually to aid the ascent and descent of a steep slope.

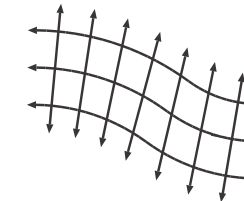
Formal: a design tending to the regular, rectilinear, geometrical, and repetitive. Formal design is usually appropriate at the more urban end of the Transect.

Naturalistic: an informal design tending to an irregular, curvilinear, organic, episodic composition. Naturalistic design is usually applicable to the more rural end of the Transect.

Grid: a web of intersecting thoroughfares that is rectilinear in its alignment and orthogonal at its intersections.

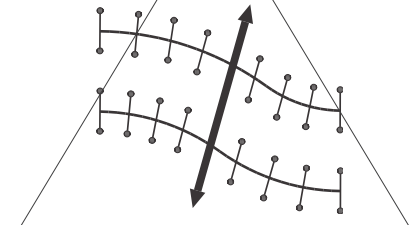


Network: a web of intersecting thoroughfares that may be diagonal, curvilinear, and/or irregular in its alignment and variable at its intersections.

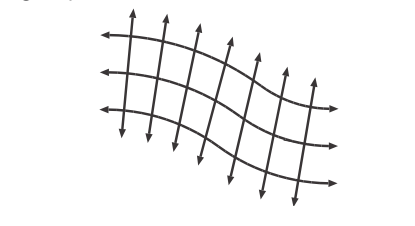


End Grain: the short side of the block. To this side is assigned the higher-traffic thoroughfare. For commercial buildings, the end grain can be platted to take advantage of the traffic while the amount of parking behind is controlled by the variable depth.

Stem Pattern: a thoroughfare pattern offering limited choice of routing. It is a component of Conventional Suburban Development (CSD). The stem pattern is characterized by a hierarchical system that proceeds from cul-de-sacs to locals, to collectors, to arterials, then to highways. With this pattern, driving is the most convenient choice for short and long trips. The layout forces longer, less direct travel because shortcuts are not provided. By channeling all trips to collectors and arterials, this portion of the system (which is a small percentage of the overall paved infrastructure) becomes easily congested. Syn.: **dendritic pattern**



Web Pattern: a highly interconnected thoroughfare pattern offering constant choices of routing, which tends to disperse congestion. It is integral to Traditional Neighborhood Development (TND). Syn.: **network pattern, grid pattern**



WITHIN THE COUNTRYSIDE

Airshed & Watershed
Wilderness
Farmland
Greenbelt
Greenway
Meadow
Park

Airshed & Watershed: a region defined by a common ecological performance. A shed is independent of municipal boundaries and overarches both natural and urban areas. A shed may be defined by a crucial determinant such as air quality, a common aquifer. The shed should be the basis of a regional plan.

Wilderness: an area approximating the natural condition, which is to remain perpetually uncultivated and sparsely inhabited, such as a forest, a mountainside, or a desert. Most national parks are wilderness preserves. It is within the purview of a regional plan to designate and safeguard such areas.

Farmland: an area of particular value for the cultivation of crops or the raising of livestock. Certain soils, slopes, and climactic conditions (coffee growing areas), as well as sociocultural tradition (horse country), are grounds for farmland preserve designation. It is within the purview of a regional plan to designate and safeguard such areas. Care should be taken that the integrity of the designation "preserve" is not undermined by the inclusion of commonplace fields and farmlands as a convenient device to curtail sprawl.

Greenbelt: the network of interlocking open spaces that separates urbanized areas, typically towns and villages. Greenbelts may contain environmental and agricultural preserves, golf courses, parks, and playing fields.

Greenway: a corridor encompassing a trail for bicycles and pedestrians. The trajectory of a greenway should lead through rural as well as urban areas, connecting the countryside to urban parks. The landscaping pattern should be appropriate to the location: naturalistic within the countryside, and formal within the neighborhoods. A greenway should follow a natural trajectory which is transformed to its purpose. Typically, these are riverfronts (riverwalk) or disused tracks (the rails-to-trails).

Meadow: an area available for unstructured recreation outside a neighborhood. A meadow is naturalistic, consisting of native plants, growing unchecked, and requiring minimal maintenance. Syn.: **Heath**

Park: a large open area available for recreation, usually located at a neighborhood edge, and fronted by buildings. Its landscape comprises paved paths and trails, some open lawn, trees, and open shelters, all naturalistically disposed and requiring limited maintenance.

WITHIN THE NEIGHBORHOOD

Sportsfield
Green
Square
Plaza
Community Garden

Sportsfield: an open area specifically designed and equipped for large-scale structured recreation. Such fields should be confined to the edges of neighborhoods as their size is disruptive to the fine-grained network which is required for pedestrian travel. Because modern schools have larger playing fields, they are usually located at the Neighborhood Edge Zones. Golf courses must also be relegated to the edges as the widespread practice of filtering greens through residential areas renders pedestrian connectivity virtually impossible. Playgrounds of children and venues of more compact games such as tennis and **boles** can be incorporated into greens and squares without disruption to the urban fabric.

Green: a medium-sized public space available for unstructured recreation, circumscribed by building facades, its landscape consisting of grassy areas and trees, naturalistically disposed and requiring only limited maintenance.

Square: A Civic Space type, typically located at an intersection of important streets, that is designed for unstructured recreation and Civic purposes. The Square is spatially defined by building Frontages and consists of Paths, lawns, and trees, formally disposed.

Plaza: a Civic Space type designed for Civic purposes and Commercial activities in the more urban Transect Zones, generally paved and spatially defined by building Frontages. Parking lots should be designed as plazas with the paving not as marked or detailed as typical parking lots. See: **Green & Square**

Community Garden: a grouping of garden plots available for small-scale cultivation, generally to residents of apartments and other dwelling types without private gardens. Community gardens should accommodate individual storage sheds. Community gardens are valuable for their recreational and communal role, similar to that of a club. Syn.: **allotment gardens**

WITHIN THE BLOCK

Close
Garden
Quadrangle
Playground

Close: a small green area surrounded by a driveway providing vehicular access to several buildings, performing the same function as a cul-de-sac but creating a socially useful space. The width of the close must correspond to the standard turning radius requirements. A close may be built to economical driveway standards.

Garden: an area attached to or surrounding a building, its landscape being a specialized cultivation, either ornamental or fruits and vegetables.

Quadrangle: a private open space entirely surrounded by multiple buildings with only minor openings to a thoroughfare, common in campuses. See: **Campus**

Playground: a small open area specifically designed and equipped for the play of small children. A playground is usually fenced and may include an open shelter. Playgrounds should be interspersed within residential areas, a short walking distance from dwellings.

WITHIN THE LOT

Kitchen Garden
Terrace
Court
Yard

Kitchen Garden: a portion of a private yard for the small-scale cultivation of foodstuff (horticulture). Kitchen gardens are expected to be utilitarian in appearance and maintenance and, as such, restricted to the backyards. If dedicated to raising chickens or rabbits (viviculture), the kitchen garden should be walled. Permission for viviculture in an urbanized area should be by variance with the consent of neighbors.

Terrace: a level, paved area accessible directly from a building as its extension. A terrace is smaller than a plaza and usually private. Terraces are not necessarily associated with an urban condition. They may occur in the countryside.

Court: a private exterior space partially surrounded by a building and also opening to a thoroughfare. It is often used as a vehicular entrance or drop-off, and its landscape may be paved.

Yard: a private area that adjoins or surrounds a building, its landscape subject to the landscape regulations.

WITHIN THE BUILDING

Patio
Roof Garden

Patio: a private area entirely surrounded by a single building, invisible from the public thoroughfare. Valuable for isolating incompatible uses from neighboring buildings. Since it has limited access, a patio provides open space with security in crime-prone areas.

Roof Garden: one of the five points of modern architecture as promoted by Le Corbusier and perhaps the most valuable. Roof gardens are useful wherever yards are unavailable. Care must be taken to not violate the privacy of adjacent yards from the vantage of the roof garden. Codes, even those that promote sloped roofs, should allow flat roofs when dedicated to roof gardens.

Open Space: an area free of building that, continued with a well-designed system of thoroughfares, provides a public realm at all scales of urbanism, from the region to the block.

Open space in Conventional Suburban Development is usually defined quantitatively as a function of population or land area. This practice may result in large, misplaced open areas that are underutilized by the community. The only types of open space that are carefully designed within CSD practice are those determined by environmental definition and by the requirements of parking.

To be environmentally effective (that is, justified in terms that include the human species), open space must be specialized in function and appropriate in location. They range from watersheds to roof gardens.

Open space can be subdivided based on its corresponding location in the Transect, but location is only one of several typological characteristics including size, landscaping, enfronting condition (buildings at the edge), and equipment.

Open space, to be truly public, should be

enfronted by building facades and circumscribed by thoroughfares. The conventional suburban practice of cauterizing open space by locating it to the rear of buildings is driven by two concerns: the economy of eliminating single-loaded thoroughfares and the value added to the individual building by the extended view of the rear yard into the open space. The argument against these economic determinants is that, while the value of the lots enfronting the open space is not necessarily diminished, the value of the additional lots that now have access to the open space is increased, resulting in a greater total overall. A study of comparables will support this analysis.

Open spaces, to be fully functional, should straddle pedestrian trajectories or be adjacent to meaningful destinations. Care should also be taken that open spaces have visual supervision from fronting buildings. Dense, visually impenetrable planting creates the opportunity for crime. See: **CPTED crime prevention through environmental design**.

The definitions provided tend to be singular, but open space types may be combined; for example, a playing field may be within a park.

Embankment: a raised linear earthwork, often stiffened by stone or concrete, built to protect an area from rising water or to mask noxious traffic. Similar to a berm, but more utilitarian in its intentions.

Berm: a linear rise of ground, artificially created to restrict pedestrian connectivity between zones, such as shopping centers and housing pods, or to mask unsightly uses such as parking lots. Berms are a widespread element of CSD practice but discouraged in TND, where connectivity is generally valued and parking generally masked by liner buildings.

Mount: a centroidal rise of ground, artificially created to enhance a pavilion, create an overlook, or mask a dismal vista. A mount may be reinforced by a crowning cluster of trees. A mount is especially useful for terminating an axial vista within a controllable area when the horizon beyond is unacceptable.

Amphitheater: a stepped, directional sitting area in the open, suitable for audiences observing performances or being subjected to harangues. An amphitheater can be straight or curving.

Sunken Garden: a garden deliberately laid out at a lower level to permit viewing of its full extent, particularly to better discern its plan configuration.

Exotic Species: a plant originating outside the bioregion where it is being grown. Exotic species are problematic because they often disrupt the local ecology. The plant species is either maladjusted requiring compensation with wasteful watering and fertilization, or the plant is excessively hardy and displaces local species from their biological niche. While such disruptions are known to occur, they constitute a tiny (albeit notorious) minority of instances, while a multitude of exotics make useful contributions ecologically, economically, and socially. Rather than barring exotics categorically, each species should be judged on its merits for inclusion in a bioregion.

Native Species: a plant originating within the bioregion where it is being grown.

Xeriscape: landscape consisting primarily of species and practices that require little or no maintenance, watering, or fertilization. Syn.: **native landscape**

Species: a group of plants or animals with similar characteristics that define the group. See: **Taxonomy**

Specimen Tree: an unusual or interesting tree planted alone for effect.

Cultivar: a species of plant that has been developed and maintained through nursery management. Matching street trees for the more urban thoroughfares requires the creation of a reserve cohort of cultivars to replace the periodic loss of matched specimens. A public works department should maintain a cultivar nursery for this purpose.

Espalier: a small tree or trees with branches flat against a wall or frame. Useful for small gardens and to landscape narrow open spaces such as walled paths and the yards of rowhouses.

Arbor: a skeletal structure supporting light vegetation overhead. Useful for shading parking lots. See: **Bosque**

Allotment Garden: a small open space tract within an urban area, available to individuals for gardening. It is a mitigating device for apartment dwellers deprived of gardens. An allotment garden provides a locus of recreation and sociability greater than that of the private yard, being one of the so-called third places. Allotment gardens can be large enough to hold habitable shacks as affordable surrogates for rural weekend cottages. Garden plots are not sold but let under municipal or private administration. See: **Third Place**

Deciduous Species: trees or understory plants that shed their leaves. In colder climates, deciduous trees create shade in summer while allowing sunlight to warm buildings and open spaces in winter.

Evergreen Species: trees or understory plants that never shed their leaves. Trees and hedges performing a masking function should be evergreen to assure year-round effectiveness.

Basin: a hard-edged, geometrically-shaped pool. In the Transect, a basin corresponds to a square as a pond corresponds to a green or to a park. An aesthetic function of a basin is to reflect the sky.

Canal: an artificial linear waterway used as a thoroughfare for boats. Also used in gardens, a canal can be a sheet of water, usually rectangular in shape. The purpose may be functional (as a reservoir) or aesthetic.

Fountain: a sculptural device incorporating water in motion as a civic ornament. A well-designed fountain will hold human interest longer and more effectively than most other artifacts of urban ornament. However, fountains require a level of maintenance that is often unavailable municipally and thus should be considered with the utmost skepticism.

Pond: a small body of fresh water.

Lake: a naturalistic body of water larger than a pond. Artificial lakes can be created by damming watercourses or by adapting a natural occurrence such as a wetland.

Moat: a long strip of water strongly demarcating a threshold. A common defensive device of high ornamental value, still useful toward the definition of secure enclaves as it is less visually intrusive than a wall.

Clump: the composition of multiple tree and understory species to create a distinct naturalistic grouping. A clump may be an element of green and park design but should be absent from squares and plazas. A clump may be conceived as a habitat. See: **Patch**

Platoon: regular clumps of trees aligned to form a complex allée. This, like syncopated species allées, protects a landscape from a blight that would devastate a monoculture.

Quincunx: a formation of five trees, four at the corners of a square and one in the middle. A composition known to be effective in the layout of a clump. When the trees are of varying heights, the effect is naturalistic.

Thicket: a tight, complex landscape allowed to grow unchecked. A thicket acts as a device to block undesirable views or winds.

Grove: a loose, naturalistic grouping of trees, planted in emulation of a natural woodland.

Bosque: a geometrically disposed grouping of trees, spaced tightly enough to create a continuous canopy overhead. Useful for shading plazas and parking lots. See: **Arbor**

Orchard: an area cultivated in fruit trees. Orchards, along with vineyards, are the type of agriculture most acceptable in the proximity of an urban fabric as the produce can be harvested by hand. However, pest control methods and theft must be managed.

Glade: a clearing or open space within a wooded area.

Golf Course: a park-like setting where the game of golf is played. Golf courses are considered an integral part of conventional suburban practice and the principal amenity of many communities. The standard practice is to thread the golf greens through the residential areas along the backyards. The intention is to create premium lots with long views. A better practice, both for the golf course and for the continuity of the community is to create a compact core course.

Core Course: the concurrent technique of lining a golf course with a drive (rather than backyards). This spreads the frontage premium across the entire community rather than assigning it to a few lots.

Edging: elements that delineate paths, keeping the pedestrian within the designated trajectory and away from delicate turf or ecology. The proper material and detailing of the edging depends on the location of the path within the Transect. It may range from stone to wood to iron to brick.

Lawn: grassland controlled by mowing. A lawn is a uniform, durable ground cover suitable for playing fields. The common lawn of the front yard is one of the most rural of the frontage types. Squares, greens, lawns, and private yards require maintenance, unlike meadows.

Pasture: fields that are essentially untended. Pasture can be a practical maintenance system, even for greens and parks toward the urban end of the Transect, where fences hold sheep doing the maintenance work.

Lawn-Meadow-Pasture: three degrees of maintenance applied to a grassed area. Lawn is the most cared for variant, followed by meadow, while pasture is simply controlled by harvest or grazing.

Planting Bed: a small plot dedicated to intensive cultivation. Usually an element of a square, an allotment garden, or a private yard.

Glacis: an open green buffer between a locale and the wider public realm. Such areas may be used as recreational areas, or as greens – particularly in front of important institutions. The term connotes a defensive function, as a Glacis was historically the green zone around ramparts that could be reached by cannon-fire.

Belt: landscape planted around the perimeter of an open space, usually to define it spatially. Belts are the natural version of the ambulatory, with a similar capacity to demarcate, enhance and protect the space it surrounds. Parks within an urban fabric should be surrounded with tree belts in order to eliminate the visual presence of buildings which undermine the desired tranquility or the naturalistic illusion. See: **Ambulatory**

Border: a narrow, linear planting bed, useful alongside a street wall, improving its looks by the addition of hedge or climbing vine. Borders should be used only where urban maintenance is excellent as they tend to become convenient receptacles for trash.

Patch: the minimum area necessary to sustain the habitat of a certain species. A patch may occur within any type of open space and be the determinant to its size.

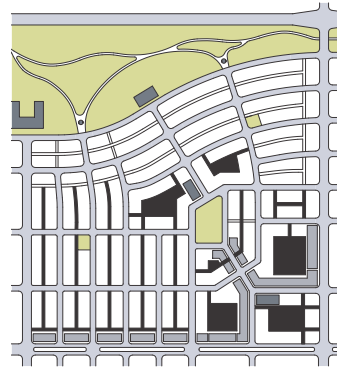
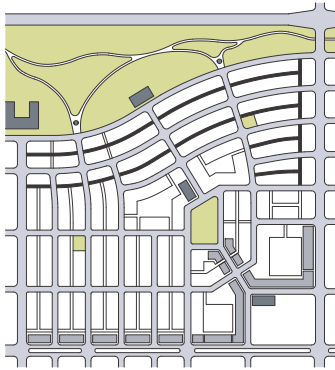
Underplanting: the planting of low-growing trees and bushes between taller ones to provide leafage at a height where otherwise there would be only bare trunks.

Canopy: the mass and cover created by the upper branches of trees. Species may be selected by their canopy for aesthetic form and/or to create shade. In general, allée, cluster, and bosque tree spacing is determined by the width of the canopy at maturity. As urban landscaping must be remedial before aesthetic, the type of open space to be corrected may be determined by the canopy completing an arch overhead.

~~**Residual Space:** open space assigned neither to the private lot nor to the designed public realm. The very large quantity of residual space is the locus of antisocial activity in public housing. Residual space is useful for found uses such as informal playgrounds and inexpensive housing.~~

Conventional traffic engineering practice uses terms such as collector and arterial, denoting only capacity. This is simplistic and ignores the crucial social role of the thoroughfare as a public realm in the community. The nomenclature describes more adequately the combinations of capacity and character necessary to create true urbanism.

Rear Lane: a vehicular access way located to the rear of a lot providing access to parking and outbuildings as well as easements for utilities. Rear lanes are paved as lightly as possible to driveway standards or with gravel. Rear lanes should be as rural in character as possible.



Alley: a narrow service access to the rear of more urban buildings, providing service areas, parking access, and utility easements. As they are used by trucks and must accommodate dumpsters, alleys should be paved from building face to building face, with drainage by inverted crown at the center.

C S D	T N D
Highway	Highway
Arterial	Boulevard
Collector	Avenue & Con-
Local	nector
Cul-de-	Street & Road
sac	Close
Driveway	Alley & Lane
Passage	Passage
Path	Path

Path: a pedestrian way traversing a park or the countryside. Paths should connect directly with the sidewalk network at the urban edge. Syn.: **Walk**

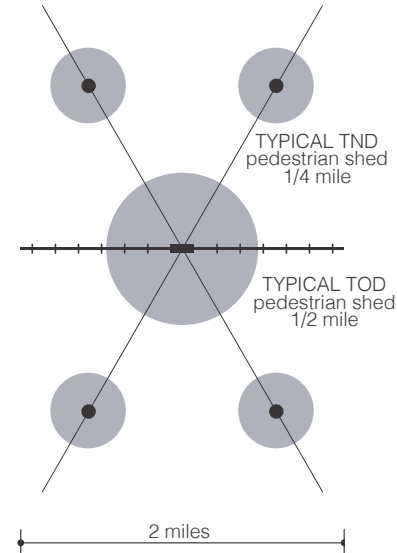


Passage: a pedestrian connector passing between buildings. Passages provide shortcuts through long blocks and connect rear parking areas with street frontages. Passages may be roofed over and lined by shopfronts.

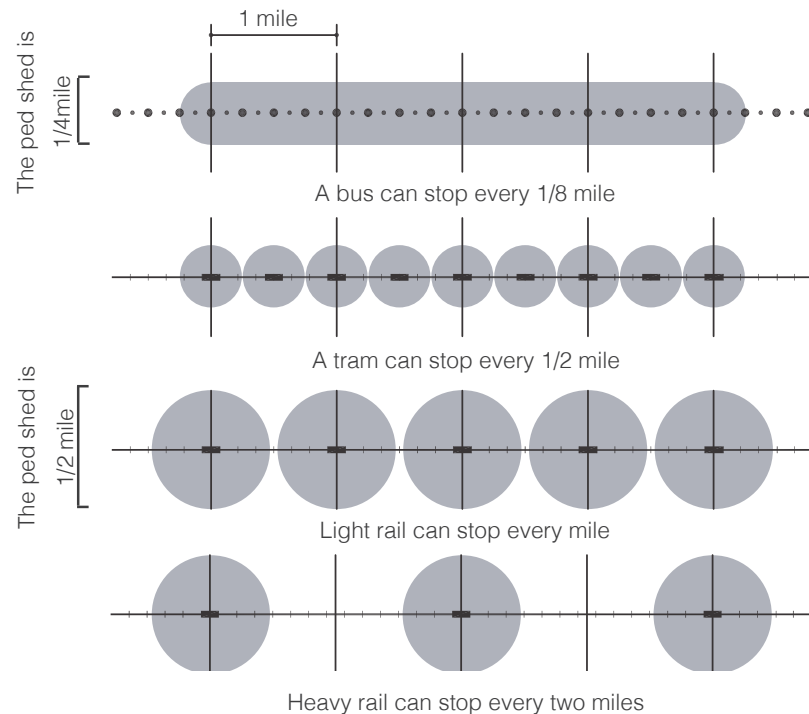
Variants include **Court**. A court is a passage that is wide enough to be landscaped, being the frontage for buildings that are otherwise provided with vehicular access only by rear alleys.

Transit: a vehicular transportation system other than the private car (and its variants). There are three types of transit systems: rail system, bus system, and bicycle system. Each system has certain advantages and also certain requirements of the supporting urban pattern, which, if ignored, increase their operational costs. None, however, are as costly to the public and private purse as the private car and its attendant need for major thoroughfares and parking.

TRANSIT-ORIENTED DEVELOPMENT



PEDESTRIAN SHEDS



RAIL SYSTEMS

Commuter Rail: transit operated with heavy railroad equipment incapable of rapid acceleration. It can be operated concurrently with rail freight. Station spacings are usually 2 miles or more. (Philadelphia's Main Line, Long Island Railroad, Boston's Commuter Rail).

Heavy Rail: transit running on tracks separated from the vehicular thoroughfare system. This is achieved by grade separation, either elevated (Miami), underground (Washington), separated within the median of a highway (Calgary), or in a dedicated ROW (Philadelphia). Heavy rail is designed for high speed and stops efficiently at an average of one-mile intervals. The grade-separated systems are the most expensive form of surface transit to build.

BUS SYSTEMS

Bus: a multi-passenger vehicle running on lanes shared with the general thoroughfare system. It is a low-speed system that can stop frequently. Bus systems achieve maximum efficiency when stops are confined to rationalized pedestrian catchment areas of one-quarter mile (5-minute walk) such as neighborhoods. Buses may operate regionally, approximating light rail when using dedicated lanes within the highway system. This is a relatively inexpensive system that may be incubated in small increments.

Jitney: a small vehicle typically owned by the driver and operated independently.

BICYCLE SYSTEMS

Bikeways: thoroughfares dedicated specifically to, or available for, bicycle use. Both cyclists and drivers alike can share the general network of thoroughfares if the network is properly proportioned and vehicles are moving sufficiently slow. Specialized accommodation is suggested but not required where the speed of traffic precludes sharing.

Light Rail: transit running on tracks at grade within the thoroughfare system. Light rail cars are designed for both low and medium speeds and thus can operate stopping at half-mile (neighborhood) intervals within an urban fabric and at two-mile intervals within the countryside. The dedicated rail infrastructure and the large increments of phasing required make light rail a relatively expensive form of transit to build. Syn.: **trolley**, **streetcar** (San Diego Downtown).

Tram: a light-weight rail transit vehicle running on tracks at grade, and which may be run in a roadbed. Trams stop more frequently than do light-rail vehicles and less frequently than buses or streetcars.

Most jitneys follow set routes, but they can deviate off-route at a passenger's request.

Circulator: a small, multi-passenger vehicle running on lanes shared with the general thoroughfare system. It is a low-speed system that follows a short looped trajectory, sometimes with telephone-responsive deviations for door-to-door service. Circulators are often feeder systems within airport districts; school buses are a common variant. They are applied to mitigate the travel needs of retirement communities. Circulators are the least expensive of the transit options, especially when phased in small increments, as an incubator for a full bus system.

There are three types of bicycle ways:

Trail: a bicycle way running independently of a vehicular Thoroughfare. Syn.: **Class I bikeway**

Lane: a dedicated lane for cycling within a moderate-speed vehicular Thoroughfare, demarcated by striping. Syn.: **Class II bikeway**

Route: a Thoroughfare suitable for the shared use of bicycles and automobiles moving at low speeds. Syn.: **Class III bikeway**



Vehicular Circulation: the combination of moving and parking lanes within thoroughfares. The network of thoroughfares also constitutes the majority of the public realm available to pedestrians.

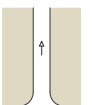
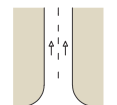
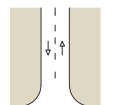
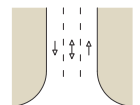
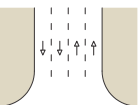
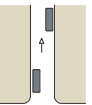
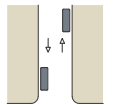
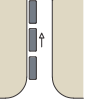
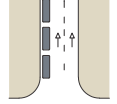
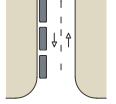
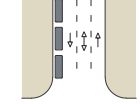
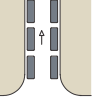
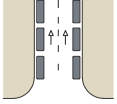
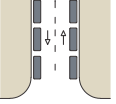
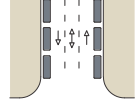
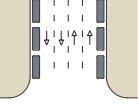
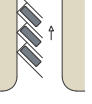
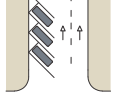
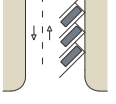
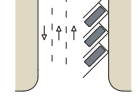
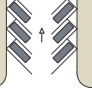
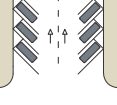
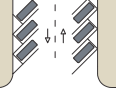
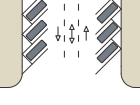
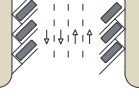
As the shared setting for most buildings, thoroughfares provide the constant potential for community interaction. As such, thoroughfares must be carefully designed both for vehicular capacity and for pedestrian character.

Pedestrian character is formed by a combination of frontage and streetscape. But these alone cannot create a pedestrian friendly environment unless the velocity of vehicular movement is also designed and controlled. The posting of speed limits is ineffectual unless continually policed.

The velocity of vehicular movement is affected by physical factors that create the perception of a maximum safe velocity. These factors include the width of lanes, the provision of parking lanes, the centerline radius, and the intersection curb radius. It is also influenced by operational factors, such as two directions of traffic sharing a Yield Lane, or sharing the lane with bicyclists and pedestrians.

Conventional traffic design manuals prescribe only combinations suitable for continuous speed movement. These must be extended to provide a range of velocities appropriate to the range of urban conditions. In addition to the conventional standards for speed movement, there are those for free, slow, and yield movements. The last is the operational equivalent of traffic calming. The provision of traffic calming devices is necessary only as a retrofit strategy.

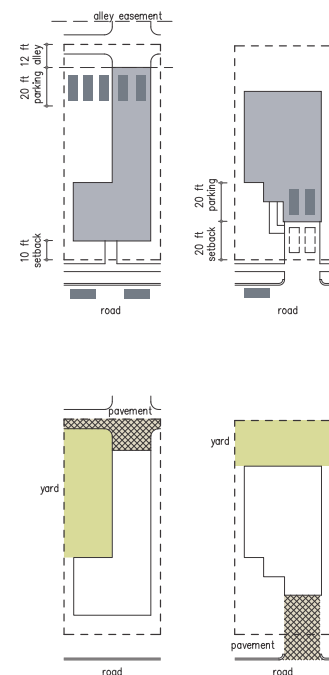
THOROUGHFARES

	One Way -One Lane	One Way -Two Lanes	Two Ways -Two Lanes	Two Ways -Three Lanes	Two Ways -Four Lanes
	T1-T2-T3	T1-T2-T3	T1-T2-T3	T1-T2	T1-T2
No Parking					
Pavement Width	8-10 feet	16-20 feet	18-20 feet	24-30 feet	Variable
Curb Radius	15-30 feet	15-30 feet	15-30 feet	15-30 feet	Variable
	T3-T4		T3-T4		
Yield parking parallel					
Pavement Width	16-18 feet		22-26 feet		
Curb Radius	10-20 feet		10-20 feet		
	T4-T5	T4-T5	T4-T5	T5-T6	
Parking One Side parallel					
Pavement Width	16-18 feet	22-27 feet	25-27 feet	30-37 feet	
Curb Radius	10-20 feet	10-20 feet	10-20 feet	10-20 feet	
	T4-T5-T6	T4-T5-T6	T4-T5-T6	T5-T6	T5-T6
Parking both Sides parallel					
Pavement Width	22-26 feet	28-34 feet	32-36 feet	36-44 feet	52-58 feet
Curb Radius	5-15 feet	5-15 feet	5-15 feet	5-15 feet	5-15 feet
	T5-T6	T5-T6	T5-T6	T5-T6	
Parking one Side diagonal					
Pavement Width	28-32 feet	37-42 feet	38-42 feet	46-52 feet	
Curb Radius	5-10 feet	5-10 feet	5-10 feet	5-10 feet	
	T5-T6	T5-T6	T5-T6	T5-T6	T6
Parking Both Sides Diagonal					
Pavement Width	44-48 feet	56-60 feet	56-60 feet	64-70 feet	74-80 feet
Curb Radius	5-10 feet	5-10 feet	5-10 feet	5-10 feet	5-10 feet

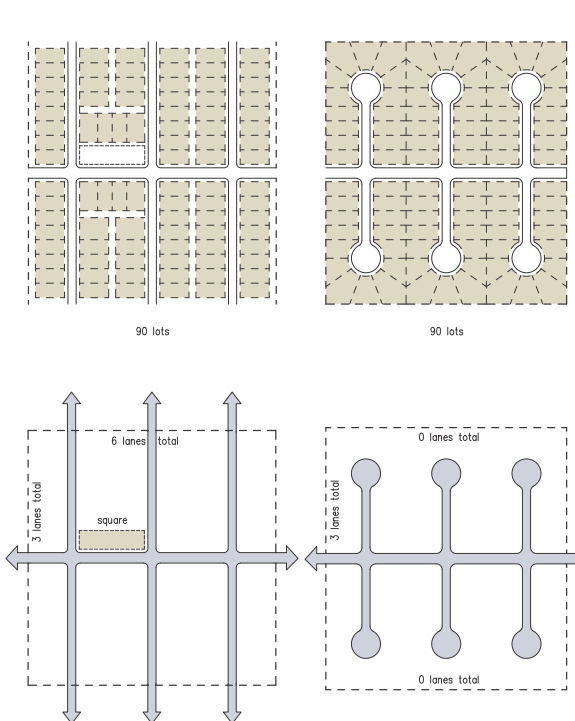
Infrastructure Cost: the cost of service improvements on a given site, including utilities, streetscapes, and thoroughfares but excluding common amenities and buildings. The cost of infrastructure of Traditional Neighborhood Development should be equal to or less than that of Conventional Suburban Development for the following reasons:

1. the elimination of CSD front-loaded driveways compensates for the rear lanes, provided that the latter are built to driveway standards.
2. the TND's narrower thoroughfares compensate for the shorter length of cul-de-sacs.
3. the TND uses simple open sections for drainage wherever roads are appropriate.
4. the TND's on-street parking consumes substantially less pavement than off-street parking by bi-directional use of the moving lane as access lane.
5. since the TND's network system has much greater connectivity than the CSDs stem system, there is a near-complete elimination of costly collectors that do not provide developable frontage;
6. TND's increment of phasing is much smaller, as all market segments are accommodated within a single neighborhood as opposed to carrying the infrastructure costs of many homogeneous pods;
7. lot width based on an off-street parking module (12, 24, 36, 48, 60, 72, etc.) increases the density of TNDs by eliminating slivers of wasted land (parking controls density).

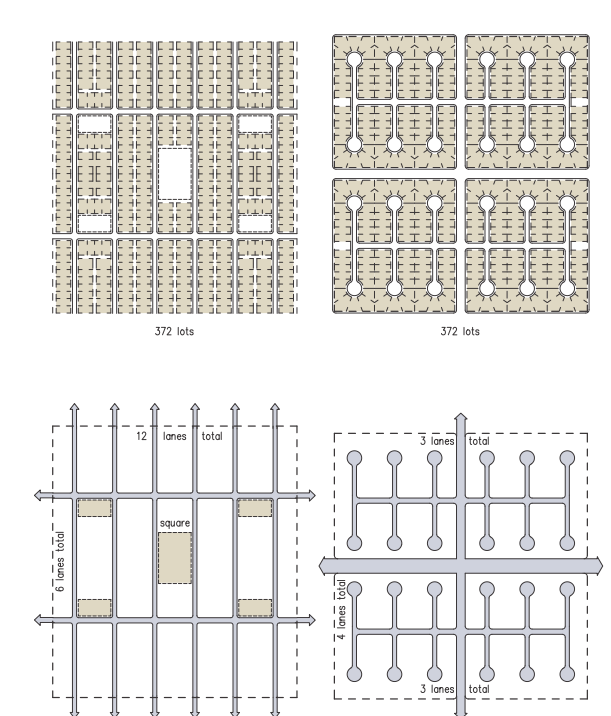
LOT SCALE



BLOCK SCALE



NEIGHBORHOOD SCALE

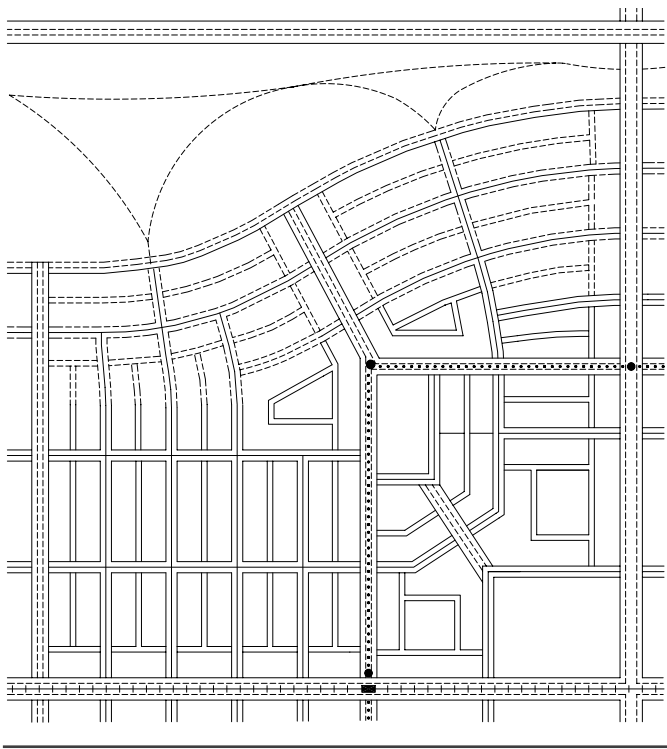


	TND	CSD	TND	CSD	TND	CSD
Total Area (constant)	5,600 sq ft	5,600 sq ft	17 ac	17 ac	36 ac	36 ac
Units (constant)	1 unit (2,400 sq ft)	1 unit (2,400 sq ft)	90 units (5.2 units/ ac)	90 units (5.2 units/ ac)	372 units (5.2 units/ac)	372 units (5.2 units/ac)
Open Space	1,500 sq ft	1,225 sq ft	green at .33 ac	none	greens at 2 ac	none
Total Parking	4 - 7 places	3 - 5 places	360 places	270 places	1,466 places	1,092 places
Driveway / Alley Pavement	492 sq ft	592 sq ft	44,285 sq ft (1.01 ac)	53,244 sq ft (1.22 ac)	179,110 sq ft (4.11 ac)	215,342 sq ft (4.94 ac)
Street ROW (constant)	52 ft	52 ft	52 ft and 60 ft	52 ft and 60 ft	52 ft and 60 ft	52 ft and 60 ft and 100 ft
Pavement Width (constant)	28 ft	28 ft	28 ft and 36 ft	28 ft and 36 ft	28 ft and 36 ft	28 ft and 36 ft and 72 ft
Cul-de-sac Radius	-	-	none	50 ft radius (to curb)	none	50 ft radius (to curb)
Pavement Area	-	-	102,000 sq ft (2.35 ac)	116,000 sq ft (2.67 ac.)	106,000 sq ft (2.44 ac)	139,000 sq ft (3.21 ac)
Total Connective Lanes	-	-	9 lanes	3 lanes	18 lanes	7 lanes
Total Pavement	-	-	147,000 sq ft (3.37 ac)	170,000 sq ft (3.90 ac)	285,000 sq ft (6.56 ac)	355,000 sq ft (8.16 ac)

SYMBOL SYSTEM

HIGHER-SPEED VEHICULAR			LOWER-SPEED VEHICULAR		
Highway	Boulevard	Avenue	Street	Road	Drive
SERVICE		PEDESTRIAN		TRANSIT	
Alley	Lane	Passage	Path	Rail	Bus

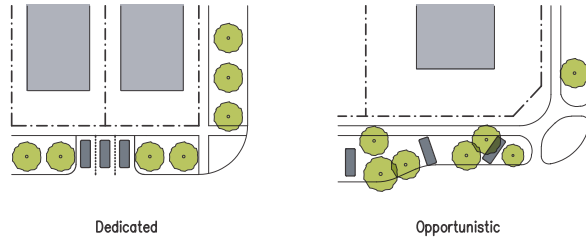
SYMBOL SYSTEM APPLICATION



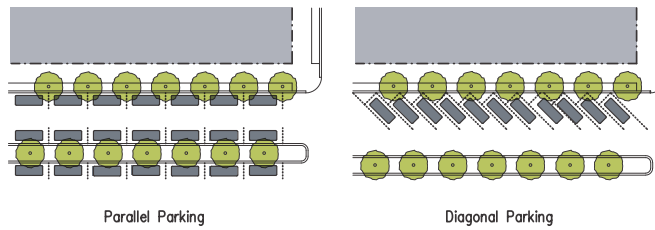
The Thoroughfare System can show the dominant thoroughfare at the intersection. In such a case, the Intersection is deemed to be within one thoroughfare's trajectory, while the other thoroughfare is discontinuous. This designation need not comport with any corresponding designation in the SmartCode for the Primary and Secondary Frontages on corner lots, since one strategy for coping with heavy traffic is to turn the side of a house or building towards it.

Parking: the act of leaving or maneuvering a vehicle into a suitable location for storage. Accommodations for parking are a major distinguishing characteristic between CSD and TND. TND masks parking behind buildings to enhance the pedestrian quality of the frontage. As parking determines density, a system of platting commensurate with the parking module maximizes building densities. See: **Platting**

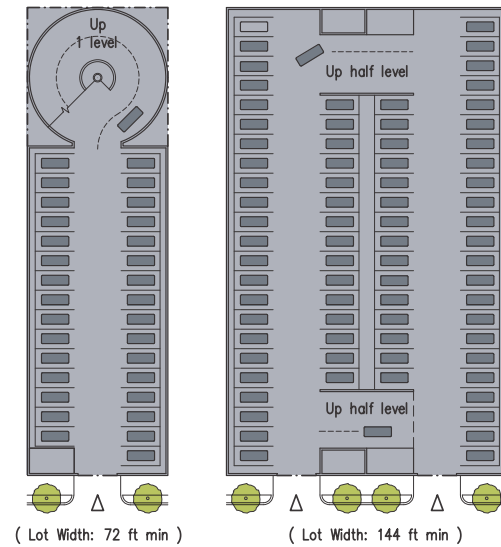
ON - STREET PARKING - SWALES



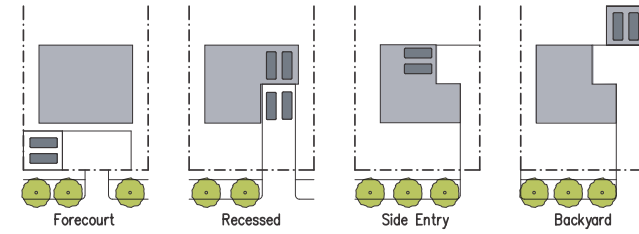
ON - STREET PARKING - SLIP LANES



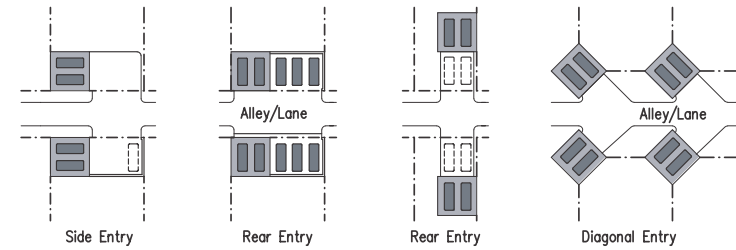
OFF - STREET PARKING - DECKS



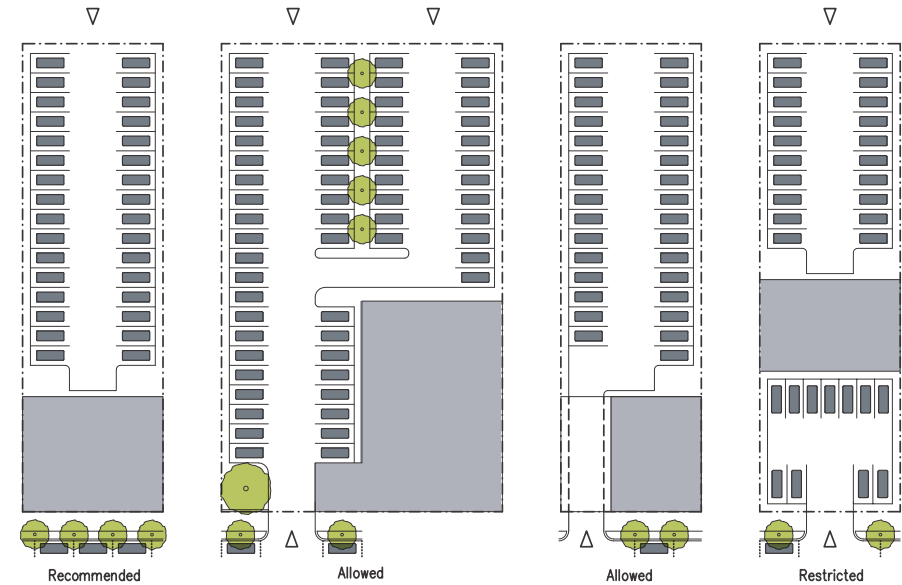
OFF - STREET PARKING - FRONT ACCESS



OFF - STREET PARKING - REAR ACCESS



OFF - STREET PARKING - LOTS



Thoroughfare: a route between places and lined by lots. A thoroughfare is generally for both vehicular and pedestrian use, but may exclude either.

Vehicular Way: the portion of the thoroughfare that is occupied by vehicles, usually the moving lanes and parking lanes. The vehicular way, together with the pedestrian way, fill the right-of-way.

Pedestrian Way: that portion of a thoroughfare right-of-way that is dedicated to uses other than the moving and parking of vehicles. The pedestrian way includes the sidewalks and planting areas of the streetscape.

Driveway: a vehicular lane within a lot, often leading to a garage. The cost of a rear lane is usually offset by that of the driveway it replaces. See: *Infrastructure Cost*

Hollywood Drive: a residential driveway constructed of two parallel strips of pavement each 2 ft. wide with a planting area in between. An alternative to the conventional continuous-surface parking pad, the Hollywood Drive provides more green area and better permeability but is more difficult to build. In the event of front-loaded garages, access should be by means of a Hollywood Drive to salvage a nearly continuous common lawn.

Transit Stop: the place for riders to wait for a bus or train. The waiting experience is as important as any other consideration in encouraging the use of transit by those who have the choice. Because waiting at a bench or a shelter by the roadside is an indignity, the best transit stops occupy a third place, one that provides quick access to corner stores or cafes that provide shelter, seating, warmth, coffee or a news rack. See: *Third place, Transit Use*

Transit Use: transit will tend to be viable under the following conditions:

1. that transit stops are comfortable and dignified. Few potential passengers willingly tolerate the experience of waiting in a shelter or bench by the side of a thoroughfare. The ideal waiting area is the corner store or cafe, which is a requisite of TND.
2. that transit stops are within walking distance of a substantial population. Few will drive only to a transit stop. Such intermodal changes are rare as, once in driving, one tends to continue to the destination. The structure of the five-minute walks, which determines the maximum area of a traditional neighborhood, delivers the majority of the transit riders as pedestrians to a transit stop at its center.
3. that there is sufficient urban fabric at most of the transit stops to provide surveillance and amenity. A system is not viable if access to or from a transit stop requires the use of a car.
4. that the trajectory of the system is intelligible conceptually. Direct routes are more likely to be used than those obscured and delayed by doglegs.
5. that the vehicle is clean, safe, and dignified. The latter, in particular, is often ignored by transit designers despite evidence of the relative popularity of streetcars over buses.
6. that the headway (the time between arrivals) is short and the hours of operation long. Most discretionary transit users refuse to wait for long, and few will risk being stranded by a system closing too early in the evening.

Air Quality: the measure of atmospheric pollution, a degradation often related to auto travel. Short-term air quality advances are associated with technological improvements. Long-term solutions, however, must address the underlying factors responsible for travel demand. These factors are largely a function of the arrangement of activities in an urbanized area. *Source: Steven P. French*

Automotive By-Products: the consequences of automobile use. The intended consequences are: increased freedom of movement, more efficient short-distance trips, a more comfortable travel experience, and the provision of a means of expressing status. The unintended consequences include: The decline of railroads, the rise of traffic jams, parking problems, the dissolution of city centers, pollution of the atmosphere, and death by drunk drivers. To these may be added: tire dumps, dependency on foreign energy sources, segregation of the population by income, unequal opportunities for the poor, the young, and the elderly (all of whom cannot drive), the consumption of natural open space through sprawl, the reduction of discretionary time by commuting, the promotion of a sedentary life-style, the visual pollution of parking lots, the super allocation of resources to infrastructure, the increased cost of services. *Source: Daniel J. Boorstin.*

Accessibility: a general measure of the availability of transportation. Providing accessibility is superior to providing mobility, as mobility is crudely equated to speed, accepting that it does not matter how long it takes to get to a destination so long as the drive is fast while getting there.

Mobility: a measure generally related to travel speed. Conventional traffic engineering usually privileges mobility at the expense of access and the use of the thoroughfare as a place.

Traffic Calming: a set of techniques that serves to reduce the speed of traffic. Such strategies include lane narrowing, on-street parking, chicanes, yield points, sidewalk bulge-outs, speed bumps, surface variations, midblock deflections, and visual clues. Traffic calming is a retrofit technique unnecessary when thoroughfares are correctly designed for the appropriate speed at initial construction.

Traffic Management: mitigation of traffic congestion by methods other than proximity through balanced land use, road construction, and provision of transit. The principal management methods are: the encouragement of transit, carpooling, the mandatory staggering of work hours, and variable-rate road tolls. All these techniques are generally considered to be punitive. Only balanced land use is based on convenience.

Contracommute: a pattern of commuting against the primary direction of traffic flow, thereby taking advantage of underutilized lane capacity. This desirable practice should be one of the determinants for the location of urban growth.

Horizontal Speed Bump: a technique of traffic calming. A sharp intrusion into the travel way. See: *Traffic Calming*

Bollard: a short, upright post. Lines of bollards are used to circumscribe vehicle routes on continuous paved surfaces such as plazas. Removable bollards are a useful instrument in calendar-based or periodic traffic management, as they enable distinct patterns for weekends and festivals, unlike permanent measures of inclusion or exclusion.

Chicane: a technique of traffic calming. A sharp offset of the travel lane to reduce velocity.

Traffic Priority Device: the various techniques that assign priority to the moving vehicle at the expense of the pedestrian, having the opposite effect of traffic calming. There are three:

1. The free right turn lane, which widens the intersection crossing distance and eliminates the window of stopped traffic.
2. the left turn stacking lane, which eliminates the planter island as a refuge at the center of a wide thoroughfare.
3. the deceleration lane, which widens the thoroughfare by an additional lane at the point of pedestrian crossing. TND practice endeavors to dispense with all traffic priority devices except in the extra-urban condition of highways. See: *Streamform*

Traffic Signal Phasing: the timing of the red / green cycle of traffic signals. The setting of this cycle can achieve several intended effects, from accelerating traffic flow to easing pedestrian crossing. The choice of options depends on the location of the intersection within the Transect.

Intermodal Change: the transition from one mode of transportation to another, as in automobile to bus or light rail. An intermodal change is difficult to effect as, once in the car, the traveler tends to continue driving to the destination. It is therefore important to capture the transit user as a pedestrian, hence the walking-distance limit required by the TND and TOD models.

Threshold Gap: the distance from a pedestrian to an oncoming motor vehicle sufficient for 50% of pedestrians to choose to cross a thoroughfare. Increases of the curb radius increase the crosswalk length and therefore the threshold gap, thereby degrading pedestrian continuity. See: *Pedestrian Continuity*

Pavement Width: the width of pavement of a thoroughfare, including moving and parking lanes but not sidewalks. To enhance non-motorist travel and minimize impervious surfaces, the ideal dimensions are the smallest that can accommodate the intensity of use. The following are some recommended pavement widths:

1. Sidewalks: the smallest recommended width enfronting residential use, where two may walk abreast, is 5 ft. The smallest recommended width enfronting retail use, enough to accommodate outdoor seating, is 12 ft.
 2. Trails: the minimum, so that two may pass, is 8 ft.
 3. Parking Lanes: the recommended width for parallel parking lanes along residential frontages is 7 ft.; (City of Charleston), and along retail frontages, is 8 ft.
 4. Driving Lanes: the recommended width for slow-moving driving lanes and roads without parallel parking is 9 ft.; (City of Coral Gables), the width for streets and avenues with parallel parking is 10 ft. (City of Charleston), the recommended driving lane for boulevards is 11 ft. wide, and for highways, a minimum of 12 ft. wide.
 5. Combined Lanes: while most of the dimensions above are assembled additively to create the various types of thoroughfares, in the case of smaller thoroughfares with yield movements, the path of moving lanes may weave to slow the traffic. A recommended overlapped width for one lane of parallel parking and two of driving is 20 ft. *Source: City of Portland & AASHTO Syn.: Cartway.*
-

System Capacity: the quantitative measure of vehicles that may travel along a network of thoroughfares. System capacity responds to two factors: the number of moving lanes and the degree of connectivity. In the more rural conditions where fewer intersecting roads exist, the lowest lane capacity is 1,500 vehicles per hour (in stop-and-go traffic), and the most efficient capacity is 2,000 vehicles per hour (achieved at 35mph and declining as the velocity increases because of greater inter-vehicular spacing). In the more urban conditions, the range is 600 to 900 vehicles per hour, as intersections control the link flow rates. Connectivity is the greatest with small block, pure web systems, and lowest with pure stem systems. See: **Character, Stem and Web Pattern**

Level of Service (LOS): the measure of traffic flow, ranging from LOS. One represents unimpeded flow to LOS. Five represents near stasis. A low LOS is typical of Conventional Suburban Development for three reasons:

1. The absence of balanced use catalyzes an inordinate number of trips (the typical CSD house is rated at 10 to 14 trips per day).

2. The stem layout of thoroughfares proceeds from cul-de-sacs to local streets to collectors, then to arterials and ultimately to highways. Since all trips are channelled to collectors and arterials, this portion of the system (which is a small fraction of the overall paved infrastructure), becomes easily congested.
3. The stem pattern of the thoroughfares forces a singular trajectory with longer, less direct travel because shortcuts are absent, thereby increasing the average length of a trip.

These three factors increase vehicle miles traveled (vmt).

Capture Rate: the measure of the number of vehicular trips that do not emerge from a sector (of mixed use) as a percentage of the number that would be expected (in conventional suburbia). The capture rate of a TND (Portsmouth, N.H., as studied by R.Chellman) can be as high as 40 percent. The high capture rate is one of the positive attributes of a TND. It must be noted that such capture rates are to be expected only in mature TNDs, which have adjusted their elements over a generation (19 years) at least.

Infrastructure: the supporting matrix that structures urbanism. **Vertical Infrastructure** consists of civic buildings and open spaces. **Horizontal Infrastructure** consists of thoroughfares and utilities. The needs for both types of infrastructure should be assessed in conjunction as public works, in contrast to the CSD preference for horizontal infrastructure which derives from the departments of transportation as independent specialized agencies.

Utilities: horizontal urban infrastructure, excluding transportation. Utilities include electricity, telephone, fiber-optic cable, gas, water, and sewer. While thoroughfares run within right-of-ways, which must be topologically inviolate, utilities run within easements which are permitted to overlap private lots, although buildings are not permitted to impinge upon them. The trajectories of utilities, being largely underground, originally consumed little space, but in the evolved practice of Conventional Suburban Development, utilities currently demand wide swaths to accommodate maintenance by vehicles. These putative requirements, together with an unwillingness to share trenches, militates against the short setbacks which are among the frontages essential to Traditional Neighborhood Development. The use of rear lanes and alleys, as well as common trenches for utility easements mitigates this problem and constitutes an additional justification for their presence.

Percée: a piercing. A straight thoroughfare retroactively cut through a complex and irregular urban fabric. This was the technique of Haussmann in Paris. If warranted by traffic patterns, it is infinitely more delicate than the complete eradication of neighborhoods that was typical of American-style redevelopment. Percées create interesting and useful adjacencies between two contrasting types of urban fabric, one at the scale of the city, the other at the scale of the neighborhood.

Roundpoint: a circular area at the meeting point of various pedestrian paths. A roundabout is the version that corresponds to vehicular traffic.

Traffic Circle/Roundabout: spatial devices for regulating traffic at an intersection, potentially without recourse to traffic signals.

Traffic Circle: an intersection with a large circular or oval central island. The traffic circle is usually a device of civic pride and may be very attractive, but its large radius can invite excessive speeds. Moreover, it may require traffic signals.

Roundabout: an intersection with a small circular or oval island. It is smaller than a traffic circle, and relies upon a highly specific regime of yield movements and its small radius to slow and organize traffic.

Patte d'Oie: a pattern of thoroughfares or garden paths where three radiate from a single point. Such convergences are useful to intensify traffic at the point of meeting and to share a civic feature as the termination of several thoroughfares. *Source: French term for goose foot. Syn: goose foot.*

Vehicle Miles Traveled (VMT): typically, the length in miles of personal travel per day. VMT is one measure of the effectiveness of balanced use as a measure of traffic mitigation. VMT is lower in TNDs than in CSD. Research has shown that increased population density and intermixing of different types of land uses (e.g. residential, and commercial), are associated with significant reductions in vehicle miles traveled and increased usage of transit and walking. *Sources: Frank 1996; Cervero 1988; Cervero 1995; Pushkarev and Zupan 1985; Spillar 1990; Handy 1993; Steiner 1996; Lutrac 1994.*

Typical & Atypical Truck Traffic: two grades of heavy vehicular traffic according to its frequency. Thoroughfares should be sized for the easy passage of typical traffic and not for the possible passage of atypical traffic.

Typical Truck Traffic: traffic consisting of moderately-sized delivery vans and garbage trucks.

Atypical Truck Traffic: traffic consisting of moving vans and emergency vehicles.

Concourse: a space designed primarily for purposeful or heavy walking. A concourse may be an elongated plaza, an interior lobby, a passage, or a specially detailed thoroughfare. A tree-covered concourse is an Alameda (from the Spanish Alamo or Elm tree) (*French: Cours, Italian Corso*) Syn: **Mall**.

Simultaneous Flush Theory: the technique of quantifying effects to accommodate the extreme eventuality. The term is an allusion to the outsize pipes that would be required for the contingency that all the toilets of a building may be flushed simultaneously – an unlikely event. It is equivalent to sizing a retail parking lot for the requirements of a Friday after Thanksgiving, or a road width such that a fire truck can pass two automobiles stalled in tandem. These patently unlikely situations are nevertheless the determinants of CSD standards. The elimination of such waste by rightsizing is a characteristic of TND. Syn.: **gold plating, padded standards**

Crosswalk: the axis where pedestrians cross a thoroughfare. The crosswalk is usually between sidewalks at the corners of blocks. Minimizing pedestrian crossing time by shortening the crosswalk distance is one of the techniques for the creation of pedestrian continuity. A large curb radius lengthens the crosswalk, which should be kept as small as possible in urbanized areas. See: **Pedestrian Continuity, Curb Radius**

Municipal Design Immunity: the procedures by which the modification of standards for road avoids liability:

1. by defining the goals of reducing vehicular speed.
2. by confining the modifications to the creation of lower-speed environments, which are intrinsically safer.
3. by making the modifications legislatively, not administratively.
4. by recording the reasons for the modifications and doing so consistently.
5. by monitoring and attacking any failures arising from the modifications. Following these procedures constitutes the legal opposite of negligence. *Source: Walter Kulash*

Life Safety Standards: standards required for those elements of the built environment which otherwise could harm the health or safety of the user. Conventionally, most life-safety standards operate at the scale of the building. At the scale of urbanism, planners consider only the requirements of emergency vehicles, which generally demand excessively wide thoroughfares and curb radii. TNDs, in contrast, take life safety into account for the daily use of the transport infrastructure by pedestrians, bicyclists, and automobiles. This daily use must be balanced against the rare and occasional use by emergency vehicles. Facilitating rather than accommodating emergency vehicles will usually create an unsafe condition for the majority of the time when emergencies are not in process. Overdesigned thoroughfares permit high speeds, resulting in death and injury more consistently than fires or medical emergencies.

Slope: the variation of ground level ranging from steep to shallow. Slope affects the layout of roads and the siting of buildings.

Ratrunning: commuters taking shortcuts through the network of residential thoroughfares. A danger of an open network system. Ratrunning can be mitigated by several techniques:

1. applying the end-grain of the blocks to the primary traffic direction;
2. applying more traffic-resilient building types to the thoroughfares most likely to be used;
3. breaking up the continuity of portions of the neighborhood's internal network;
4. implementing traffic-calming techniques that mitigate the speed of ratrunners, speed being the problem. Volume is only a problem in the event of an insufficiently permeable network.

Episodic Congestion: a predictable, short-term decline in the traffic level of service. Episodic congestion usually occurs at times of work-related commuting. Providing additional travel lanes for the short daily spikes of episodic congestion creates over-designed thoroughfares for the balance of the daily cycle. The less costly technique is to achieve balanced use. See: **Balanced Sector, Level of Service**

Traffic Congestion: the absence of traffic flow. Traffic congestion is the inevitable, unintended consequence of Conventional Suburban Development, even in low densities. This is caused by two factors: a sparse network of thoroughfares and a segregated land use pattern.

Balanced Sector: [tbd](#)

Intersection Curb Return Radius: the curved edge of a thoroughfare at an intersection, measured at the edge of the travel lanes (excluding the parking lanes, thereby increasing the effective measure at the sidewalk curb radius by 7 to 8 ft.). The effects of the size of the curb radius are variable. A smaller radius enhances pedestrian crosswalk convenience, while a larger radius eases traffic. Where thoroughfares of different categories intersect, the radius requirement of the larger usually governs.

Centerline Radius: the radius of curvature of a thoroughfare as keyed to the vehicular speed that can safely negotiate it. A large centerline radius permits higher speeds (550 ft. radius for 45 mph) and a smaller one hobbles speed (the chicane of traffic calming). Centerline radius is one of the attributes (along with curb radius, lane width, and on-street parking) that controls vehicular speed mechanically rather than by signage.

Intersection Turning Radius: the curved path traveled by a vehicle turning, including the clearances. The turning radius of an emergency or trash-collection vehicle determines the size of the thoroughfare system. In TND practice, the vehicle should in some cases be sized to the intended character of the thoroughfare rather than vice versa.

Single-Point Diamond: a type of grade-separated traffic intersection that is very compact in its geometry. It is not streamform, thereby permitting urbanization in close proximity. A single-point diamond permits six turning movements with a two-phase signal. This type of interchange, now uncommon, was widespread in the 1940s. Those that survive are still successfully in use.

Intersection Spacing: the distance between the crossing points of thoroughfares. Increasing the distance (eliminating crossings) usually benefits traffic flow by simplifying turning movements in perception and in reality. However, the elimination of intersections has several negative consequences:

1. it creates a dendritic system which increases the load on the fewer streets that intersect, thus rendering them less suitable for pedestrian activity.
2. it concentrates traffic along the few available cross streets, thereby creating long stacking columns, leading to longer traffic signal times, which tends to reverse the frontage of buildings.
3. it impedes the pedestrian ideal of the small block size.

Such intersection spacing is at odds with the higher connectivity required of the finely grained TND network.

Speed Limit: the control of maximum velocity of vehicular travel. Speed limit can be imposed administratively through signage, policing and punishment, or through the geometrics of thoroughfare design. The latter includes lane width, on-street parking, centerline radius, and curb radius. Geometrics are a more economical and more effective method of controlling the speed limit than signage.

Mobility: the ordinary movement of the population by any means. Traditional neighborhood development enhances mobility by means other than the automobile:

1. by reducing the distance of travel through proximity of mixed use.
2. by shaping the urban structure to support transit and bicycles.
3. by creating pedestrian continuity.
4. by shortening the travel distance through a highly connective network of thoroughfares.

Arterial: one of the thoroughfares of the conventional suburban hierarchy, taking its place in the dendritic pattern of highway - arterial - collector - local - cul-de-sac. The dendritic pattern substantially compromises traffic flow because:

1. It loads a large portion of the traffic on to the arterial system leaving the bulk of the paved infrastructure unused.
2. It lengthens the average trip.
3. It eliminates the choice of alternate routes.

The dendritic system, along with the absence of mixed use, is responsible for the high rate of traffic congestion of Conventional Suburban Development despite its extremely low density highway collector, local and cul-de-sac. Arterials approximately correspond in their capacity only to the TND system of highway, boulevard, avenue, street, and close. The TND system, however, underlies a set of more complex attributes best described as character.

Streamform: the family of forms derived from fluid mechanics. Streamform enhances the velocity of flow through streamlining. It is uncritically applied to the geometry of modern traffic engineering even where slower speeds are desired. This can only be explained as a formalist fetish, not unlike an architect's obsession. Specific techniques of streamforming are pork chops, canoes, deceleration lanes, etc. These are the converse of traffic-calming strategies such as chicanes and speed bumps. Traffic calming is unnecessary if the thoroughfares are correctly designed for their intended speeds. A secondary harm of streamform is that the resulting block shapes are often residual and difficult to use as building sites. See: **Speed Limit, Traffic Calming**

Tracking: the trajectory of the movement of a vehicle. The shape of the pavement surface may be independent of the tracking so long as it does not interfere with it. This permits greater flexibility in the design of the streetscape than with all elements along parallel lines within the overall width of the street.

Instead of taking the highway engineering requirements as the starting-point for layout, the arrangement of buildings and enclosure is considered first. The demands they generate should then be checked against the highway engineering needs. With this approach, buildings can be laid out to suit an urban form with pavements and curbs helping to define and emphasize spaces. The space between curbs can consequently vary to better accommodate all the functions of the street, including parking and pedestrians. With this approach, the curb line and the building line need not parallel the line of vehicle tracking. There is no need for the tracking zone to be separately defined with paint on asphalt. *Source: Department of the Environment & Transport, UK.*

Desire Line: the trajectory of a path that is beaten over time on a field. It is good practice to allow a desire line to be established before a path is paved in a park or other public open space. Geometrically drawn paths should be adjusted as desire lines appear over time, especially at intersections.

Off-Street Parking: a parking area located within a lot, generally to the rear of a building frontage, masking it from the public space.

On-Street Parking: a single line of parking located along the curb line of a thoroughfare accessible directly from a moving lane. On-street parking shall count toward the required parking ratio.

Building-side Parking: the requirement that parking be adjacent to the destination of the trip. An axiom that holds true only when the pedestrian experience is unpleasant, as it usually is in CSD. Within a TND there is seldom a need for building side parking, as the pedestrian experience is designed to be positive. To walk some distance (even several blocks) is presumed to be acceptable and even pleasurable. See: **Pedestrian**

Teaser Parking: a small amount of on-street parking which is highly visible, usually at the front of a building, signalling the location of a more substantial parking area hidden behind the building.

Parallel Parking: a pattern of parking where the vehicle is stored parallel to the curb line. Parallel parking permits a narrower street section and creates the most positive sidewalk experience of the possible patterns, but it requires a difficult manoeuvre and provides the lowest density per frontage foot.

Diagonal Parking: a pattern of parking where the vehicle is stored at an angle to the curb line. Diagonal parking creates the most negative sidewalk experience of the possible patterns, but it permits the easiest maneuver and provides a higher parking density.

Head-In Parking: a pattern of parking where the vehicle is stored orthogonal to the curb line. Head-in parking requires the widest street section and a dangerous maneuver backing out. This pattern provides the highest parking density.

Deck Parking: a specialized building type dedicated to parking in quantity by vertical stacking. Deck parking is usually required only at Core Zones. This building type is destructive to pedestrian quality. It should be assigned to the B-grid, unless masked by liner buildings, or provided with a habitable frontage at the ground level.

Surface Parking: parking located on the ground plane, displacing gardens and buildings. The public realm should be shielded from surface parking, although it may be reluctantly permitted in the B-grid.

Shared Parking: the policy wherein day/night and weekday/weekend schedules allow the parking to be shared by more than one use or building. When such multiple use is demonstrated, the planning department should reduce the required parking according to the amount of overlap.

The intention of shared parking is to provide the accurate amount of actual parking required, minimizing the possibility of providing too much.

Conventional parking demand is defined as the peak accumulation of parked vehicles generated by building use. Empirical evidence has been utilized to develop parking ratios for each different type of use. By dividing peak parking accumulation by floor area, or number of units, statistics have been generated by the Institute of Transportation Engineers (ITE), National Parking Association (NPA), and Eno Foundation for Transportation. They are used to establish parking requirements for various land uses in ordinances.

Such parking ratios, developed for segregated land uses, are calculated to account for the maximum level of demand. But many additional factors influence parking demand at mixed-use projects, including type, intensity, and mix of the land use, quality of the pedestrian environment, location of parking places, parking fees, availability of alternate modes of transportation, and income level of the population.

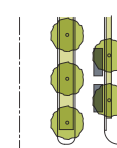
The parking demand generated by a mixed-use project can be significantly over-supplied if each land use must provide its own parking as if it were separate. This occurs for three reasons:

1. the activity patterns of different uses result in variations of peak accumulation by time of day, day of week, or season of the year, and places can then be overlapped. The peak hour for parking on weekdays generally occurs at mid-afternoon, around 2:00 PM. The overall peak hour for parking on weekends is expected to occur in the early evening around 7:00PM.
2. several uses are often patronized when they are in proximity to each other so that fewer places are consumed for the same amount of activity. This is called a park-once environment.
3. transit, walking, and use of bicycles, reduce the reliance on the automobile and its parking, particularly among project residents.

There are secondary benefits to utilizing shared parking. The elimination of areas of unnecessary parking allows the development of other uses, such as open space or a higher intensity of land use.

A shared-use analysis involves the following process: the parking is initially calculated on a block by block basis, then extended to other blocks based on the level of pedestrian connectivity. This shared parking calculation may represent a 34% reduction in parking need from that required by concurrent requirements. *Source: Carl Walker, Inc.*

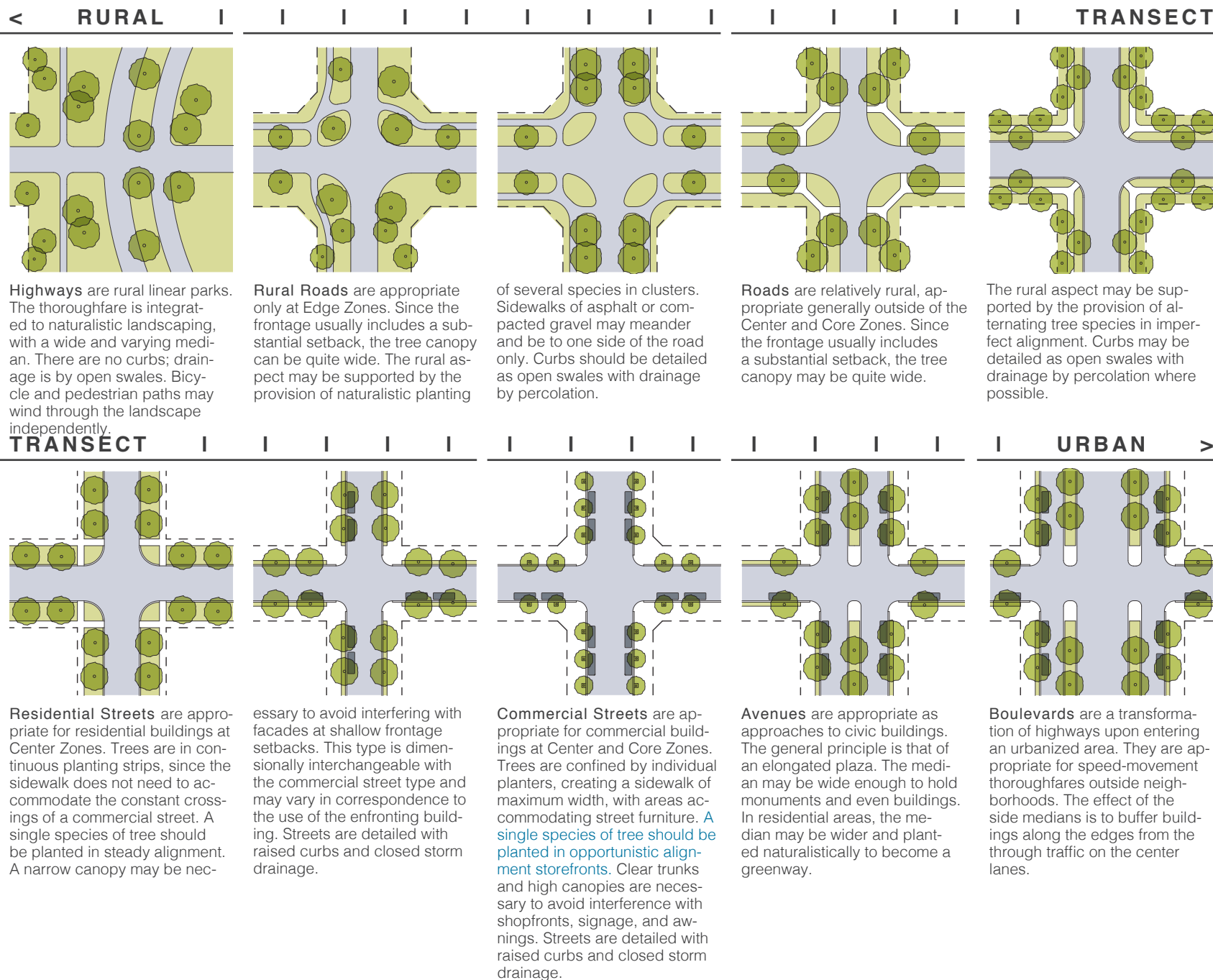
Boulevard



7.1

Streetscape: an assemblage of landscape, walks, and curbs between the lot line and the vehicular lanes. A streetscape is quasi-independent of the width and capacity of the vehicular lanes.

While thoroughfares would seem to be primarily for vehicles and open space primarily for pedestrians, such categorization tends to erode the social function of the public realm. Thoroughfares are the most common public space and, as such, require careful characterization by the streetscape. Open space, to be effective, must be designed with the appropriate landscape.



Public Frontage: the section of the right-of-way between the lot line and the vehicular lanes; also called a "pedestrian way". The public streetscape should be conceived integrally with the private frontage, sharing a continuous landscape and, in the case of the commercial street, a contiguous, seamless sidewalk.

Coordination: There are many types of frontages and streetscapes. Only certain of these serve to effectively define a public realm. When culled by the discipline of urbanism, the great number drops to a very few. While this determination may seem to represent an unnatural reduction of possibilities, these few are sufficient to the great cities, towns, and villages of the world in all their variety. When embedded as options in a code, these few frontages represent an expansion of the available options, which in the practice of conventional suburbia is usually limited to the 25 ft front yard.

Note: Frontages are independent of building type. For example, a rowhouse type may have as its frontage a stoop, a dooryard, or a porch. However, discretion is necessary in the combination. As discretion cannot be assumed in the design process, the acceptable combinations should be controlled by code.

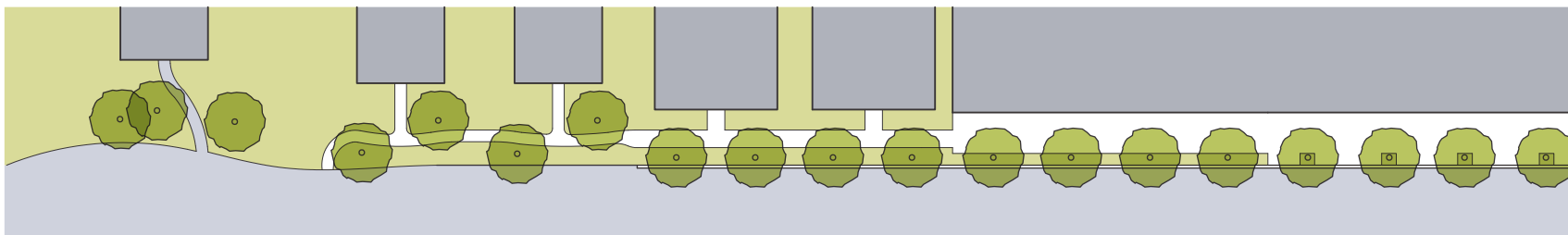
While CSD assigns thoroughfares primarily to vehicular use and Civic Spaces to private use, such categorizations tend to erode the social function of the public realm. Thoroughfares are the most common public space and as such, require careful detailing of the streetscape; for open space to be effective, it must be designed with the appropriate landscape.

T1-T2 RURAL

T3 SUB-URBAN

T4 GENERAL URBAN

T5-T6 URBAN CENTER & URBAN CORE



Rural Road: a very rural condition, which comprises a road with open swales drained by percolation and no separate pedestrian path. Street trees consist of multiple species composed in clusters. This type is suitable within Rural and Edge Zones, especially when serving estate lots.

Road: the next most rural condition, which comprises a road with open swales drained by percolation and an informal walking path or bicycle trail along one side. The street trees consist of multiple species composed in clusters. This type is suitable within Edge Zones.

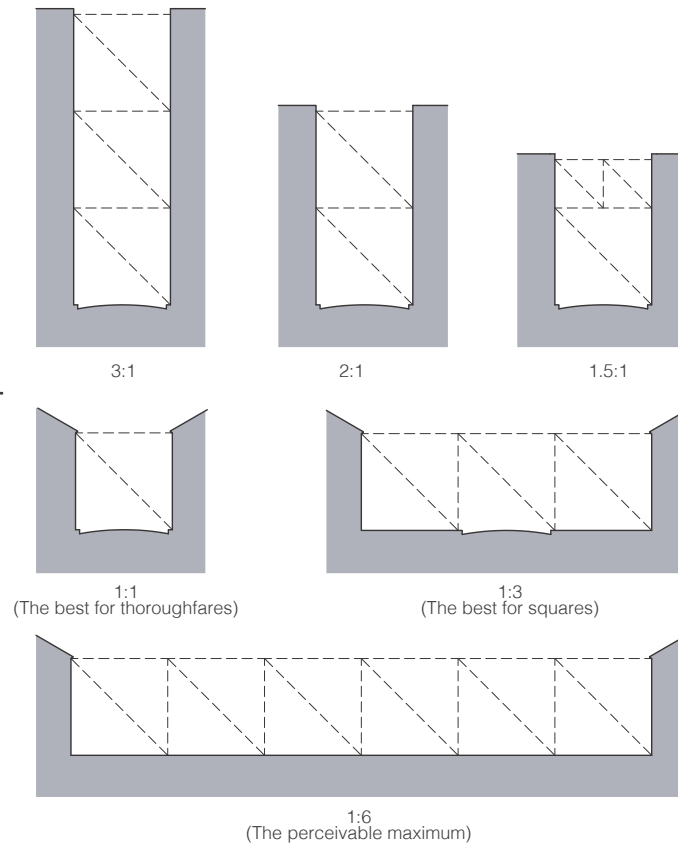
Residential Street: a generalized condition, which comprises a street drained by inlets in raised curbs. Narrow sidewalks along both sides are separated from the thoroughfare by a wide, continuous planter. The street trees consist of single or alternating pairs of species aligned in a regular allée. The trees of the front yard should be of compatible species. This type is suitable within General Zones, especially when enfronning house and cottage lots.

Residential Street: a typical urban condition, which comprises a street with raised curbs drained by inlets. A narrow, continuous planter separates wide sidewalks along both sides from the thoroughfare. The street trees consist of a single species aligned in a regular allée. This type is suitable within Center Zones, especially when enfronting rowhouse and apartment lots.

Commercial Street: a very urban condition, which comprises a street with raised curbs drained by inlets. Wide sidewalks along both sides are separated from the thoroughfare by small separate treewells. The street trees consist of a single species aligned in a regular allée. This type is suitable within Center and Core Zones, especially when serving shop-front lots. The tree spacing should be irregular, to stay clear of the entrances of the shops.

Sense of Place: a highly desirable but elusive attribute of urbanism. Its existence is notoriously unpredictable in conventional suburban design but common in traditional urban fabric. An effective sense of place is created by a judicious assemblage of a set of interdependent elements. These include building type and function, private frontages, and public streetscapes. The codes of Traditional Neighborhood Development are conceived towards the creation of a sense of place.

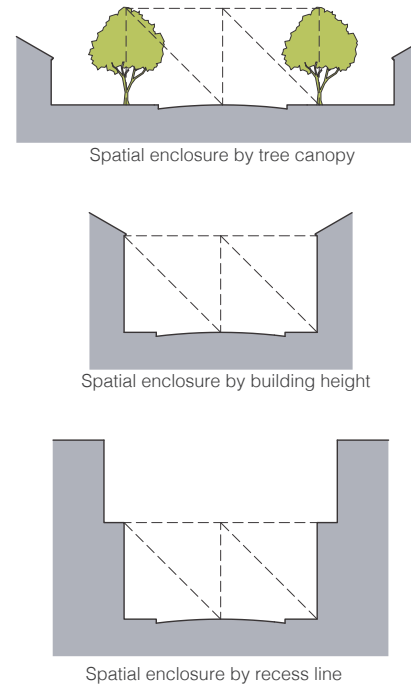
SPATIAL DEFINITION BY HEIGHT-TO-WIDTH RATIO



Spatial Definition: the fabric achieved when enfronting facades are aligned in a coherent manner and the defined space does not exceed a certain height-to-width ratio.

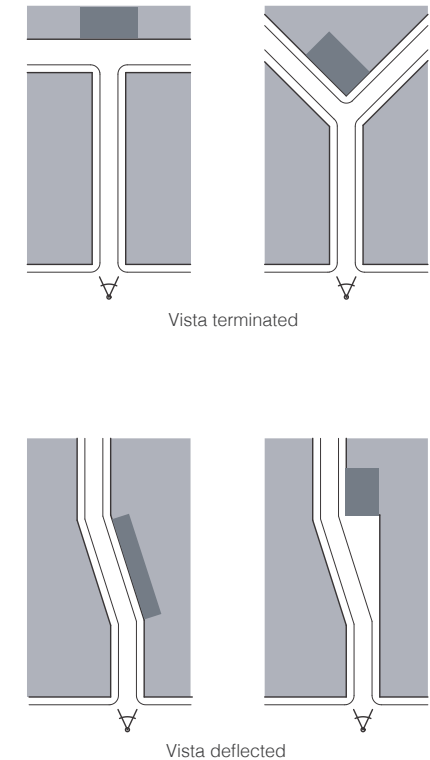
Height-to-Width Ratio: the proportion of spatial enclosure related to the physiology of the human eye. If the width of space is such that the cone of vision encompasses less street wall than open sky, the degree of spatial enclosure is slight. As a general rule, the tighter the ratio, the stronger the sense of place and, often, the higher the real estate value. See: **Sense of Place**

SPATIAL DEFINITION IN SECTION



Spatial Enclosure: the physical definition of thoroughfares and open spaces contributing to a sense of place. It is shaped, as an outdoor room, by walls of buildings: their facades. Controlling the degree of enclosure is one of the principal variables in the creation of an urban-to-rural Transect. Enclosure is adjusted through the selection of frontage types or by a build-to line specifying the minimum building frontage and the minimum building height. It can also be extended on very wide thoroughfares by aligning regularly-spaced trees to provide spatial enclosure by tree canopy.

SPATIAL DEFINITION IN PLAN



Terminated Vista: a location at the axial conclusion of a Thoroughfare. A building located at a Terminated Vista designated on a New or Infill Community Plan is required to be designed in response to the axis. It is usually acceptable for a vista to be deflected by an angle of the thoroughfare until a suitable termination edifice can be erected. As a rule, the termination or deflection should occur with 1000 feet of any vantage point, as architectural detail beyond that distance is usually ineffective. Syn.: **street picture**

Deflected Vista: a vista terminating on a feature that deflects towards another trajectory. When one approaches that feature, the next vista should open up, rewarding exploration.

Drainage: the method of evacuating rainfall from a paved area. The choice of drainage technology has implications for the cost and character of the streetscape. A drainage system closed by raised curbs is more urban and costly than an open section with swales. When permitted by certain subsoil conditions, runoff treated by infiltration is environmentally superior to a closed, storm water system with treatment at a plant. It is also less expensive. Not all drainage must be calibrated to the maximum eventuality.

Open Swale: a component of an open drainage system that acts by infiltration through the soil. A swale is a linear depression on the ground adjacent and parallel to a road, creating a rural streetscape.

Closed Curb: a curb that channels water to a sewer inlet.

Tree Spacing: the distance between street trees along thoroughfares or within an open space. Tree spacing may vary as follows:

1. **Circumstantial Allée:** the syncopated placement of street trees, coinciding with the entrances and composition of adjacent facades. This type is necessary to accommodate the complexity of commercial frontages.
 2. **Regular Allée:** the evenly spaced placement of street trees, independent of the composition of adjacent facades. This type is suitable for the more urban residential frontages.
 3. **Double Allée:** the even spacing placement of street trees in two adjacent rows, forming a canopy over the pedestrian way. This is suitable for the sidewalks of boulevards and avenues, and also to shelter paths. Variants: Triple or Multiple Allées
 4. **Clustered Allée:** the naturalistic placement of street trees in supporting the natural landscape. This is suitable for rural frontages.
 5. **Naturalistic Spacing:** trees spaced to give the appearance of natural dispersal. This generally requires clumping and may require some mounding of the ground to justify the clumping visually. The trees should usually be of different species.
-

Streetscape: the combination of planters, sidewalks, street trees, and streetlights. The streetscape, in combination with the building frontage and the vehicular way comprises the urban public realm.

Vehicular Way: the surface dedicated to the circulation and parking of vehicles. TND practice endeavors to minimize paved area, which harms the environment by preventing recharge.

Right-of-way (ROW): the composite public area dedicated to circulation, including the vehicular way and the streetscape. A secondary function is to vector utilities and drainage corridors; but it is advisable to implement such dedications as easements, which are more flexible as they are permitted to overlap private lots.

Easement: a right granted by one property owner to allow another property owner to use land for a limited purpose. The owner does not give up the full bundle of rights, but only those necessary for the purpose. An easement may be granted for any reason, but it is usually granted for maintenance, for the passage of utilities, or for the enjoyment of wildlife.

~~**The B's:** bollards, benches, bricks, banners and bandstands. The five devices of streetscape furnishing commonly recommended for the redevelopment of commercial streets. They are largely ineffective and, indeed, tend to be counterproductive, distracting the customer from the storefront, which should be the undivided focus of attention. See: **Advice to Merchants:** tbd~~

Light Pollution: excessively high levels of street lighting which obfuscate starlight, fluster animals, and generally discomfit the human retina. CSD lighting is typically calibrated for crime prevention. This strategy is counterproductive, as the unpleasant luminosity repels the casual pedestrian whose potential presence is, in fact, the informal police. See: **CPTED Crime Prevention Through Environmental Design**

Eyecatcher: a feature placed on a distant place to add character or to provide a memorable element as tool for orientation. Syn.: **Wienie** Source: *Disney*

Incident: a feature along a route. The systematic design of incidents is an important instrument of orientation within an urban or landscape fabric.

Prospect: a location affording a wide, panoramic view, (as opposed to the narrow, framed view of a vista). Public prospects should be created where the urban fabric blocks views of mountains, valleys, golf courses, and waterfronts. The provision of prospects will enhance the value of all building in depth from the first echelon.

Axial: a composition or plan centered along a straight line. At the urban scale, terminated vistas are usually framed by an axial foreground defined at the edges by building or landscaping.

Vista: a deliberately controlled view focused on a scene, narrowly framed by trees or buildings. A vista assumes the location of the spectator at a specific vantage point.

Vantage Point: See: **Vista**

Compartment: a distinct place, within an open space. Urban parks for multiple user groups should be compartmentalized accordingly.

Exedra: a semicircular backdrop, creating a space or terminating an axis. An exedra may be defined by a bench, a garden wall, trees, or a hedge. An exedra is the open space equivalent of an apse on a building.

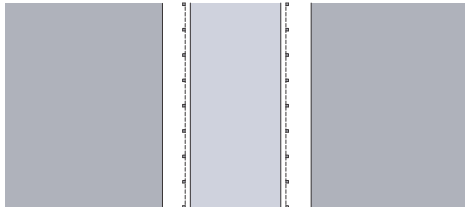
Building Articulation: an event in the massing of a building in plan or in silhouette. The articulation of a building should be determined primarily as a response to its specific location within the urban fabric, particularly at terminated vistas or as otherwise designated in a regulating plan. In the absence of such specific determinants, in general, building articulation should take place at the corners of the urban block and at the building entrances.

Frontage: the area between a Building Facade and the vehicular lanes, inclusive of its varying built and planted components. Frontage is divided into Private Frontage and Public Frontage. See: **Streetscape**

The combination of the private frontage, the public streetscape, and the types of thoroughfare defines the character of the majority of the public realm. The combination of elements constitutes the layer between the private realm of buildings. It ranges in character from urban to rural as a function of the composition of their elements. These elements influence social behavior.

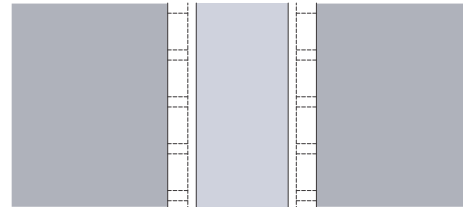
	SECTION	LOT	ROW	PLAN	LOT	ROW	
							T6 URBAN CORE
Gallery & Arcade: a Private Frontage conventionally for Retail use wherein the Facade is a colonnade that overlaps the Sidewalk, while the Facade at the Sidewalk level remains at the			Frontage Line. An easement for private use of the right-of-way is usually required. To be useful, the arcade should be no less than 12 ft wide.				
							T5 URBAN CENTER
Shopfront & Awning: a facade is aligned close to the frontage line with the entrance at sidewalk grade. This type is conventional for retail frontage. It is commonly equipped with cantilevered shed roof or an awning. The absence of a raised ground story precludes residential use on the ground floor, although this use is appropriate above.			levered shed roof or an awning. The absence of a raised ground story precludes residential use on the ground floor, although this use is appropriate above.				
Stoop: a Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance. This type is suitable for			ground-floor residential uses at short setbacks with rowhouses and apartment buildings. An easement may be necessary to accommodate the encroaching stoop.				
Forecourt: a facade is aligned close to the frontage line with a portion of it set back. The forecourt created is suitable for gardens, vehicular drop-offs, and utility off-loading. This type should be used sparingly and in conjunction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.			junction with the two frontage types above, as a continuous excessive setback is boring and unsafe for pedestrians. Trees within the forecourts should be placed to have their canopies overhanging the sidewalks.				
							T4 GENERAL URBAN
Dooryard & Light Court: a private Frontage type with a shallow setback and front garden or patio usually with a low wall at the Frontage Line.			This type effectively buffers residential quarters from the sidewalk while removing the private yard from public encroachment.				
							T3 SUB-URBAN
Porch & Fence: a facade is set back from the frontage line with an encroaching porch appended. The porch should be within a conversational distance of the sidewalk, while a fence at the frontage line maintains			the demarcation of the yard. A great variety of porches is possible, but to be useful, none should be less than 8 ft wide.				
							T2 RURAL
Common Lawn: a facade set back substantially from the frontage line. The front yard thus created should remain unfenced and be visually continuous with adjacent yards. The ideal is to simulate buildings sitting in a common rural landscape. A front porch is not warranted, as social interaction from the encroaching thoroughfare is unlikely at such a distance. Common Lawns are suitable frontages for higher-speed thoroughfares, as the large setback provides a buffer from the traffic.			ed, as social interaction from the encroaching thoroughfare is unlikely at such a distance. Common Lawns are suitable frontages for higher-speed thoroughfares, as the large setback provides a buffer from the traffic.				
							D DISTRICT
Slip Lane: a facade no more than 80 ft from the right-of-way. Parking is placed within the first layer. Private sidewalks are provided between the public sidewalk and the building entrances. The parking and private sidewalk system are landscaped to provide shade and shelter and a streetwall buffer. Appropriate transit stops are provided along the frontages, directly linked to the private sidewalk system.			vate sidewalk system are landscaped to provide shade and shelter and a streetwall buffer. Appropriate transit stops are provided along the frontages, directly linked to the private sidewalk system.				

GALLERY & ARCADE



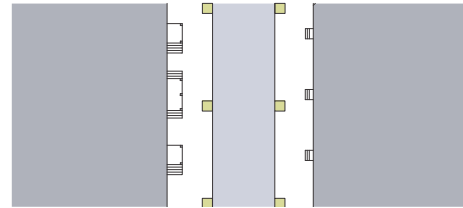
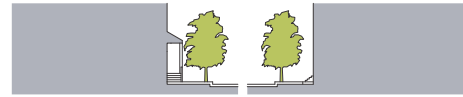
A Private Frontage conventionally for Retail use wherein the Facade is a colonnade that overlaps the Sidewalk, while the Facade at the Sidewalk level remains at the Frontage Line. An easement for private use of the right-of-way is usually required. To be useful, the arcade should be no less than 12 ft wide.

SHOPFRONT & AWNING



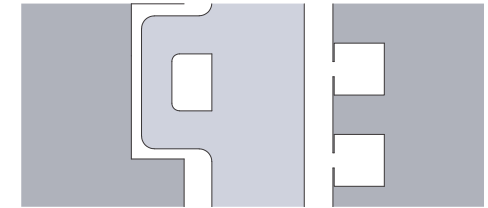
A Private Frontage conventional for Retail use, with substantial glazing and an awning, wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade.

STOOP



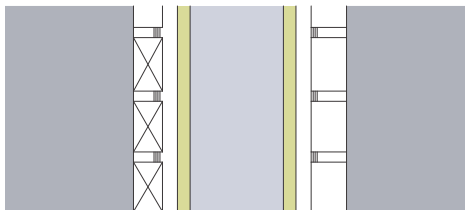
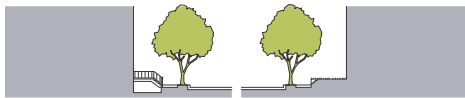
A Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance.

FORECOURT



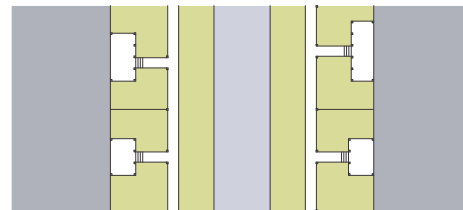
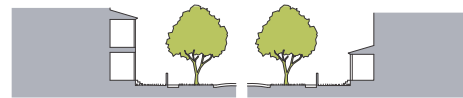
A Private Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back.

DOORYARD & LIGHT COURT



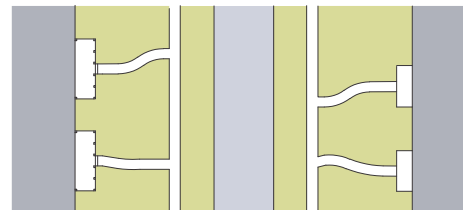
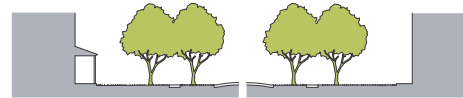
A Private Frontage type with a shallow setback and front garden or patio usually with a low wall at the Frontage Line. The light court can give light and access to a habitable basement.

PORCH & FENCE



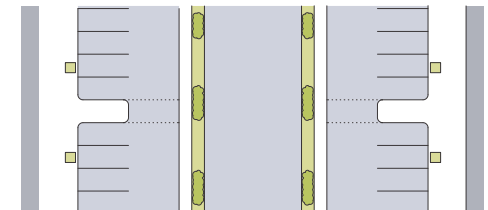
A facade is set back from the frontage line with an encroaching porch appended. The porch should be within a conversational distance of the sidewalk while a fence at the frontage line maintains the demarcation of the yard. To be useful, the porch should be no less than 8 ft wide. There is a great variety of porches.

COMMON LAWN



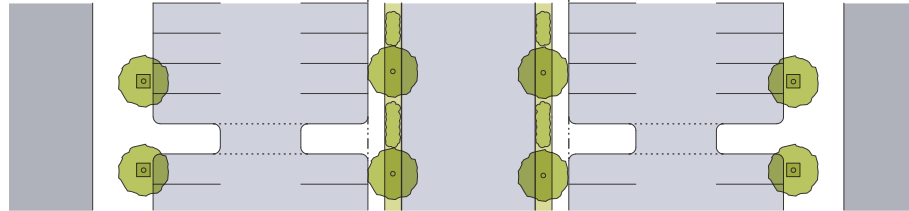
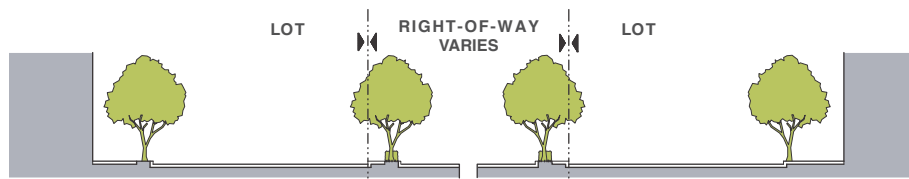
A planted Private Frontage wherein the Facade is set back from the Frontage line. It is visually continuous with adjacent yards.

SLIP LANE

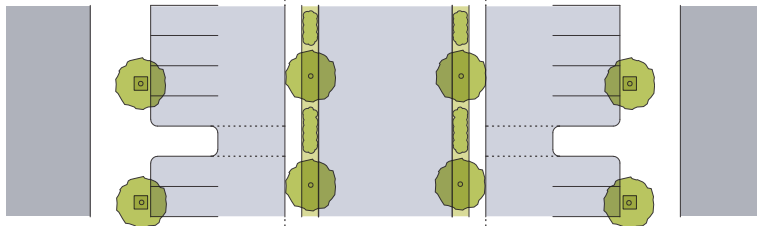


A facade no more than 80 ft from the right-of-way. Parking is placed within the first layer. Private sidewalks are provided between the public sidewalk and the building entrances, and between connecting buildings. The parking and private sidewalk system are landscaped to provide shade and shelter and a streetwall buffer. Appropriate transit stops are provided along the frontages, directly linked to the private sidewalk system.

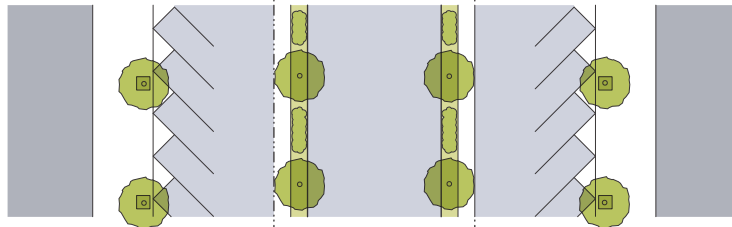
SLIP LANE ALTERNATIVES



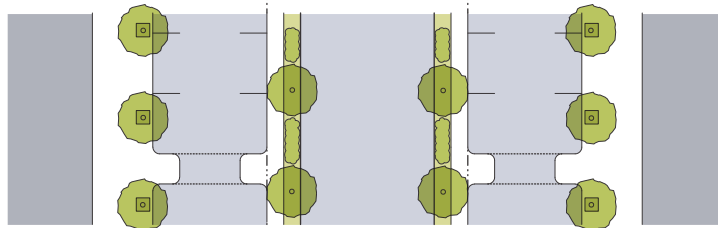
Double Head-in Parking



Head-in Parking



Diagonal Parking



Parallel Parking

Retail Frontage: certain frontage lines designated for mandatory or recommended retail on the regulating plan. These facades are subject to special adaptation for retail use at the ground story.

Arcade Frontage: certain frontage lines designated for a mandatory or recommended arcade on the ground story. The arcade width is measured as a percentage of the lot width. The depth is measured back from the building facade. The height is measured from the sidewalk to the ceiling of the arcade.

Pedestrian Frontage: the frontage as experienced by the pedestrian, as determined by the buildings alongside. Pedestrians respond in a variety of ways to the experience of passing by specific ground-floor frontages. The most likely to please pedestrians are storefronts, followed by porches, fenestrated walls, and deep landscaped yards. All of these are appropriate and should be enabled by code. The frontages most repellent to pedestrians are, in order of bad to worse: garage doors, blank walls, open parking lots, unbuffered parking structures, under-building parking, and open service areas. These should be minimized by code or relegated to the B-grid. See: **tartan grid**, **triage**

Streetedge: a masking structure stretching along the frontage line or co-planar with the facade, designed to remedy a gap of spatial definition or to mask parking. A streetedge shall consist of one or a combination of the following: a solid masonry streetwall, matching the finish of the principal structure; a fence not less than 50% opaque; or a dense hedge.

Streetwall: a solid masonry wall, independent of a building, located along a frontage line. A street wall defines the public streetscape in the absence of the building facade to mask parking or noxious use. Street walls are usually built of materials matching the building on the site. In crime-prone urban locales, the height of the streetwall should be controlled to a maximum of 4.5 ft or be permeated by a metal grille. Tall streetwalls may be made acceptable to the principles of pedestrian continuity by the provision of niches, trellises, and planting. See: **fence**

Alignment: the condition of building facades cooperating to define open space in much the same way as walls define a room. An excessive number of appendages such as porches, balconies, bay windows, and loggias may obliterate the primary surface of the facade, destroying the alignment.

Setback: the area of a Lot measured from the Lot line to a building Facade or Elevation that is maintained clear of permanent structures, with the exception of Encroachments such as open porches, balconies and bay windows.

Build-To Line: a line appearing graphically on the regulating plan or stated as a setback dimension, along which a facade must be placed, usually a designated minimum of the lot width. A build-to line is a more precise tool than a setback or a frontage line as it permits the definition of variable setback for courts, chaffers, etc.

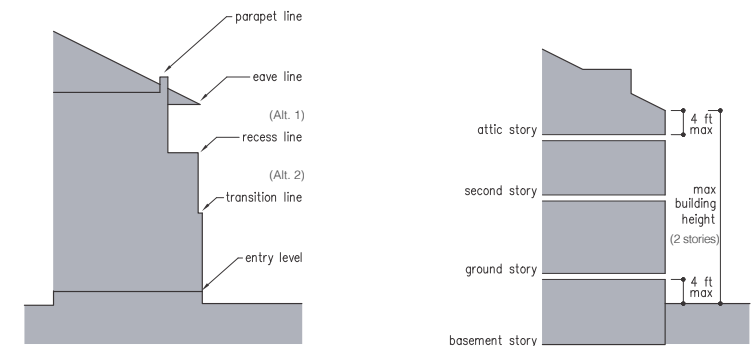
Front Setback: the distance between a frontage line and a facade. This distance is given as a minimum or as a requirement (a build-to line). Open porches, balconies, stoops, chimneys, and bay windows are permitted to encroach into the front setback.

Side Setback: the distance between the side lot line and an elevation of the building with the exception of roof overhangs. This distance is given as a minimum. Open porches are not permitted to encroach on the side setback.

Rear Setback: the distance between the rear lot line and any portion of a principal building. This distance is given as a minimum. A backbuilding and an outbuilding are permitted to encroach the rear setback.

Yard: the portions of a lot which, following the prescriptions of the urban regulations, remain free of structures, except that streetwalls, porches, terraces, and decks may be specifically permitted to encroach upon them.

Lot Coverage: the maximum area of a lot that may be occupied by a structure. Lot coverage is expressed as a ratio. Arcades, open porches, decks, terraces, and stoops are excluded from the calculation.



Building Height: the limit to the vertical extent of a building; the height of a building, generally measured in stories. For the purposes of calculation, the maximum height of a story shall be 13 ft clear. Raised basements and attics inhabited within the sloped roof shall not count against the height limit. The building height may be prescribed as a maximum number of stories or as a dimension from the sidewalk grade to a point on the facade (such as the ceiling of an arcade, a cornice line, or an eave line.) The height limit should not apply to masts, belfries, clock towers, cupolas, chimneys, machine rooms, or similar structures. Towers, defined as portions of buildings with a lot coverage of less than 250 sq ft should not be subject to the height limit.

Building height may be determined by an assigned unit of measurement (e.g. 45 ft) or by a designated number of floors. The former technique is more precise if the intention is to achieve a shared cornice line in the manner of Washington. The disadvantage of the method is the propensity to pack as many floors as possible within the designated measure, thereby lowering the interior ceilings. When measuring numerically, under no circumstance should the height be measured to the highest point of the roof pitch as this tends to lower the pitch and to flatten the building. The latter technique of designating the number of stories encourages ceiling heights to be variable and indeed higher. The resultant streetscape is inevitably quite varied as seldom do two buildings reach exactly the same point on their heights. Determination of building height should follow various

criteria: 1. The desired height/width ratio of enfronting public space. 2. The general density floor area ratio (FAR) intended, although the controlling factor is usually the provision of parking. Building height, when measured in stories, should exclude the raised basement and the habitable attic for maximum story calculation. These elements are visually positive and increase density without an appreciable effect on the visual size of buildings.

Special Building Heights: the minimums and maximums marked along each frontage line on the Regulating Plan. Those heights so marked are exceptions to the general prescriptions given by the Urban Standards.

Entry Height: the maximum or minimum vertical dimension from the sidewalk level measured from the midpoint of the lot frontage to the entry floor of a building. Garages and outbuildings are exempt from this requirement.

Story Height: a habitable level within a building serving to define the building height. The floor-to-ceiling height shall be limited to 14 ft to preclude the insertion of mezzanines.

Porch, Arcade, or Balcony Height: the maximum or minimum distance from the sidewalk at the midpoint of the lot frontage to the ceiling of a porch or arcade or to the base of a balcony.

Streetedge Height: the permissible range of distances from the sidewalk at the midpoint of the lot frontage to the top of a fence or streetscape.

Cornice Line: an element of architectural expression approximately at the top of a flat-roof building. The cornice completes the composition of the urban building in conjunction with the expressed base, which is toward the bottom. The cornice, unlike the coping or the eave, is a visual rather than a utilitarian device.

Recess Line: a line prescribed for the full width of a facade, above which the facade is set back a minimum distance. The distance must be such that the recess line, and not the overall building height, effectively defines the enclosure of the enfronting public space. Its height on the facade may be determined by the desired height-to-width ratio of the enfronting space. The recess line permits greater overall building height than would be otherwise determined by desired density or access to view.

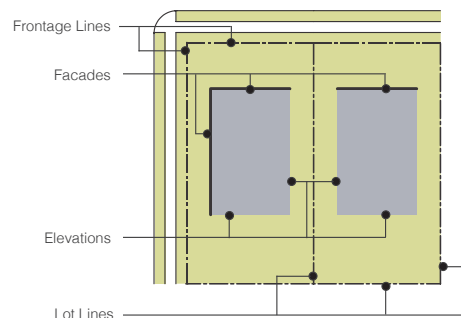
Parapet Line: a continuous horizontal projection at the top of the parapet for the majority of a facade. The parapet, like the eave line, is a designated location for the measure of building height.

Eave Line: the bottom line of the eaves. For regulatory purposes, it means a horizontal line on the facade or elevation level with the eaves.

Transition Line: a line prescribed for the major part of the width of a facade, generally just above a storefront, expressed by a variation of material or by a limited projection such as a molding or a balcony. The transition line divides the facade, permitting shopfronts and signage to vary over time without destroying the overall composition of the facade.

Extension Line: a horizontal line below which a building easement into a thoroughfare can be built. If the building has a gallery or an arcade extending into the public right-of-way, then the gallery or floors above the arcade may extend the right-of-way up to the Extension Line.

FRONTAGE



Frontage: the area between a Building Facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into Private Frontage and Public Frontage. Syn.: **Front Facade Zone** Source: UDA

Elevation: an exterior wall of a building not along a Frontage Line.

Facade: the exterior wall of a building that is set along a Frontage Line. Facades define the public space and are subject to requirements additional to those of elevations such as architectural standards, assigned frontage types, and height restrictions.

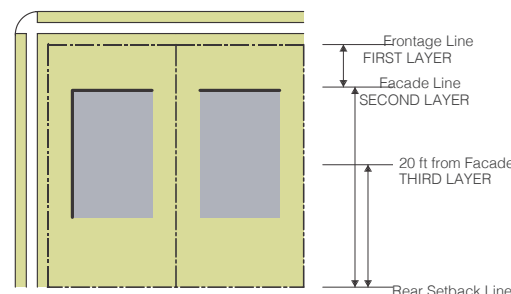
Frontage Line: a Lot line bordering a Public Frontage. Facades facing Frontage Lines define the public realm and are therefore more regulated than the Elevations facing other Lot Lines. Frontage lines are assigned only along thoroughfares that are designed to attract and sustain the interest of pedestrians. Other Thoroughfares assigned secondary or support functions are exempted from frontage requirements. See: **A-Grid; B-Grid**.

Lot Line: the boundaries that legally and geometrically demarcate the edges of parcels held in private ownership and intended primarily for the construction of buildings. Such lines appear graphically on the Regulating Plan for coding purposes. Codes reference lot lines as the baselines for measuring setbacks.

Lot: a separately platted subdivision of land held privately, usually intended for the purposes of building.

Tract: a separately platted subdivision of land held in common, usually a right-of-way or a public open space. These tracts are intended for the construction of civic buildings or for development as open space in the form of Plazas, Squares, Parks or Greens. Tracts are to be held, developed, and maintained by the municipal government or a civic organization.

PARKING LAYER



Parking Layer: the area of a lot measured in depth from a frontage line behind which open parking is permitted. The first layer is the area between the frontage line and the facade line. The second layer is the area between the facade line and 20 ft from the facade. The third layer is the area that begins 20 ft behind the facade line and continues to the rear lot line.

Frontage Width: the measure of the lot line that coincides with the right-of-way of a thoroughfare. In a corner condition, the frontage width is measured at the more important of the two thoroughfares. Urban Regulations specify a minimum percentage of frontage width that must be built upon by a facade or streetwall. This device controls the degree of spatial definition of a thoroughfare. The percentage increases towards the more urban end of the transect.

Lot Width: the dimension of the frontage line. The lot width includes the flankage along the side of a corner lot.

Porch Width: the required minimum dimension of a porch or arcade measured as a percentage of the lot width.

Porch Depth: the required minimum dimension of a porch or arcade measured from the facade toward the frontage line.

Pedestrian Continuity: pedestrian trajectories that fulfill most of the following requirements:

1. The trajectory must have a destination, and that destination should be useful or in some way rewarding.
2. The destination should be accessible within a pedestrian shed, or it may consist of a concatenation of such increments.
3. The trajectory should be logical, continuous, and provided with shortcuts wherever possible.
4. The trajectory should be along frontages and streetscapes that are spatially defined and interesting, avoiding parking lots. Continuous landscaping is not an adequate frontage.
5. The trajectory should be temperate, shaded when hot and wind-shielded when cold.
6. The trajectory should be shielded from traffic by parked cars.
7. The trajectory should be safe, overlooked by windows. Paths through greenways are often perceived to be unsafe.

Station: a designed point for viewing along a promenade. Syn.: **vantage point**

Promenade: a controlled pedestrian sequence designed to be aesthetic, as opposed to an itinerary, which is a controlled sequence without such ambition. A promenade is usually a sequence within a park, sometimes along a waterfront. A promenade within a building is a marche. Source: from *the French*, a walk without utilitarian purpose.

Building Type: an artifact intended for a specific use, having become a carrier of meaning through familiarity. A type is defined by certain constants; with buildings, these are three: function, disposition, and configuration. These constants result in a predictable socioeconomic performance. For example, a row-house provides a relatively affordable dwelling place while creating urban character.

Building types are most easily defined by their various relationships to their lots, expressed as the residual yard. There are four general categories of building types, according to their dispositions: Edgeyard, Sideyard, Rearyard, and Courtyard. These dispositions are able to accommodate all the common residential and commercial programs. The specialized category accommodates exceptional types in Districts.

< **RURAL** | | | | | | | | | **TRANSECT** | | | | | | | | | **URBAN** >

T1-T2 RURAL

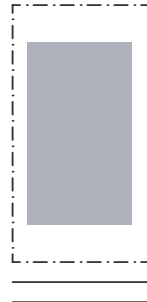
T3 SUB-URBAN

T4 GENERAL URBAN

T5 URBAN CENTER

T6 URBAN CORE

SD SPECIAL DISTRICT



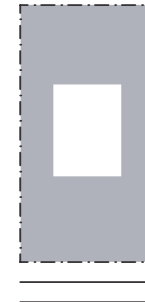
Edgeyard: a building that occupies the center of its Lot with setbacks on all sides. These are typical of sub-urban and rural zones.



Sideyard: a building that occupies one side of the lot with a Setback on the other side. This type can be freestanding, as a Charleston Single, or attached to a common wall. Syn.: **zero lot line**



Rearyard: a building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. Variants include Rowhouses, Townhouses, and Apartment Houses.



Courtyard: a building that occupies the boundaries of its lot while internally defining one or more private patios. This is the most urban of building types as it is able to shield the private realm from all sides. This type is more common in hot climates, but is useful everywhere. Because of its ability to accommodate incompatible activities in close proximity, the Court Yard type is recommended for workshops, lodging, and schools. The high security provided by the boundary definition is useful for crime-prone urban cores.



Specialized: a building that is often not subject to typological categorization. Buildings dedicated to manufacturing and transportation, such as factories or airports, are often distorted by the trajectories of machines. Civic buildings, which must express the aspirations of institutions, may also be exempt from the discipline of type. Certain communal residential types, such as hospitals and cohousing, may evolve unprecedented types. Such specialized buildings, where not envisioned by code, may be permitted by exception in special districts.

EXCLUSIVELY RESIDENTIAL BUILDINGS

Apartment House: Conventional apartment building with parking underground or in the rear. These are preferable as vertical entry buildings (2, 4 or 6 units per floor) rather than as continuous hallway buildings, as the scale of the smaller building yields a better urban fabric that is more compatible with houses and other mixed use. The trick here is to avoid the requirement of contiguous clustering of the type in the minimum of hundreds of units.

Double Decker: Buildings with two apartments, stacked one on top of the other. One may be a primary dwelling and the other an income producing property. At corner locations each can have its own entry frontage. These were common as self-sustaining affordable housing for immigrants.

Duplex or Triplex: Two or three small units sharing a lot, each with its own yard. These units can be either attached or detached and either beside or behind one another. These exist as income producing properties, usually illegally, throughout poor neighborhoods.

House & Townhouse with an Accessory Building: A conventional building with the addition of a detached outbuilding or an attached backbuilding in the rear. These premises are available for home occupations or as accessory rental units. Accessory buildings with a kitchen and a separate bedroom at about 400 square feet typically generate up to \$900 a month. Both Kentlands and Seaside have quite a few of these units with accessory buildings.

Green-fronting Townhouses: Conventional attached types on small lots with a shared enfronting square, green or close in condominium association. A variant to the open space is a shared area within the inner block, usually a playground. The trick here is to have the common open space rated in the appraisal.

Bungalow Court: Small detached, 1-2 bedroom cottages each with their own yard. These are usually developed set back from the street in clusters of 4 to 8. They share a common walkway and sometimes also a common parking pad, forcing a condominium association. This is an excellent type for starter and retirement segments. The trick here is to establish guidelines for houses which do not require the 2.5 bath, 3 bedroom with garage convention.

The Inn: A small hotel ranging from 30 to 80 rooms. Many towns do not have lodging available because the minimum standards are in the hundreds. This is absurd. Many other advanced nations such as Canada and Australia have small hotels. It is important to note that some excellent urban locations are too small for large hotels. These inns do not need attached restaurants and other costly services as the rest of the town would provide them in close proximity. The trick here is to get the size down.

PRIMARILY RESIDENTIAL MIXED-USE BUILDINGS

Flex Apartment House: An otherwise conventional apartment building with the first story available as a commercial space, either independently or in association with the apartment above (via an internal stair). Columbus Realty has built these in Dallas and Post Properties is building them in Atlanta.

Loft Apartment House: An unconventional apartment building with every apartment available for residential and/or commercial use. The ceilings must be taller to permit the commercial depth (a distance from windows greater than that necessary for a residential unit). These are being built and renovated in downtown Raleigh and elsewhere.

Flex Rowhouse: Rowhouses with the first story available as commercial space either independently leased or in association with the residential unit above. Jonathan Rose with Calthorpe has built a good number in Santa Fe. These tend towards an office park look. Seaside has built many of these and Kentlands is about to do so, tending towards a Main Street look. A rear alley or parking lot accommodates the additional parking requirement. It is possible to adapt the current flex warehouse concept to mixed use with minimal fuss.

Flex House: Conventional houses with the front of the building (at the position of the conventional garage) available as a commercial space or as an accessory rental unit. Kentlands will probably build some soon. The rear alley accommodates the additional parking requirement.

PRIMARILY COMMERCIAL MIXED-USE BUILDINGS

The following definitions are taken from The Shopping Center Development Handbook of the Urban Land Institute and the National Association of Convenience Stores. The combination of tenants they recommend must be emulated as they are highly studied and valid. The transformation to New Urbanist practice involves the location of the parking to the rear and the provision of apartments and offices above the retail or in close proximity. There are several other types in the ULI conception of the world, but they cannot be absorbed into traditional neighborhood urbanism and must be relegated to districts.

Corner Store: The equivalent of the NACS Convenience Store except that most of the parking is to the rear and there should be a residential unit above. The corner store is the principal amenity of a TND—the equivalent of a clubhouse for conventional suburban development. It should not be considered a profit center, but a part of the infrastructure. There is one at Haile Plantation and there was a very successful one at Belmont which was unfortunately closed by the building department when its temporary permit expired.

Main Street Grouping: The equivalent of the ULI Convenience Center. Providing for the sale of personal services and convenience goods. It has a typical GLA of about 20,000 square feet. It is not anchored by a supermarket but by some other type of personal/convenience service like a mini-market.

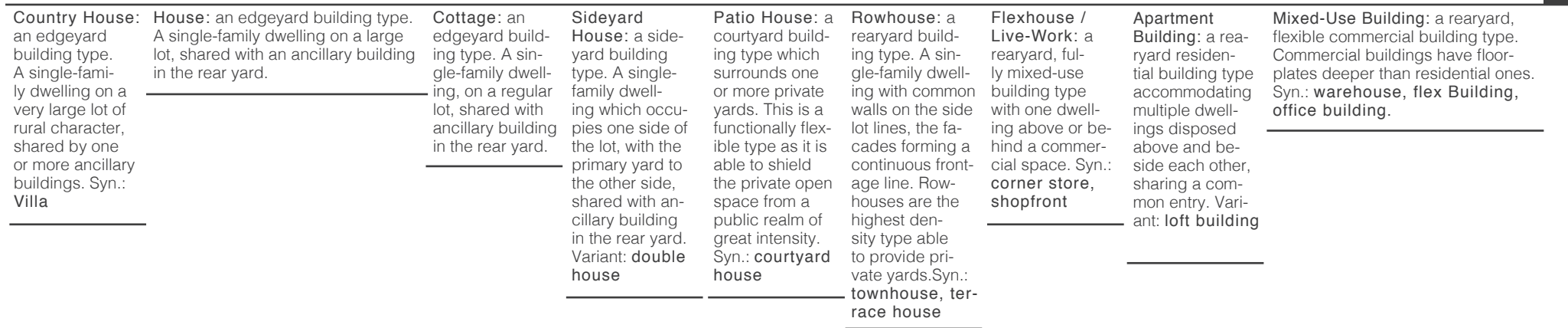
Town Center Grouping: The equivalent of a ULI Neighborhood Center. Providing for the sale of convenience goods (foods, drugs and sundries) and personal services (dry cleaning, barbering, shoe repair) as well as restaurants, for the day-to-day living needs of the immediate neighborhoods. It's built around the supermarket as the principal tenant. The Town Center has a typical GLA of 30,000 to 100,000.

Downtown Grouping: The equivalent of the ULI Regional Center, providing general merchandise (apparel, books, home furnishings as well as a range of services and recreational facilities such as a multiplex cinema) as well as restaurants. It is built around one or two full-line department stores of not less than 75,000 square feet. The Downtown has a GLA ranging from 300,000 to 850,000. The department store may be an archaic requirement; cinemas and smaller national retailers seeming to be able to do the job of anchoring. Mizner Park manages to do it without the department stores as does Colorado Avenue in Pasadena.

EXCLUSIVELY COMMERCIAL BUILDINGS

Avenue Office Building: A conventional office building enfronting a mixed-use thoroughfare rather than associated with a specialized office park. The parking is relegated to the rear of the building. This building has the capability of being seamlessly connected to other supporting building types. There are many still-successful historic examples with Palmer Square in Princeton as one of the best. Mizner Park integrates an office component.

Urban Villa: A building, similar to a large house, able to accommodate a wide variety of uses, including conventional apartments, single-room occupancy units (the old boarding house), bed & breakfast inn, small professional office, and a restaurant. The model is the old, converted mansion of the inner city. This is a useful and resilient building type which can evolve organically. Since it is small, if the parking is hidden to the rear, the Urban Villa is compatible with single-family houses. How would you explain something so flexible to the lending institutions, let alone the secondary mortgage market?



Platting: the subdivision of private land within the block structure, enabling small-scale, independent ownership. Platting is an important, often overlooked, instrument of coding. Platting appears graphically on a regulating plan as lot lines and frontage lines. Without platting it is impossible to control pre-

cisely the building type for size, disposition, and configuration.



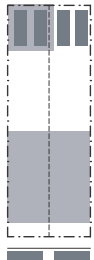

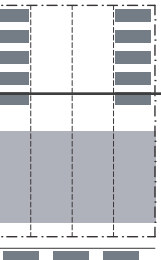
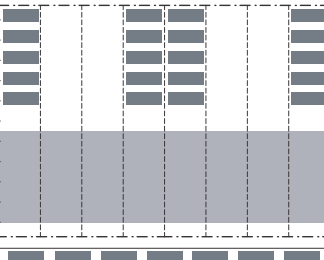
TND regulating plans invariably plat the private property, while CSD master plans usually opt for retaining "flexibility" by subdividing only to the level of the pod or the superblock.

Lot Width: the increment for platting in North America has historically been the lot 25 ft wide and 100 ft deep. This system has been adequate, creating 25 ft lots for rowhouses as well as 50 ft and 100 ft lots for houses, shops, and other buildings. The advent of the automobile, however, has overlaid a new set of dimensional constraints which should be

reflected in new platting standards. The 25 ft increment is somewhat wasteful, as it does not correspond to the basic increments for parking, which are 12 ft for head-in parking and 72 ft for a double parking row. A precise correspondence of platting and parking increments can increase density by eliminating recurring slivers of wasted width.

Rod: a measure of land originally 16.5 ft(17c) but updated to the more flexible 6 ft for use as a measure of lot width. This module reconciles parking width (9ft-12 ft) and the more common unit types. As parking determines density, the rod guarantees the highest possible flexibility and efficiency by eliminating wasted land. See: **Parking Ratio**

PLATTING SYSTEM BY RODS

						
	3 rods	4 rods	6 rods	9 rods	12 rods	24 rods
LOT WIDTH	18 ft.	24 ft.	36 ft.	54 ft.	72 ft.	144 ft.
LOT DEPTH	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.
LOT AREA	1800 sq. ft. / .04 ac.	2400 sq. ft. / .06 ac.	3600 sq. ft. / .08 ac.	5400 sq. ft. / .12 ac.	7200 sq. ft. / .165 ac.	14400 sq. ft. / .33 ac.
RESIDENTIAL	2 units max	2 units max	3 units max	4 units max	7 units max	14 units max
COMMERCIAL			1500 sq. ft.	2000 sq. ft.	3250 sq. ft.	6500 sq. ft.
PARKING	3 spaces	3 spaces	6 spaces	8 spaces	13 spaces	27 spaces

The smallest modern lot width is 18 ft, which accommodates two 9 ft places at the rear of the lot and one parallel place on the street. This width is also excellent for the internal disposition of a rowhouse (rearyard building), providing space for a bathroom or a staircase in tandem to a bedroom.

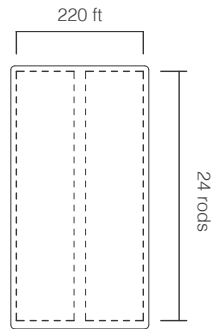
The next useful width is 24 ft, which provides parking for two cars and a comfortable passage beside them. The passage would allow an entrance by front-loaded parking, except that the practice would lead to an abysmal streetscape. This dimension permits bedrooms to double up across the width but it does not increase the parking capacity, which remains at three.

The width of 36 ft (2 x 18 ft) is particularly efficient, permitting 4 cars to park at the rear of the lot and an additional two along the street frontage for a total of six. This quantity indicates adaptability for multi-unit and mixed-use buildings. This width permits a wide rowhouse (having all the principal rooms facing the garden) as well as viable edge-yard or sideyard buildings at 24 ft wide.

The next increment of width that accommodates additional head-in parking is 54 ft (3 x 18 ft), delivering eight places. This lot easily accommodates courtyard and edge-yard buildings. The 54 ft width is the narrowest lot that will absorb front-loaded parking while maintaining a tolerable streetscape.

The next increment, 72 ft (4 x 18 ft) is the smallest that can incorporate a double head-in parking lot, with room for planting. Assuming a building pad of 50 ft depth, this lot will accommodate 10 places to the rear and 3 in front. This number will deliver 6-8 apartments (37-49 units/ac) or an office building of 3250-4250 sq ft. This lot width yields the highest density for surface parking. Higher densities are achieved by the provision of parking decks or transit.

Higher increments involve the doubling of the 72 ft lot to 144ft. Wider lots tend to degrade the scale of the urban fabric. Efficiency does not increase over the 72 ft lot. Larger buildings should be accommodated through greater lot depth.



Typical 2-Acre Block

Density: the number of dwelling units within a standard measure of land area.

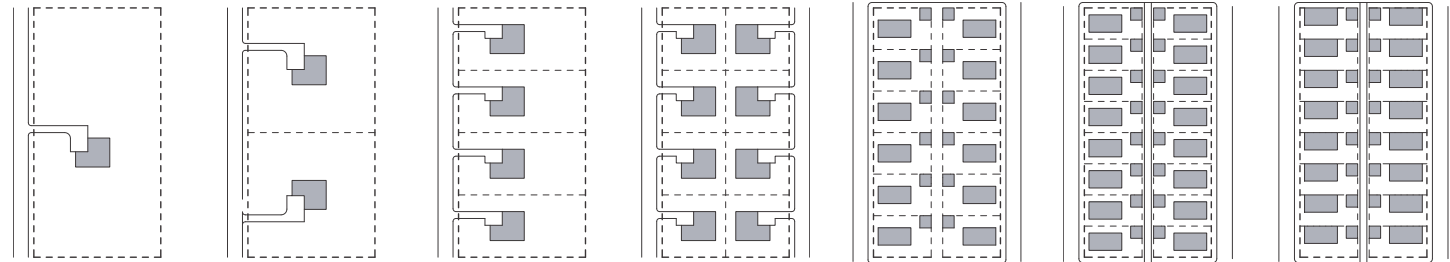
Maximum Density: the capacity of a lot, usually determined by parking capacity, not by lot coverage or floor-area ratio. Thus the size and configuration of a lot is an important determinant of density insofar as it can efficiently accommodate surface parking. The provision of parking structures above or below ground decouples parking capacity from the lot's theoretical density. Parking can then be controlled only by the practical, economic, and aesthetic limits of parking decks.

Net Density: a dependable measure of the efficiency of a building type as it excludes the highly variable areas of thoroughfare and open space included in gross density calculations.

Gross Density: the number of dwelling units divided by the total area of a site, without regard to the suitability of portions of the site for development.

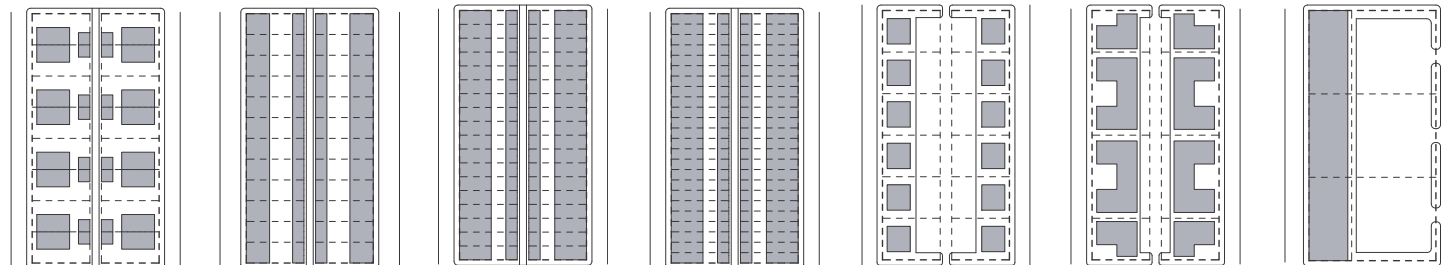
Average Density: the number of dwelling units divided by the total area of a site, without regard to the suitability of portions of the site for development.

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GENERAL TYPE	edgeyard	edgeyard	edgeyard	edgeyard	edgeyard	edgeyard	sideyard
SPECIFIC TYPE	villa	villa	villa / house	villa / house	house / cottage	house	single house
NET DENSITY	1 unit / 2 ac.	1 unit / ac.	2 units / ac.	4 units / ac.	6 units / ac.	8 units / ac.	8 units / ac.
LOT SIZE	432 ft. x 220 ft.	216 ft. x 220 ft.	108 ft. x 220 ft.	108 ft. x 110 ft.	72 ft. x 100 ft.	54 ft. x 100 ft.	500 ft. x 100 ft.

TRANSECT | | | | | | | | | | URBAN >



GENERAL TYPE	sideyard	rearyard	rearyard	rearyard	edgeyard	edgeyard	rearyard
SPECIFIC TYPE	duplex	rowhouse	rowhouse	rowhouse	apartment block	courtyard apartment block	office building
NET DENSITY	8 units / ac.	12 units / ac.	18 units / ac.	24 units / ac.	36 units / ac.	36 units / ac.	6,500 sq. ft. commercial
LOT SIZE	54 ft. x 100 ft.	36 ft. x 100 ft.	24 ft. x 100 ft.	18 ft. x 100 ft.	72 ft. x 100 ft.	72 ft. & 144 ft. x 100 ft.	72 ft. & 144 ft. x 220 ft.

Inn: a residential building compatible in scale with a single-family house that has one or several bedrooms available for short-term letting. Cooking facilities are communal. **Boarding House:** a residential building not larger than a house with one or several bedrooms available for long-term letting. Cooking facilities are communal.

Hostel: a residential building larger than a house which may accommodate the following programs: single-room occupancy, commune, hospice, managed care, group home, and transitional housing. Hostels, when introduced to the neighborhood structure, should be subject to binding agreements and periodic inspections.

Hotel: a large residential building with bedrooms and common rooms available for short term letting. Cooking facilities are communal.

Warehouse: a commercial building type being primarily a single-story loft likely to be used for manufacturing or storage. Rear and side yards, if provided, must be masked by walls. Warehouses may be located at the Center Zones or segregated to districts, depending on the extent of noxious emanations. Warehouses are always served by alleys, which must be especially wide to accommodate trailer trucks. Syn.: workshop, industrial building, flex building

Parking Deck: a specialized building type dedicated to the accommodation of parking in quantity by vertical stacking. Parking decks are usually only required at Core Zones. This building type may be destructive to pedestrian quality and should therefore be assigned to the B streets in a tartan grid, masked by liner buildings, or provided with retail frontage at the ground level. Syn.: parking garage, parking structure, structured parking, parking ramp

Cohousing: a model of community that directly associates a limited number of dwellings with certain jointly owned communal facilities, including a dining room. A cohousing site plan usually creates a pedestrian campus independent of frontages. Parking is not located buildingside in order to encourage social interaction by pedestrian trajectory.

Studio: the smallest type of apartment, one that does not have a separate bedroom. Syn.: efficiency

Loft: a high-ceilinged and well-lit dwelling with few partitions reaching the ceiling. A loft building increases ceiling height as a trade-off for decreasing depth. Such buildings would otherwise be unsuitable for residential use.

Apartment: a Residential unit sharing a building and a lot with other units and/or uses; may be for rent, or for sale as a condominium.

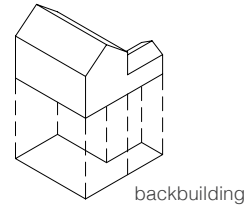
Expandable Housing: a dwelling that is capable of evolving in size in response to need. An expandable building must be constructed of normative material that is perennially available (in open stock), and the configuration must be sufficiently simple to be able to receive additions. Many modernist style buildings are too specialized in material, form, and detail to easily support change. To this end, architectural regulations should require normative material. Syn.: grow house See: backbuilding Source: Stewart Brand

Clubhouse: a premises dedicated to the activities and purposes of private, not-for-profit communal organizations. Clubhouses qualify for locations on public and civic tracts.

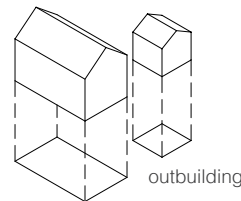
Meeting Hall: a building available for gatherings, including conferences, that should accommodate at least one room equivalent to a minimum of 10 square feet per projected dwelling unit within the Pedestrian Shed it serves.

Main Building: the principal building on a lot, disposed to provide the facade on the frontage, in distinction to the backbuilding and the outbuilding, which are ancillary in use and form and usually to the rear of the lot. Syn.: principal building

Backbuilding: a single-story structure connecting a principal building to an outbuilding.



Outbuilding: a secondary building usually located toward the rear of the same lot as a principal building and sometimes connected to the principal building by a backbuilding. An outbuilding may be rented but not sold separately. Outbuildings such as detached garages, tool sheds, and accessory units typically occupy a maximum of 600 square feet of the lot.



Accessory Unit: an apartment not greater than 440 square feet sharing ownership and utility connections with a principal building; it may or may not be within an outbuilding. Accessory units are of great social benefit because they are both affordable and interspersed with market-rate units.

Accessory Building: an outbuilding with an accessory unit. Conventional suburban practice forbids accessory buildings for fear of an overload of parking, traffic, and sewage capacity. Legitimate concern should arise if the ancillary apartment is developed as a full multi-bedroom unit, creating the equivalent of a duplex. This risk can be eliminated by controlling the size of the unit to no more than 450 sq. ft. so that it can house a single person or a couple but not a larger family. Syn.: backyard cottage, garage apartment, granny flat, Ancillary Apartment.

Affordable Housing: housing that is affordable to a given range of household incomes, but generally near the median for the area.

Low/Moderate Incomes: two categories commonly used by the US Department of Housing and Urban Development (HUD) and others to address lower income families. Both are calculated by using the median annual household income established by the Census Bureau for the Metropolitan Statistical Area (MSA), on a sliding scale varying according to household size.

Moderate Income: 80% of the median income. If the MSA's median income for a family of four is \$50,000, then the Moderate Income is \$40,000.

Low Income: 50% of the median income. If the MSA's median income for a family of four is \$50,000, then the Low Income is \$25,000.

Housing Affordability: HUD sets a threshold of Housing Affordability at 30% of a household's income, including utilities. If a family has a Moderate Income of \$40,000, then its threshold of Housing Affordability is \$12,000, or \$1,000 per month. For a family with a Low Income of \$25,000, the threshold is \$7,500, or \$625 per month.

Building: a man-made structure, fixed in place, with the potential of human entrance and inhabitation. Buildings, not thoroughfares, are the primary element of town planning. Buildings are subject to variations in function, disposition, and configuration.

Function, Disposition, & Configuration: the primary determinants of building typology, contributing the variants necessary to create a neighborhood.

1. **Function:** the possible uses permitted within a building and its lot. Codes sometimes specify restrictions to the entry level or the outbuilding.
2. **Disposition:** the placement of a building on its Lot.
3. **Configuration:** the form of a building, based on its massing, Private Frontage, and height.

Typology: the process of creation, selection and transformation of type as follows:

1. **Archetype:** the platonic ideal, e.g. the generic urban dwelling providing a habitable private realm while defining public realm.
2. **Prototype:** the first example to be created or perfected, e.g. the 18th century London terrace house with a rear mews.
3. **Type:** the prototype appropriated and transformed through a process of emulation, e.g. the Philadelphia rowhouse enfronting a mixed-use street, with a walled yard and an alley to the rear.
4. **Stereotype:** the misuse or misunderstanding of a type, which thereby undermines its function and meaning, e.g. the suburban townhome with its front on a parking lot and an open lawn at the rear.

Emulation: the process of design by which a model or prototype is identified, modified, and utilized. The process assures performance similar to that of the model. Although vulnerable to the selection of an unsuitable model, the process of emulation is always more dependable than the process of invention.

Pastiche: a creative work made up of selections from various prior works (Webster's). A descriptive term, considered pejorative, commonly applied to the New Urbanism.

School: a civic building, dedicated to formal, ongoing education. For the purposes of town planning, schools come in four broad categories. Each has a specific place within the neighborhood structure.

1. **Child Care Center:** serves for the daytime care of children below school age. Child care centers may be located anywhere within the neighborhood structure so long as the heavy drop-off requirements are accommodated. The associated play yards may be placed at center block locations, away from traffic.
2. **Primary School:** serves young children and contributes important meeting facilities to the neighborhood. Primary schools should be seamlessly integrated with the neighborhood structure as they serve a segment that does not drive. The influential educator John Dewey placed such schools at the very center of the social cohesion of a community; and similarly, Henry Wright's diagram of the neighborhood unit places an elementary school at the physical center of the neighborhood. Contemporary market research (American Lives) rates the elementary school as the most desirable of amenities, not only for children but for the general utility of its larger rooms and sports fields. It is therefore important that a civic site be reserved for a private or public elementary school. However, contrary to the recommendation of the neighborhood unit, this
3. **High School:** serves teenagers, a demographic segment with social behavior patterns considered by some to be obnoxious. Proximity to a high school tends to degrade the value of housing. This, along with high parking requirements, justifies the segregation of high schools from the neighborhood structure.
4. **College:** serves older students, a segment considered to have acceptable patterns of social behavior. Colleges, therefore, need not be segregated from the neighborhood structure. There are two models. one intersperses college facilities among neighborhood buildings, sharing the thoroughfare system. Another places college buildings within a separate campus, which may be as specialized as a district but seamlessly attached to a neighborhood, as a college is always an important cultural and economic asset to a community. See: **Campus**

site should not be at the center but at the edge. There are two reasons for this. One is that current playing fields are large enough to impede pedestrian continuity from peripheral areas to the neighborhood center. Another is that the population within a single neighborhood tends to age as a cohort, creating a variable need for classrooms. A school at the edge, shared by several neighborhoods, will tend to even out the generational needs.

Ambulatory: a courtyard defined by an arcade along its edges. An ambulatory, unlike a courtyard or a patio may be independent of a building. An ambulatory defines an exterior room able to shield an open space from a noxious environment.

Peristyle: a colonnade that rings a patio or courtyard. While it is not necessary to have colonnades on all sides of a patio, their total absence will doom a patio. To neglect the porosity of at least one of its defining edges seems to be necessary to habitability; this is particularly true when the dimensions are small.

Dingbat: a building that denies typological discipline without functional justification or that is otherwise disruptive to the urban fabric. Modernist buildings tend to extremes of articulation and heterogeneity of tectonic expression as the modernist design process values unconstrained invention over emulation or urban context. TND codes attempt to preclude dingbats except with buildings that are expected to be fully expressive of the institutions they embody. *Source: L.A. Slang* See: **New Blight**

Snout House: a house with the garage thrust to the front of the main body of the building. Snout houses mar the pedestrian experience, as front-loaded garages cannot express human activity as might a window, door, or porch. The term alludes to the proboscis capped by the pair of garage openings as nostrils. This flaw, which is endemic to narrow-frontage housing, can be overcome only by the provision of rear-loaded garages.

Stilt House: a common dingbat building. A building is raised on columns in order to maximize parking underneath but with the corollary effect of marring the pedestrian experience. This type was inadvertently created by CSD codes which key the allowed building area to the quantity of parking accommodated on site. TND codes specifically preclude this type.

Belvedere: an elevated structure intended to provide a long-distance view. A belvedere may be a pavilion within an open space or a portion of a building. Codes enabling belvederes will give access to a view (such as a waterfront) to buildings behind the front echelon. A belvedere can add substantial value to the full depth of a community. *Source: Italian "beautiful to see."*

Pavilion: a civic building type of undefined use. A pavilion is usually an open-sided, roofed structure, freestanding within an open space. Syn.: **gazebo**

Kiosk: a small, enclosable, movable building available for small-scale retail. A kiosk, being inexpensive, is an excellent business incubator. It is useful for periodic events such as festivals, as well as a remedial device to enliven a public place.

Pergola: a linear pavilion with the roof as an open trellis supporting climbing plants. Pergolas are among the most economical of the ornamental civic buildings.

Gateway: an urban element that marks the entrance or the threshold of a sector or a district; one of the elements useful to orientation within the urban fabric. Gateways are misused in CSD practice to segregate housing by market segment. They are rare in TND practice, which values centers over edges. *Source: Kevin Lynch*

Single House: a sideyard residential building type. A single-family dwelling with one wall directly on the side lot line. A single house creates a larger and more private side yard than does a detached house. Syn.: **zero lot line house, sideyard house**

Double House: a sideyard multiple residential type. A pair of dwellings are attached side by side to create a building that reads like a house. This type shares a common wall on a side lot line. Each dwelling is the equivalent of a sideyard house. A row of double houses combines sideyards that are visually larger than those of single houses.

Duplex: an edgeyard multiple residential type. A pair of dwellings, side by side or one above the other, creating a building that reads like a house. This type is particularly suitable for corner lots, where one entrance may face the frontage and another the flankage, thus assigning to each dwelling a private front yard.

Triple-Decker: an edgeyard multiple residential building type. A small apartment building of three dwellings stacked one above the other, creating a building that reads like a house. Three stories is the maximum acceptable height for a walk-up apartment building in North America. Syn.: **triplex**

Patio Building: a courtyard building type with the potential of common walls on all the lot lines and the yard at the center. Patio buildings provide yards (courtyards) of utmost privacy as building or high walls surround all sides. The courtyard efficiently consolidates all the yards that are distributed along the periphery in house and cottage types. Patio buildings are intrinsically more secure than other types and are therefore recommended for urban resettlement. Syn.: **courtyard building**

Market Segmentation: the classification of households according to their ethos and utilitarian requirements. Market segmentation categorizes residential building types by life-style rather than by quantification of rooms and sizes. There are four major market segments, roughly corresponding to the stages of family formation. These four may be further subcategorized in order to discern niches and emergent trends.

Ethos: the characteristic and distinguishing attitudes of a racial, political, occupational, or other group. *Source: Webster's Dictionary*

OPTIMUM MARKET HOUSING MIX BY TYPE

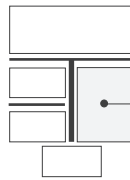
	Urban Areas ¹		Suburban Areas ²		Rural Areas ³		
	min	max	min	max	min	max	average
For Sale Detached House	42%	50%	42%	45%	50%	64%	48%
For Sale Rowhouse & Live/Work	10%	18%	9%	11%	6%	10%	11%
For Sale Apartment & Loft	11%	18%	12%	12%	6%	12%	13%
Rental Apartment & Loft	26%	29%	30%	32%	24%	28%	28%
Average Parking per Household	.7	1.1	1.3	1.6	1.7	2.2	1.4/unit

Sources: ¹Detroit, MI & St. Louis, MO

²White Plains, NY & St. Louis Park, MN

³Social Circle, GA & Flower Mound, TX

BUILDING KEY (SEE 12.2)



Program Type

- P1** Non-Family Residential
- P2** New-Family Residential
- P3** Full-Family Residential
- P4** Post-Family Residential
- P5** Limited Flex
- P6** Restricted Flex
- P7** Open Flex
- P8** Civic

PROGRAM	MARKET SEGMENT	BUILDING PROGRAM	BUILDING TYPE	TRANSECT LOCATION
P1	Non-Family Residential Composed of young singles and couples, without children. Includes communal living arrangements such as cohousing and boarding houses. The ethos is risk-oblivious. Syn.: starter, entry-level, first-time buyer	Economical without frills. It consists of studio, loft, or one bedroom units. The kitchen, dining, and living areas coalesce.	Rental apartments, rowhouses, or outbuildings. Parking pads are usually provided instead of garages. Mixed-use commercial buildings are possible.	Center and Core Zones
P2	New-Family Residential Composed of young singles and couples, with small children or the prospect thereof. The ethos is risk-aware. Syn.: second-time buyer	Economical, without duplication or frills. It consists of two or three bedrooms and one or two bathrooms. The kitchen, dining, and living areas tend to coalesce.	Rowhouses or single-family houses with garages for 1 or 2 cars and storage.	General and Center Zones
P3	Full-Family Residential Composed of middle-aged couples with children. The ethos is risk-averse. Syn.: move-up buyers, move-over buyers	Tends to luxury with some duplication of rooms and some amenities. It consists of three to five bedrooms and two to four bathrooms. The master bedroom suite tends to be substantial. The kitchen, dining, and living areas tend to be separate, with a family room adjacent to the kitchen.	Houses with garages for 2 or 3 cars and storage.	General and Suburban Zones
P4	Post-Family Residential Composed of older singles and couples, without children at home. There is a preference for pedestrian access to daily needs at Center Zones. The ethos is risk-averse. Syn.: retirees, empty nesters, move-down buyers	Ranges from the economical to the luxurious. It consists of one to three bedrooms and one to three bathrooms. The kitchen, dining, and living areas may be separated or shared. The distinguishing factor is that the master bedroom is on the main level.	Apartments, rowhouses, or cottages, with garages.	All Zones
P5	Limited Flex <i>tbd</i>	Available for commercial and residential uses. The residential use need not be associated by ownership to the operation of the commercial.	Home office, home occupation, live-work unit, business incubator.	General Center and Core Zones
P6	Restricted Flex <i>tbd</i>	Restricted to commercial uses.	Office buildings and flex warehouses.	Center and Core Zones as well as Districts
P7	Open Flex <i>tbd</i>	Program is restricted to uses with negative consequences on adjacent lots, usually as a result of noise, vibration, pollution or socioeconomic disruption. Consequences confined to the lot boundary are not considered specialized programs.	Buildings without typological discipline for reasons of cultural expression	District only
P8	Civic Composed of not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking accommodations.	Program is restricted to not-for-profit organizations dedicated to religion, arts and culture, education, government, social service, transit and the like.	Buildings without typological discipline. Distorted by the trajectories of machines or sequences of rooms.	All Zones

Shopping Center: a generic term for a group of shops that has a standard and precise definition, as formulated by the former Community Builders Council of the Urban Land Institute (ULI) in the 1950s and reaffirmed over time. A shopping center is a group of commercial establishments planned, developed, owned, and managed as a unit and related in location, size, and type of shops, to the trade area. It provides on-site parking in definite relationship to the types and sizes of stores. As the shopping center evolved, certain basic types emerged, each distinctive in function as determined by its major tenant or tenants.

Shops work best in certain mutually supportive combinations. The grouping is associated with a specific service area within the region. Conventional suburban versions of these combinations have been rationalized by the ULI. These standard retail groupings are now recognized by developers, merchants, and lending institutions to the exclusion of all other patterns. This authority, in addition to a record of genuine success, forces the retail component of Traditional Neighborhood Development to be conceived as translations of these ULI classifications. Fortunately, some of these classifications are functionally equivalent to those required for TNDs.

TRANSLATION CSD <--> TND

The translation of CSD to TND retail classifications involves maintaining the ULI guidelines of size, mix, management, and location while modifying certain other aspects including:

The provision of offices or dwellings on the upper floors.

1. The provision of seamless pedestrian and spatial connections to adjacent residential areas.
2. The spatial definition of the parking areas as plazas, or their location behind the building frontages.

These translations have important social consequences:

1. The neighborhood remains inhabited at all hours of day and night, increasing safety through continuous informal supervision. See: **CPTED crime prevention through environmental design**
2. Apartments above commercial premises provide affordable housing for service workers who are likely to be employed nearby. For such people, automobile ownership becomes less necessary.
3. A mixed-use neighborhood enables the elderly to walk to acquire their daily needs, allowing them to continue living independently, without resorting to a specialized retirement community. See: **NORC naturally occurring retirement community**
4. Parking areas may perform double duty, serving commercial and residential users at different times. Therefore, a smaller parking area is necessary. See: **Shared Parking Standards**
5. Fewer automobile trips are generated because the neighborhood residents may walk to obtain many of their daily needs. See: **Traffic Capture**

The following definitions are taken from the Shopping Center Development Handbook, published by the Urban Land Institute (ULI), and from the National Association of Convenience Store (NACS).

ULI | TND

Convenience Store | Neighborhood Store

A convenience store is a retail business that provides a convenient location for quick purchases from a wide array of products (predominantly food). Convenience stores are typically less than 5,000 sq ft with convenient pedestrian access and parking and extended hours of operation.

Convenience Center | Main Street Shops

A convenience center, similar to a convenience store, provides for the sale of personal services (dry cleaning, barber shop, shoe repair) and convenience goods (food, drugs, and sundries). The convenience center is anchored by some type of personal/convenience retail such as a minimarket. It has a typical gross leasable area of about 20,000 sq ft.

Neighborhood Center | Town Center Shops

A neighborhood center provides for the sale of convenience goods and personal services for the day-to-day needs of the immediate neighborhood. The supermarket is the principal tenant. In theory, the neighborhood center has a typical gross leasable area of 50,000 sq ft. In practice, it may range in size from 30,000 to 100,000 sq ft.

Regional Center | Shopping District

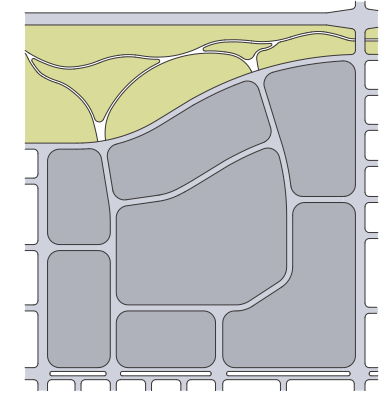
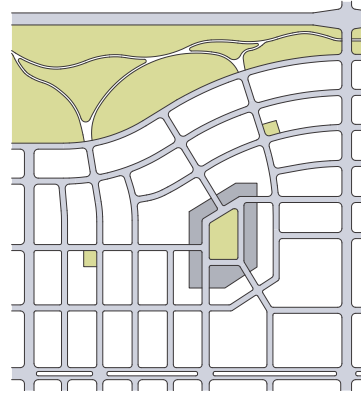
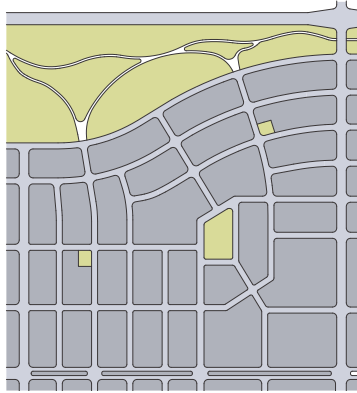
A regional center provides for the sale of general merchandise (apparel, furniture, and home furnishings) in depth and variety, as well as a range of services and recreational facilities. It is anchored by one or two full-line department stores of generally not less than 75,000 sq ft. In theory, its typical size is 450,000 sq ft of gross leasable area; in practice, it may range from 300,000 to 850,000 sq ft. The regional center is the second largest type of shopping center, providing services typical of a business district yet not as extensive as those of the super regional mall.

RETAIL TYPE BY SIZE & SERVICE AREA

		SIZE (SQ. FT.)		SERVICE AREA (RADIUS)	
ULI	TND	MIN	MAX	MIN	MAX
Convenience Store	Neighborhood Store	800	5,000	1/4 mile	1 mile
Convenience Center	Main Street Shops	15,000	25,000	1 mile	2 miles
Neighborhood Center	Town Center Shops	30,000	100,000	2 miles	5 miles
Regional Center	Shopping District	300,000	850,000	5 miles	15 miles

Source: Thomas Comitta

LOCATION OF COMMERCIAL PROGRAMS



RETAIL

None

Neighborhood Store: the smallest of the retail establishments, permitted at Center Zones. It is the equivalent of the ULI Convenience Store. The neighborhood store occupies a frontage at the ground story, with residential use recommended above. Parking is to the rear of the buildings. These establishments have a limited number of employees, and customers may arrive by walking or bicycling. An anchor tenant of 2,500 sq ft can be supported by a trade area of [tk dwellings](#). It may be reinforced by including a cafe, a contract post office, an automatic bank teller, and a newsstand. See: **Post Office Syn.: Corner Store,**

Main Street Shops: retail enterprises permitted within Center and Core Zones, usually shared by two or more neighborhoods. Main street shops are the equivalent of the ULI Convenience Center. These are businesses having any number of employees, customers, clients, or patients. The retail quarters occupy the ground story with residential or commercial uses recommended above. Main Streets supply ordinary goods supported by a trade area of [tk dwellings](#). The anchor tenant is a convenience market of 15,000 to 60,000 sq ft, with the following stores ideally appended: a branch bank, a bookstore with coffee bar, a video rental, a cleaner and laundry, a home (hardware) store, a barber shop and hairdresser, a pharmacy, and two or three restaurants.

Town Center Shops: retail enterprises permitted within Core Zones, located at a regional intersection and shared by several neighborhoods. A downtown is the equivalent of the ULI Neighborhood Center. These are businesses having any number of employees, customers, clients, or patients. The retail quarters occupy the ground story with residential or commercial uses recommended above or interspersed. Downtowns are similar but larger than Main Streets, serving to supply ordinary goods supported by a trade area of [tk dwellings](#). The anchor tenant is a supermarket of 60,000 sq ft or larger, with the following stores ideally appended: banks, a bookstore, a coffee bar, a liquor store, a video rental, a cleaner and laundry, a hardware store, a barber shop and hairdresser, a pharmacy, and restaurants.

Shopping Districts: specialized retail sectors located at an intersection of regional significance as it must draw from a trade area of [tk dwellings](#). Shopping districts are similar to the ULI Regional Center. The anchors may be two or more department stores or a multiplex cinema, supported by in-line specialty stores (principally apparel) and restaurants. Although the size of this type precludes its incorporation within a neighborhood proper (hence the District designation), it should be integrated with office buildings, hotels, and apartments to approach a balanced use.

WORKPLACES

Home Occupations: commercial enterprises permitted everywhere, including Suburban and General Zones. The work quarters should be invisible from the frontage, usually located within a backbuilding or an outbuilding. Home occupations are small and quiet non-retail businesses, seldom visited by clients, requiring little parking, no signage, and having only one or two employees. The most likely businesses are professional and artisanal, location-neutral, or Internet-based. The permitted activities are defined by the Restricted Use category. Syn.: **Home-Based Business, Home Office, Home Occupation**

Live-Work Units: small commercial enterprises permitted at Center Zones, with ground floor occupied by commercial and a residential unit above. Commercial space may be home-based business or leased independently. Syn: **Flexhouse**

Main Street Offices: small commercial enterprises permitted at Neighborhood Center Zones. The offices usually occupy the frontage at the ground story, with residential use above. Parking is to the rear of the buildings. Businesses may include retail sales, with a limited number of employees and where customers or clients may visit. The permitted uses are defined by the Limited Use category.

Downtown Offices: sizable commercial enterprises permitted within Town Center Zones, the equivalent of the suburban office park except that parking must be to the rear or side of the frontage. Businesses may have any number of employees, customers, clients, or patients. Business quarters may occupy all stories. The permitted uses are defined by the Open Use category.

Business Districts: commercial enterprises that must be isolated in order to mitigate some intrinsic aspect that is destructive to the urban fabric. This may involve excessive building size or a parking requirement at the frontage; the generation of noise, smell, or vibration; large trucking needs; or a hermetic building frontage. The permitted uses are defined by the Specialized Use category, which excludes housing and assumes the absence of a neighborhood structure. As a component of Traditional Neighborhood Development, the business district is not vested and must undergo a process of justification. See: **Prohibited Use, Big Box Retail**

Trade Area: the sector from which a retail establishment is likely to attract its customers. Such an area is rarely geographically centroidal, as it is distorted by the thoroughfare pattern and by competition. A trade area may be abstracted as a number of dwellings, the figure assuming little amount of competition. Big box merchants draw from a larger trade area and are therefore valued for attracting cross-shoppers to the associated in-line stores which have a lesser draw area. A similar effect can be achieved by concatenating activities that will account for an extended time, e.g. dinner, a movie, and a drink. The longer the customers can be occupied, the farther they will come, increasing the draw area. This is the drawing mechanism of anchorless retail at Main Streets.

Syn.: **Draw Area**

Anchoring: the function played by an urban element in attracting users to itself and consequently to adjacent elements which are not, by themselves, attractions. The most widespread use occurs at retailing sectors. A department store anchors a town center. A food market anchors a Main Street. A post office anchors a neighborhood store. A cinema anchors an entertainment district. The anchoring element, to be effective, must be cunningly located to create a pedestrian circulation pattern that exposes the dependent elements to the passerby. Syn.: **generator, draw**

Main-Main Intersection: the intersection of the two most active thoroughfares of a sector and, as such, the preferred location for retail. Retail thrives on drive-by traffic (moving slowly). This is an ancient, immutable, practice that CSD has honed to perfection and from which TND is not exempt, even if it forces the eccentric location of a neighborhood center or town core.

To-Movement & Through-Movement: the movement pattern of vehicles as it affects retail. Through-movement is the drive-by traffic upon which convenience shopping is dependent. To-movement is the pattern generated by destination shopping, which may be placed virtually anywhere, as it will attract traffic to itself. Syn.: drive-to/drive-by See: **location neutral**

Location-Neutral: businesses that can reach a market without access to drive-by traffic. Good restaurants are the most common category; professional services

Gross Leasable Area GLA: the building area that a retail tenant pays to lease. With enclosed shopping malls, the GLA includes the climate-conditioned shared space, leading to costlier leases. The Main Street of TND does not have an equivalent burden. See: **Retail Management**

Overidentified Flying Object: a big box store. An allusion to a configuration that is alien to the landscape and that displays extravagantly auto-oriented signage.

Cannibal Retail: conventional suburban retail, usually big-box, which preys on existing retail for its market. The method of Cannibal Retail leaves behind empty Main Streets, shopping centers, and shopping malls in sequence. Syn. **Category-Killer** *Source: Dolores*

Telecommuting: the practice of working away from the primary workplace, usually within the dwelling. (Not to be confused with a home occupation, where the primary workplace is the dwelling). Telecommuting is held to have a positive effect on traffic capture. It is usually improvised within the conventional suburban dwelling with negative consequences to family privacy and socialization. Telecommuting can be improved by the provision of a specialized workplace in an outbuilding or a backbuilding, or by premises at the neighborhood center, which is within walking distance of the dwelling and better socialized. Both are TND practice.

Business Incubation: The fostering of economic diversity at the lower economic range through the provision of affordable quarters for shops and workplaces. Business incubators are the commercial equivalent of affordable housing. Conventional shopping centers usually protect fragile start-up businesses by offering percentage leases. Traditional Main Street shops seldom do so, creating a competitive disadvantage. Such leases should be available to TND businesses as part of a retail management policy. Traditional neighborhoods provide support for start-up business by generally permitting home occupations and a full range of flexible zoning categories, wherein a residential mortgage can cover both housing and business quarters. Note: it is important that incubator business quarters be built cheaply (Jane Jacobs: Small Businesses Need Cheap Space"). Such shopfronts require the elaboration of the frontage only (the false front) as opposed to the all-round architectural development of freestanding retail on parking lot pad sites.

Third Place: a location that fulfills a necessary social role in between the private and the public realms. A proper third place requires a balance of familiarity and anonymity that is unlikely to occur at a place of mandatory recurrence, such as a dwelling or a workplace. Third places usually occur in cafes, pubs, exercise clubs, corner stores, and the like. Syn.: **social condenser** *Source: throat liners*

Festival: an organized communal event that recurs in time and place. A festival can be administratively induced, even within the unlikely matrix of conventional suburbia. Festivals do not substitute for the ordinary pedestrian activity that supports the public realm of the neighborhood. *Source: Alan Plattus*

Post Office: a mail room at the neighborhood center equipped with boxes in lieu of individual mail delivery; a primary social condenser of the neighborhood. The post office brings a representative of every household to the center daily, thereby anchoring the corner store and other retail. The post office may be staffed in conjunction with a corner store.

Big Box Retail: large retail stores, usually over 35,000 sq. ft., offering wide choice, often at reduced prices. This type, pioneered by supermarkets, is now emulated by virtually every sector with the exception of clothing and restaurants. Big box retail is based upon very large market areas that draw customers from dozens of miles away. The price advantage is derived from efficiency of distribution through centralization. This efficiency is, in fact, surreptitiously subsidized by the customer's commute to the shop, not unlike the hub and spoke system of the airline industry. Big box retail has certain negative consequences: It lengthens travel distance (often for very ordinary purchases) and undermines smaller, local retail establishments. Big box retail, however, can serve to anchor such retailers when seamlessly attached to a Main Street.

Wrap: small retail shops lining the frontage of a big box retail store in order to overcome the dullness of its blank walls. Such shops are approximately 50 ft deep. Access to the big box is through one of the storefronts, acting as a passage and called a throat.

In-Line Stores: retail establishments with limited drawing power that locate along the pedestrian paths leading to anchors. This increases the size of their catchment.

All: a shopping center that includes residential, civic, and office uses along with retail. This format results in higher sales, better tenants, and a competitive edge over retail-only shopping centers. The term is used at Simon Properties.

Lifestyle Center: a shopping center that is limited to retail and restaurants.

Town Center: a shopping center that includes retail, residential, and community uses. *Source: Robert Gibbs*

Megashed: a massive retail or warehouse/distribution building. Such buildings are usually plain, dependent on large, freestanding signs, and are emblematic of CSD. *Source: WordSpy*

Out-of-town Retail: retail that is located beyond both walking and transit distance. Out-of-town Retail is vulnerable to the vicissitudes of oil prices.

Retail Management: the organizational technique by which various retail stores act in concert for their mutual benefit. The absence of retail management is the principal cause of the vulnerability and failure of local Main Street merchants in the face of competition by shopping centers. Such management usually includes: proactive leasing; the grouping of stores to catalyze cross-shopping; standards for storefront design, signage, and lighting; recommendations for store layout and display; joint periodic and seasonal advertising; standardized business hours; parking management; and established procedures for public space maintenance and security. Retail management, more than any aspect of physical design, is responsible for the success of most shopping centers, and its absence for the failure of most Main Streets. Syn.: **curated retail**

Occupied Vacancy: a retail establishment that is not economically viable but is deceptively subsidized in order to avoid the dismal effect of an empty storefront. Businesses in shopping centers are often occupied vacancies as part of retail management techniques.

Scarfig: to consume food while driving. Scarfig is a consequence of the inevitable allocation of discretionary time to commuting in Conventional Suburbia; it is the opposite in its social and biological consequences to sitting in a cafe. Drive-through eateries destroy and preclude established cafes, which is why they are prohibited in TNDs.

Void Analysis: a conventional method used by retail specialists to determine which retail group has been underserved in a trade area. Void analysis criteria has been developed empirically for each type of group. Multiplex cinemas, for example, require a 5-mile trade area at average suburban densities of 5 units/acre. A version of void analysis may be applied to all categories of land use in order to balance a sector.

Two-Sided Retail: a retail store with two entries, typically from a rear parking lot and a thoroughfare, or from the front on one side and a larger store interior on the other.

GENERAL

This Code is conceived and administered to guide the Community of X within the City Y. The Code ensures that all new buildings are harmonious with each other and within the language of the traditional architecture of the region. The Code further assures that the community adheres to a neighborhood structure having the following characteristics:

- The neighborhood is limited in size by a five-minute walking distance from edge to center.
- Residences, shops, workplaces, and civic buildings are included in close proximity.
- A variety of thoroughfares serve the needs of the pedestrian and the automobile equitably.
- Public open spaces in the form of plazas, parks, and playgrounds provide places for informal social activity and recreation.
- Building frontages in disciplined alignment define the public space.
- Civic buildings reinforce the identity of the community, providing places for purposeful assembly.

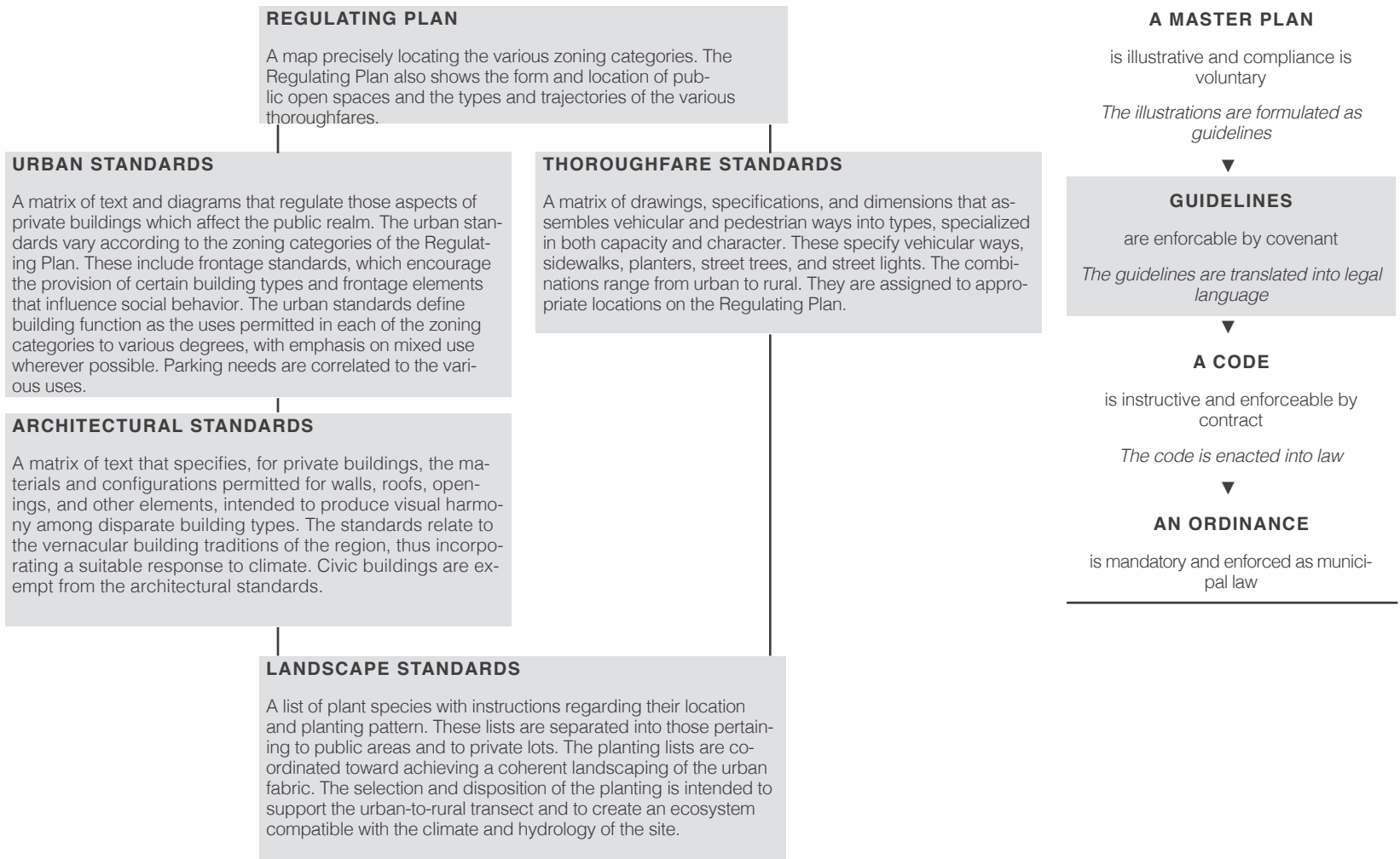
The Code is legally binding by contract with the [Primavera Corporation](#) as a condition of the purchase of land within the community. It is administered by the [Primavera](#) Town Architect's Office.

In matters of urban structure, the provisions of this Code shall take precedence over the City Y Zoning Code. In matters of health and safety, the City of [Leon](#) Zoning Code shall take precedence over the provisions of this Code.

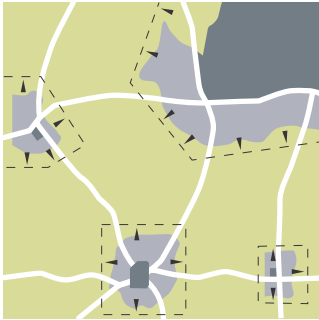
Variances to provisions of the Regulating Plan are considered unique and are not to set a precedent for future waivers and exceptions. A variance is permission for a practice consistent with the general intent but not a specific provision of the Regulating Plan. A waiver may be granted administratively by the X Town Architect's Office on the basis of hardship or design excellence.

Civic Buildings are not subject to the provisions of the Code. Their design shall be approved by the X Town Architect's Office.

THE CODE consists of five documents used in conjunction:



METHOD A: IMPLEMENTATION BY URBAN BOUNDARY



(Diagram based on Madison, Wisconsin)

STEP 1

Project the growth requirements of the region. The requirements should include the balancing of deficiencies of any land use that may be scarce and therefore cause overpricing. Translate the growth requirements into increments of land area that can accommodate them in five-, ten-, and twenty-year phases.

Growth requirements include:

- Housing in a full set of price ranges
- Retail in each standard grouping
- Business parks, including industrial
- Schools of every level
- Recreational open space

STEP 2

Establish urban boundary lines that will accommodate the required growth areas in phases. The expansions of the urban boundary should be seamless additions to incomplete neighborhoods and the creation of completely new neighborhoods. In some cases the creation of new villages (equivalent to free-standing neighborhoods) is more appropriate than the continued expansion of the urban fabric. Growth should be coordinated with the concurrent delivery of infrastructure.

Areas to remain temporarily or permanently outside the urban boundary are to be designated with the subcategories of **reserve** and **preserve**. A preserve is intended for permanent preservation, never to be urbanized. A Reserve is a designation applied to areas intended for temporary preservation until inclusion as the urban boundary moves beyond it. The process of redesignating reserved land for urbanization according to established criteria is called a **release**.

STEP 3

The areas within the urban boundary are vested for **neighborhoods**. Establishing a faster, proactive permitting process encourages earlier development at certain nodes that reinforce the regional transit pattern.

Neighborhoods include:

- Greenfield development
- Grayfield development
- Urban infill
- Urban extensions
- Suburban retrofit
- Roadway intersections
- Rail stops

STEP 4

The areas within the urban boundary are vested for the provisions of the TND Ordinance. Establishing a faster, proactive permitting process encourages earlier development at certain nodes that reinforces the regional transit pattern.

Neighborhoods include:

- Greenfield development
- Grayfield development
- Infill Development
- Urban extensions
- Suburban retrofit
- Roadway intersections
- Rail stops

STEP 5

Permit all types of development other than TNDs within the boundary as **districts**, only through a public review process leading to a variance, intended to be a disincentive.

Specifically discourage the unjustifiable districts of Conventional Suburban Development that consist of single-use housing pods, shopping centers, and business parks.

METHOD B: IMPLEMENTATION BY RURAL BOUNDARY



(Diagram based on Baltimore, Maryland)

STEP 1

Designate certain rural areas. Determine these areas, irrespective of property lines, being careful to use authentic (defensible) technical, environmental, cultural, and aesthetic criteria. Circumscribe these areas with a **rural boundary** line.

The greenbelt has two subcategories: **preserve** and **reserve**. A preserve is an area that is protected from urbanization in perpetuity. Reserve is the designation applied to green areas temporarily preserved until a future release for urbanization. A **release** is the process of redesignating reserved land for urbanization according to established criteria.

Rural Zones include:

- Waterways and larger wetlands
- Unique scenic areas
- Habitat for diverse species
- Steep slopes
- Forest, groves, and woodlots
- Cultural and historic resources
- Specialized agriculture
- View sheds for highways
- Current and future parks

STEP 2

Connect the rural areas by a network of **corridors**. Map the corridors, leaving the specific trajectories somewhat flexible and establishing minimum standards for each type.

Corridors include:

- Natural corridors for wildlife
- Blazed trails
- Greenways for bicycles and pedestrians
- Parkways for motorized vehicles
- Reservations for rail lines

STEP 3

The areas remaining after the mapping of the rural areas and the corridors are vested for the provisions of the TND Ordinance. Avoid leapfrog development by establishing a fast, proactive permitting process encouraging earlier development at certain nodes that reinforce the regional transit pattern.

Neighborhoods include:

- Greenfield development
- Grayfield development
- Infill development
- Urban extensions
- Suburban retrofit
- Parkway intersections
- Rail stops

STEP 4

Permit all types of development other than TND's as **districts**, only through a public review process leading to a variance, which is intended to be a disincentive.

Specifically discourage the unjustified districts of CSD that consist of single-use housing (housing subdivisions), single-use retail (shopping centers), and single-use workplace (business parks).

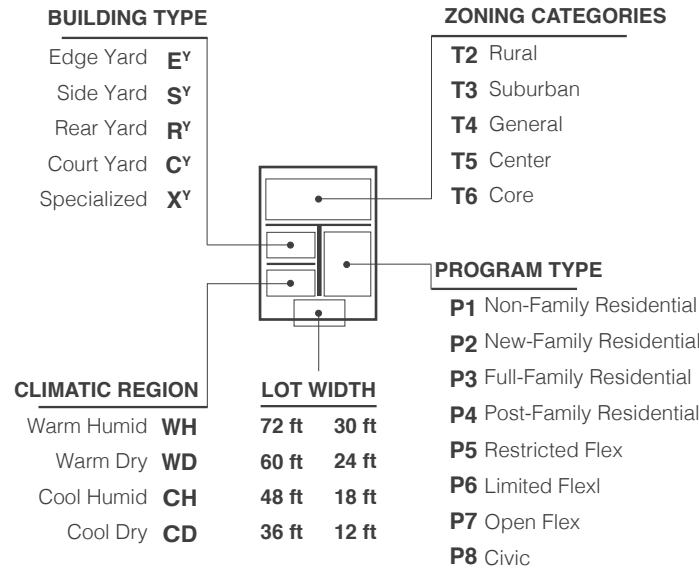
Building Key: the classification of buildings by five specific attributes:

1. The zoning category for which the building is suitable;
2. the market segment which the building can fulfill;
3. the minimum lot width that will accommodate the building;
4. the building's general type;
5. the general climatic region to which the building responds.

The building key operates as a search engine through a selection of any one of these attributes. The selection of additional attributes increases the specificity and narrows the available range. The system was developed to coordinate the construction documents of the plan service industry with transect practice.

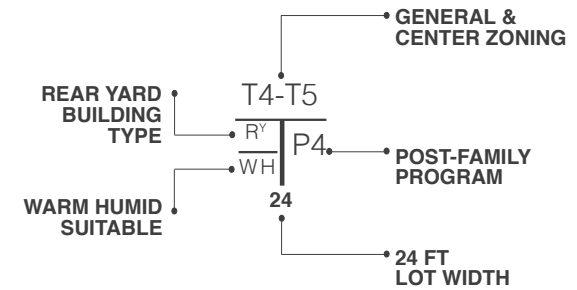
Buildings considered suitable for a TND will be assigned a specific building key upon application to the Town Planning Institute. The building key is a copyrighted system available to plan services and pattern books, The Town Planning Institute c/o The University of Miami School of Architecture, Coral Gables, FL 33123. The plans will be available in books and through the Internet.

BUILDING KEY ALTERNATIVE 1



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EXAMPLE OF USE ALTERNATIVE 1



©Town Planning Institute

BUILDING KEY ALTERNATIVE 2

SITES	BUILDINGS			SIZES	
zoning General Urban - Urban Center	type Mixed-Use Building	user Commercial / Civic	style Cape Cod	residential 1,800 sq ft.	commercial 475 sq ft.
2 rods = 36 ft lot width	2 - 3 bedrooms	2 baths	2.5 stories	480 sq ft. garage	330 sq ft. porch

ZONING	TYPE	USER	STYLE
Rural Preserve	Mixed-Use	Single / Couple	Arts & Crafts
Rural Reserve	Building	Small Family	Classical
Sub-Urban	Apartment	Full Family	Coastal
General Urban	Building	Post Family	Colonial
Urban Center	Flexhouse	Live-Work	Italianate
Urban Core	Rowhouse	Commercial /	Mediterranean
District	Sideyard House	Civic	Modernist
	Cottage		Victorian
	House		Cape Cod
	Villa		Other

TND zoning categories enable a broad range of activity throughout the urban fabric. This is in contrast to the zoning of CSD, which assigns different uses to sectors, at the minimum separating dwellings from shopping and from workplaces. While this is justified for certain categories of noxious activities, the absolutism of the technique is usually unwarranted.

There are two additional categories for buildings and open spaces held in common: Public and Civic. Public designates places administered by a governmental organization such as a park board or a school board. Civic designates places held in private but functioning communally, such as a religious, cultural, environmental, or educational institution.

A sixth category, Specialized, is assigned to uses with negative social or environmental consequences. These are permitted only through variance. Examples range from big-box retail, which promotes vehicular use, to vending machines, which undermine cafes.

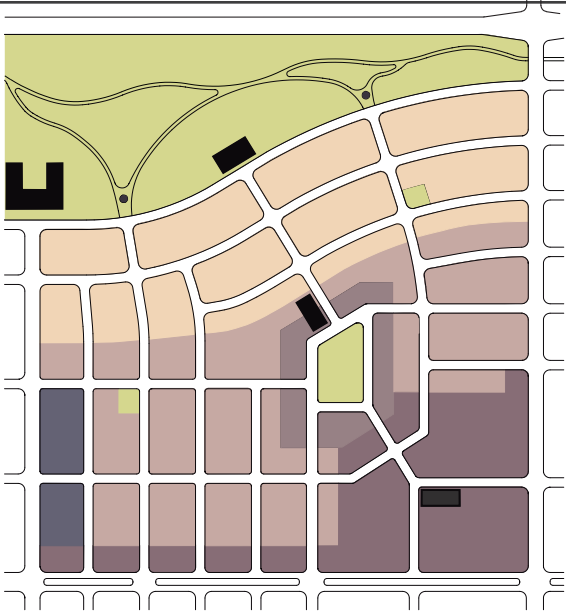
T3 SUB-URBAN	T4 GENERAL URBAN	T5 URBAN CENTER	T6 URBAN CORE	D DISTRICTS
RESTRICTED	LIMITED	OPEN	OPEN	SPECIALIZED
Restricted Residential: the number of dwellings is restricted to one within a principal building and one within an ancillary building, and by the requirement of one assigned parking space for each. Both dwellings shall be under single ownership (e.g.: houses & cottages).	Limited Residential: the number of dwellings is limited by the requirement of 1.5 assigned parking spaces for each dwelling, a ratio which may be reduced according to the shared parking standard (e.g.: apartment buildings & rowhouses).	Open Residential: the number of dwellings is limited by the requirement of 1.5 assigned parking spaces for each dwelling, a ratio which may be reduced according to the shared parking standard (e.g.: apartment buildings & rowhouses).	Open Residential: the number of dwellings is limited by the requirement of 1.5 assigned parking spaces for each dwelling, a ratio which may be reduced according to the shared parking standard (e.g.: apartment buildings & rowhouses).	Uses that are allowed only through the creation of a District by variance. These include: Adverse Impacts in General: uses with negative consequences for adjacent lots, usually as a result of noise, vibration, odor, pollution, or socioeconomic disruption. Consequences confined to the lot boundary are not considered to create adverse impact. Drive-through commercial where patrons remain in automobiles, except service stations, book and video drops, and banking facilities
Restricted Lodging: the number of bedrooms available for lodging is restricted to one within an ancillary building, and by the requirement of one assigned parking space for each leasable bedroom in addition to the parking requirement of two spaces for a dwelling (e.g.: guest cottage).	Limited Lodging: the number of bedrooms available for lodging is limited by the requirement of one assigned parking space for each bedroom, in addition to the parking requirement for each dwelling. Food service may be provided only in the morning (e.g.: bed & breakfast inn).	Open Lodging: the number of bedrooms available for lodging is limited by the requirement of one assigned parking space for each bedroom, a ratio which may be reduced according to the shared parking standards. Food service may be provided at all times (e.g.: boarding house or hotel).	Open Lodging: the number of bedrooms available for lodging is limited by the requirement of one assigned parking space for each bedroom, a ratio which may be reduced according to the shared parking standards. Food service may be provided at all times (e.g.: boarding house or hotel).	Vending machines , except within buildings Detached signs and billboards Big Box retail with parking lot on the street frontage. Industrial enterprises emanating noise, vibration, or smell beyond the boundary of their sites
Restricted Office: the area available for office use is restricted to the first floor or to an ancillary building, and by the requirement of one assigned parking space for each 250 sq ft, in addition to the parking requirement for each dwelling (e.g.: home	Limited Office: the area available for office use is limited to the first story of the principal building and/or to the ancillary building, and by the requirement of one assigned parking space for each 250 sq ft, in addition to the parking requirement for each dwelling (e.g.: home office).	Open Office: the area available for office use is limited by the requirement of one assigned parking space for each 250 sq ft of gross office space, a ratio which may be reduced according to the shared parking standards (e.g.: corporate office).	Open Office: the area available for office use is limited by the requirement of one assigned parking space for each 250 sq ft of gross office space, a ratio which may be reduced according to the shared parking standards (e.g.: corporate office).	Commercial kennels and animal husbandry Prisons except as accessories to police stations Terminals for large-scale transportation except bus terminals Depots for large-scale storage or distribution of goods
Restricted Retail: retail use is forbidden within residential buildings, with the exception that one neighborhood shopfront (at the first story of a corner location) shall be permitted for each 300 dwelling units (e.g.: corner store, cafe, newsstand, art store, bookstore).	Limited Retail: the area available for retail use is limited to the first story of buildings at corner locations. Its usage shall be further limited to neighborhood store, child care, or food service seating no more than 40. Parking requirements shall be negotiated (e.g.: child care or coffee house).	Open Retail: the area available for retail use is limited by the requirement of one assigned parking space for each 250 sq ft of gross retail space, a ratio which may be reduced according to the shared parking standards (e.g.: shopfront, store).	Open Retail: the area available for retail use is limited by the requirement of one assigned parking space for each 250 sq ft of gross retail space, a ratio which may be reduced according to the shared parking standards (e.g.: shopfront, store).	Scrap yards for the processing, storage and disposal of waste materials, excepting recycling collection centers Automotive sales; (service and repair permitted) Golf courses and other large open spaces including nurseries
Restricted Manufacturing: manufacturing uses are forbidden.	Limited Manufacturing: the area available for manufacturing use is limited to 500 sq ft within the first story of the ancillary building. Artifacts shall not be stored in the yard. There shall be no parking requirement assigned to this use (e.g.: home workshop, artist studio, woodcraft, furniture refinishing, bi-	Open Manufacturing: the area available for manufacturing use is limited to the building and a contiguous yard in the rear, circumscribed by a solid masonry wall no less than 8 ft high. The parking requirement shall be negotiated according to the specific manufacturing activity.	Open Manufacturing: the area available for manufacturing use is limited to the building and a contiguous yard in the rear, circumscribed by a solid masonry wall no less than 8 ft high. The parking requirement shall be negotiated according to the specific manufacturing activity.	Mineral extraction or mining Cell phone towers Labor pool buildings, halfway houses, and food pantries Landfills and dumps
Restricted Civic: civic uses are conditional on the approval of the Planning Board.	Limited Civic: civic uses are conditional on the approval of the Planning Board.	Open Civic: civic uses are conditional on the approval of the Planning Board.	Open Civic: civic uses are conditional on the approval of the Planning Board.	

Symbol System - Zoning: The current system of graphic symbols is thoroughly contaminated by conventional suburban zoning practice, showing categories that are single-use and single-density.

TNDs conceive every category as a gradation of mixed use, with the district being the sole exception.

Conventional Suburban Development conceives categories as fixed. TNDs envision an evolution, with each zone being up-zoned over time into the next more urban condition. The proposed symbol system responds to such evolution by the densification of the line pattern or the darkening of the color.

Source: Derived from British Imperial practice 1900-1930.



REGIONAL		LOCAL ZONES	Colors C-Y-M-K
CIVIC	CS	CIVIC SPACE	34% 12% 86% 0%
	CB	CIVIC BUILDING	
RURAL	T1	RURAL PRESERVE	18% 7% 63% 0%
	T2	RURAL RESERVE	18% 7% 63% 0%
URBAN	T3	SUB-URBAN	0% 13% 25% 5%
	T4	GENERAL URBAN	0% 18% 15% 25%
	T5	URBAN CENTER	10% 27% 15% 39%
	T6	URBAN CORE	0% 25% 5% 56%
DISTRICT	DW	DISTRICT BY WARRANT	20% 20% 0% 61%
	DE	DISTRICT BY EXCEPTION	20% 20% 0% 61%

Urban Redevelopment: the techniques that may be applied toward the revitalization of existing troubled neighborhoods and Main Streets.

Sprawl Repair: the techniques that may be applied toward the conversion of existing conventional suburban developments to balanced use. Suburban retrofits are uniformly difficult as CSD zoning is intentionally rigid and the attendant regulatory process is adverse to change once the zoning is granted. Each of the single-use zones of CSD requires a different retrofit strategy as follows:

1. **Housing Pods** may be converted to balanced use by selecting appropriate sectors for rebuilding as denser types, others for mixed use, and yet others for retail, workplace, squares, and civic sites. This is difficult to accomplish if a homeowners' association is chartered in terms of voting ratios that discourage any sort of change. The mechanism is to grant additional balanced-use zoning to the housing subdivision with the existing residents taking the profit, but even this must usually be done across stiff opposition.
 2. **Shopping Centers** may be converted to balanced use by concentrating the parking onto decks, thus liberating the surface parking for building sites dedicated to residential and office use. This is difficult to accomplish as all but the most successful shopping centers have a drive-by clientele that requires visible and convenient frontage parking. The mechanism is to grant additional balanced-use zoning to shopping centers, allowing the market to operate.
 3. **Office Parks** may be converted to balanced use by concentrating the parking onto decks, thus liberating the surface parking for building sites dedicated to residential and retail use. This is feasible because an office park has a destination (captive) clientele that does not require highly visible frontage parking. Those office parks within a park like setting may also convert the (usually) excessive, ill-defined open space into building sites. The mechanism is to grant additional balanced-use zoning to the office park, allowing the market to operate.
-

Rearview Marketing: the conventional analytical technique of projecting sales potential by researching the sales profile of the recent past. This approach is allergic to innovation, sluggish in discerning trends, and incapable of establishing unprecedented niche markets such as those for outbuildings and flexhouses. Rearview marketing undermines the typological range necessary for Traditional Neighborhood Development. At its most destructive, this procedure funnels identical types into a cycle of overbuilding. A better method involves the use of focus groups.

Sales Velocity: the rate at which sales of real estate must take place in order to carry the costs of development. There are negative consequences to urbanization at a high rate, the most insidious of which is the difficulty of implementing sequential design, with its intrinsic feedback loop. Authentic variety (the equivalent of bio-diversity) is dissipated when the design process is thus compressed in time, and problems, when they emerge, tend to persist with a momentum beyond reason.

Marketing Strategy: the sales sequence which involves the introduction and explanation of a residence to the potential buyer. For TNDs, this entails a deprogramming from the usual amenities of gateway, golf course, cul-de-sac, gated prestige, and commodification by size of house or lot.

Catalytic Project: a project that, by virtue of its economic success, becomes a model of development, providing confidence and market comparables. A catalytic project is the most likely strategy to introduce change within a regulated but market-driven industry.

Focus Group Study: a marketing study using a group of carefully selected people. The group may simply answer questions, discuss interpretations, or may take part in sophisticated simulations over a number of days.

Amenity: an asset, extraneous to the dwelling, that adds value. The most desirable assets are views (shore, golf frontage, mountain); security (gates, roving patrols, alarm systems); prestige (high price range, civic ornaments); location (proximity, accessibility, visibility, climate); activity (skiing, golf, water, clubhouse); and community. The last is the only amenity that does not entail additional developmental cost.

Location: a factor that, as propagated by the adage 'location, location, location,' is considered the foremost determinant in the decision to purchase. This may be an easy criteria in the practice of csd. However, a pre-existence of excellence in location is invariably associated with high cost of land acquisition. Location is created by proximity to a desirable factor such as transportation (an airport or an important thoroughfare), a waterfront, a slope, a long vista, a pleasant climate, a popular sport (such as skiing), or a desirable community. Location may also be proactively created by the construction of an amenity such as a golf course, although this is expensive. The only method to achieve the value added by location economically is to create it on ordinary land through TND practice.

Rebalancing a Sector: to provide a developed area with the additional use allocations that will approach an ideal ratio of mixed use. Most shopping centers and some office parks are candidates for rebalancing.

Urban Increment: the size of a phase of urbanization, the minimum phase being the buildings along both sides of a thoroughfare, a standard phase being the neighborhood. The completion of both sides of a thoroughfare creates the enclosure of public space that is one of the tangible differences between CSD and TND. The completion of a neighborhood confirms the full range of differences.

Starting Density: the initial build-out of a TND, with the implied expectation that it will evolve. A TND matures over time, usually increasing in density, becoming more urban in character and larger in area. Thus a hamlet may become a village by acquiring a viable commercial center; a village may become a town by agglomerating neighborhoods; and ultimately a town may become a city by molting its building stock to a higher density. This organic process of growth is impossible with the zoning codes of CSD, which fix density and all other physical aspects as rigidly and permanently as possible. In contrast, the technique of a TND fixes only that which must be predictable, permitting other aspects to evolve. This includes the flexibility inherent with the platting module (the rod), as well as coding by type rather than by statistics. Also, certain streetscapes are dimensionally interchangeable; thus a road can become a street as its character becomes more urban. There is in this flexibility a certain agility of response to shifting markets. A community, like all organisms, is either in the process of maturation or decay; it is either responsive or vulnerable. The single-use zones of CSD (shopping centers, office parks, etc.) are inherently fragile in their rigidity.

Collateral Material: material that supports the sales effort of a real estate development. This usually involves a sales center and brochures. Because TNDs justify additional explanation, sometimes a videotape is warranted. Because the TND responds very specifically to each demographic segment, the collateral should be equipped with targeted modular inserts. Included in TND collateral material is a town or village seal (rather than a logo) and a newspaper, which serves as a means to respond to the fluid evolution typical of a TND.

PLR Process: Path of Least Resistance Process. An incentivized process encouraging certain types of development (presumably neighborhoods) over others. A PLR usually involves a high degree of reliability: faster, date-certain approvals, reliable density and protection from the vagaries of the "public process." These are normal conditions that become incentives only when contrasted with an existing process laden with friction, expense, and uncertainty. The intention of a PLR is "to make the good easy and the bad difficult." - Le Corbusier.

Area Calculations: the measure, usually stated in acres, of the land area available for various purposes. **The total area** is the area of the entire parcel or the sector in question. The **developable area** is the total area minus wetlands, steep slopes etc. The **buildable area** is the developable area minus R.O.W.s, parks, squares, playgrounds, etc. The buildable area ranges from 50% to 65% in a typical New Urbanist greenfield project. *Source: Zimmerman-Volk.*

Zoning: the technique of assigning certain uses to certain sectors on a regulating plan. While technically neutral, zoning has come to be associated with the segregation of typical uses of CSD and thus (in the opinion of Leon Krier) is intrinsically tainted. Nevertheless, TND uses the technique to assign types to Core, Center, General, and Edge Zones, though all are mixed-use.

Zoning Map: a crude plan, common to CSD, which assigns specific uses to certain sectors. A proper regulating plan controls a host of additional prescriptions including thoroughfare types, build-to lines, retail frontages, and the location of terminated vistas. See: **Regulating Plan**

Regulating Plan: a map precisely locating the various zoning categories. The Regulating Plan is more detailed than is a zoning map. It shows the form and location of public open spaces, the type and trajectories of the various thoroughfares, and the locations of special requirements such as A and B-grids and mandatory or required retail, gallery, arcade, and terminated vista frontages. The Regulating Plan can also be used to show the locations for passages through blocks and buildings of historic or otherwise high value.

Environmental Zoning: the type of ordinance that discounts from density calculations those portions of land that are environmentally sensitive, thereby reducing overall density. This creates a disincentive for developing densely and encourages sprawl, unlike cluster zoning, which retains the allocated density.

Cluster Zoning: a zoning regulation that allows net density to vary within a site, as long as the density requirements for the site as a whole are met. This provides an incentive to develop densely on the portions of the land that are not environmentally sensitive. Compared to Environmental Zoning, it retains a more numerous on-site constituency for those environmentally sensitive areas, which remain as an amenity.

Sky Exposure Plane: the area calculated to be free of shadows cast by adjacent building(s). Preserving a Sky Exposure Plane on certain windows, yards, and sidewalks should be a significant element of site planning in cold climates.

Solar Access Zoning: a zoning regulation that protects a structure's access to sun by requiring a "shadow analysis" of any nearby building to demonstrate that it does not cast shadows beyond those that would be cast by a theoretical "solar fence" of a given height at the lot line. The lower this theoretical solar fence is, the more restrictive the regulation becomes, and the more it tends to reduce allowable density.

Overlay Code: a code that is available as an option over existing zoning. An overlay code technically increases the possibility without undergoing the political difficulty of rescinding an existing code. A TND ordinance, or a Transect-based code is usually implemented as an overlay code, which is then incentivized over the existing one by higher density allowances and faster permitting. The SmartCode is very often implemented as an overlay, although it can be implemented as a stand-alone replacement.

Mandatory Code: a code ordinance that is mandatory for all developments. A mandatory code generally gets greater scrutiny and opposition than a Parallel Code, but if the political will exists it can be easier to administer.

Parallel Code: an ordinance coexisting with another, either of which may be used to guide a project. The provisions of a parallel code, if selected, take precedence over the underlying ordinance. This is a useful strategy for implementing TND without the political disruption attendant to dismantling an existing ordinance.

Traditional Neighborhood Development Ordinance (TND Ordinance): an ordinance that enables and assures the development of an authentic neighborhood. A Traditional Neighborhood Development Ordinance, like a PUD Ordinance, is usually implemented as a parallel code.

Form-based Code: a code that specifies the form of the buildings graphically. Form-based codes generally prescribe building types, frontages, and other characteristics while loosening restrictions on use. They do this by making use of the ability of harmonious urbanism and architecture to overcome objections to mixed-use. The SmartCode includes a Form-based Code.

Transect-based Code: a legal unified development code or zoning code based at least in part on the Transect. The SmartCode is a Transect-based Code.

Zoning Code: also called simply a "Code," the Zoning Code is a body of regulations for the use of land. A Zoning Code can be mandatory or parallel, but even if it is parallel, it must be applied as a whole once it is invoked. Codes use Standards rather than Guidelines

Tartan Grid: a zoning system by triage, which assigns frontages of superior and inferior pedestrian character to alternating thoroughfares. This system assumes that certain CSD building types intrinsically create inferior pedestrian experiences (drive-throughs, convenience parking, service stations). Rather than ban them altogether, the tartan grid allocates them to different thoroughfares where standards may be relaxed. This strategy, which emulates a street and alley system, maintains selected streetscapes at a high standard rather than compromise all streetscapes somewhat. Syn.: **A/B grid**

A-grid: a continuous network of thoroughfares with continuous pedestrian environments that promote the safety, comfort, and convenience of pedestrians. Such streets typically feature sidewalks at least five feet wide, narrow streets, buildings pulled up close to the street, pedestrian-scaled lighting, on-street parking, aligned building facades, building entrances on the street and a modest turning radii. The A-grid is dominant where it intersects the B-grid so that the pedestrian experience is continuous across the A-thoroughfare.

B-grid: a discontinuous network of thoroughfares whose standards for pedestrian continuity have been selectively lowered. While the thoroughfares themselves are built to the same standards as the A-grid, the requirements of the private frontages can be relaxed either by right or by Warrant. A B-thoroughfare is discontinuous when it intersects an A-thoroughfare, so that a vehicle must conform to pedestrian-friendly behavior at the intersection.

A-Street: a street that is designed with or otherwise characterized by features that promote the safety, comfort, and convenience of pedestrians. Such streets typically feature sidewalks at least five feet wide, narrow streets, buildings pulled up close to the street, pedestrian-scaled lighting, on-street parking, aligned building facades, building entrances on the street, and a modest turning radius.
Source: Don Nozzi

Financing: the source of funds (usually in terms of loans) that, as venture capital, secures land acquisition, soft costs, and infrastructure; as permanent financing, it funds buildings as mortgages. Most mortgages are resold to a secondary market in large bundles of identical types. Some TND types, such as flex units and Main Street retail, are not processed in sufficient numbers to be bundled for resale, and thus create an impediment to financing. In such cases, it is advisable to emphasize the similarity of TND buildings to the normative product. Example: a live-work unit should have a “basement” rather than a “commercial” space beneath.

Inspections: the control of abuse of a permit. Inspections of mixed uses within the delicate Edge Zone should be carried out annually by the community association or the municipality.

Joe Suburban: a common term for the uninformed participant in the public planning process, less active but more responsive to education than the NIMBY. Syn.: **lumpen**

Exaction: requirements made by a municipality as a condition for a permit. Exactions, including the donation of school sites, and offsite infrastructure improvements have become commonplace in the conventional suburban permitting process. Where such requirements are unlawful, the term is replaced by the euphemism of proffer. The New Urbanist zoning process should offer some relief from exactions as an incentive.

Assessment: a one time tax paid to the municipality to bring concurrency to off site improvements including road building and public schools. A portion of the exactions may be removed as an incentive to build New Urbanism based on the lighter impact of the model.

Enabling/Regulatory Staff: alternate methods of processing a project for permit. To process a project quickly or slowly is the prerogative and indeed the secret power of a bureaucracy. To process all projects equally is to squander this potentially creative power.

Regulatory Staff: a staff that handles all applications without prejudice and systematically evaluates and tests an application according to established guidelines.

Enabling Staff: a staff that moves the project through the process as quickly as possible. When a project is considered beneficial, particularly when it is under an optional code, the bureaucracy should assign an enabling staff to it as an incentive.

Facilitator: an administrator who coordinates the process of applying and receiving a permit for projects subject to the new code. A facilitator provides a single interface between the applicant and the various city and state agencies that have power of approval over the project.

Permit Process: the sequence by which a master plan is granted the right to proceed, otherwise known as an entitlement. The process should be administrative for projects that follow the prescriptions of the ordinance exactly. Projects that require variances should be subject to public scrutiny and political assent. A secondary permit process is also necessary at the scale of the building. In TNDs, all aspects of the function, configuration, and disposition of a building should be processed by the Town Architect, either under municipal or private employ. Aspects of health and safety (the Standard Building Code) must be processed by inspectors of the municipality.

Enact: to transform by means of vote or fiat an aspect of a master plan into a municipal law. Master plans, to be effective, must be delivered in a format that can be enacted as a code or ordinance.

Variance: a ruling that would permit a practice that is not consistent with either a provision or the Intent of the Code. Variances are usually granted by the Board of Appeals in a public hearing.

Warrant: a ruling that would permit a practice that is not consistent with a specific provision of the Code, but is justified by its Intent. Warrants are usually granted administratively by the Consolidated Review Committee.

Vesting: the administrative granting of a permit, generally to developments that meet TND-defined criteria. Districts, on the other hand, are subject to the normal process of public scrutiny and justification. Syn.: **as-of-right**

As-Of-Right: not requiring any special approvals or hearings.

Standards: requirements approaching objectivity, for use in a regulatory environment, where there is little tolerance for subjective judgment. In zoning and development codes, these standards govern building form, location, use, and mode of operation. The drive towards objectivity is ultimately self-defeating, as that receding goal leaves increasingly legalistic and complex standards in its wake. Eventually, the codes become so unwieldy they must be renewed. See: **Regulations**

Guidelines: a body of guides to the use of judgement. Guidelines can be suggestions to the end user, or the end user can be required to comply with them in a regulatory environment or for an incentive, in a “program.” An administrator can be entrusted to judge compliance, and is usually backed up by an appeals process.

Master Plan: a plan for a locality, embracing both the spheres of physical development and policy. A Master Plan is generally accepted by a legislative body, but is not in itself a regulatory document.

Boundary Lines: [tbd](#)

Inaugural Condition: the architectural attributes particular to a place, usually present at its earliest times in their purest form. Responding rigorously to local construction techniques and to climatic determinants and usually manifesting a timeless grace, the inaugural condition is a good source for the development of a regional architectural syntax.

Substantial Modification: changes proposed that affect the exterior of a building. Substantial modification excludes changes that result from restoration, maintenance, or rehabilitation of the interior.

Molting: the process by which a locale re-defines itself over time. This process usually adds density, and is successional from lower Transect zones to higher ones. One of Euclidean Zoning’s purposes is to arrest molting.

Potential Historic Value: a building over fifty years old since the year of its initial construction. The threshold of fifty years is determined by the National Trust for Historic Preservation for consideration of historical designation. Buildings of that age should be subject to special scrutiny by the Planning Board before permission for demolition or substantial modification is granted.

Big Wall Subdivision: a residential sector in which a primary amenity is a circumventing wall that symbolizes security for purposes of marketing. This wall, if complete and coupled with a guarded entrance, may also provide the reality of security.

Big Hair House: a house whose roof is unnaturally enlarged in order to feature the roof tile as a primary aesthetic. This is an effective but costly practice. More economical is to compose a distinguished facade.

Pretender: a house or a project displaying the superficial attributes of a TND for the purposes of marketing advantage. These usually involve porches, picket fences, a gazebo, and a town square. Pretenders seriously undermine the concept of TNDs as they are similar enough to be confusing but fail to deliver the expected social and environmental benefits.

Gable Garbage: the contrivance of displaying as many gables as possible on the facade of a building in the pursuit of curb appeal. This is unnecessary when the streetscape is conceived as a whole, with the individual gables of several simple buildings together contributing to curb appeal. Gable garbage and its attendant structural complexity add to the cost of a building, sometimes precluding more desirable elements, such as a backbuilding. See: **curb appeal**

Lucky Charms: a term for the crude symbology of Conventional Suburban Design, usually executed in marker pen. These include large asterisks, blunt arrows, bulbous pods, and lighting bolt segregation lines. Traditional Neighborhood Development is always executed to a finer grain of resolution and has no use for these symbols. *Source: Vice for Dover*

Mansardation: the use of a short Mansard roof to decorate the edge of a flat roof and hide the mechanical equipment installed on it.

Curb Appeal: the physical attributes, usually of a single-family house, which are thought to catalyze the decision to purchase. The allusion is to the look of the house as seen from the street curb, this being a controllable variable while all other aspects, such as cost, size, and convenience, are usually commodified to the point of parity with the competition. The general strategy of curb appeal is to agglomerate onto the facade as many articulations, gables, hyper-arches, window shapes, and as much classicizing detail as the budget will allow. While the result may appeal to popular taste, the practice is not without downsides:

1. Excessive articulation destroys the spatial enclosure of the thoroughfare, which is itself of market value.
2. The budget is usually exhausted by these efforts, leaving no resource for the articulation of the rear yard in order to create outdoor privacy, this also being of great market value.

The TND strategy is to discount the instant gratification of curb appeal by calming down the facade, relying instead on the composition of the street as a whole to provide the variety; then to reallocate the budget secured by this simplification to a backbuilding specifically configured to protect the backyard from the overlook of neighbors. This outdoor privacy, less ephemeral and ultimately more appealing, replaces curb appeal as the catalyst for the decision to purchase.

North Dallas Special: a type of house laden with the architectural symbology of upper class inhabitation, displayed in grossly exaggerated form for the purposes of marketing. The term alludes to the particular concentration of this mutation in the suburbs north of Dallas, although the phenomenon is by no means confined to this region. The manifestation consists of a very complex roof form, a great deal of articulation of the plan ("breaking the box"), the use of a great variety of window shapes with arches in abundance, a double-height portico ("entry feature"), a more expensive material on the front facade (brick, stone) with cheaper cladding (vinyl) to the sides and rear, and a thin veil of classicism (quoins, entablatures, pediments, columns) constrained by no known canon. Certain compositional flaws are the consequence of the attempt to incorporate the variety of a large mansion into a house of middling size. The marketing is referenced as "curb appeal" Syn.: **McMansion** See: **Curb Appeal**

Community Council: the democratic, incorporated organization of owners of lots and buildings, including a measure of representation by apartment renters and retail tenants. The articles of incorporation of a council refer to an approved code, set standards for building construction and maintenance, and provide for the management of public tracts and the ongoing construction of civic improvements by special assessment. A community council, unlike the common homeowners' or property owners' association, accounts for the mixed-use nature of a TND by including renters and tenants as well as owners, enfranchising all property owners as well as those who rent their dwellings and lease commercial premises.

Homeowners' Association: an association, common to CSD, that enfranchises only the owners of residential properties.

Property Owners' Association: an association that enfranchises the owners of commercial as well as residential properties.

Tenants' Association: an association that enfranchises all property owners as well as those who rent their dwellings and lease commercial premises. It is the type of corporate entity that does justice to the community of a TND by integrating mixed use and inclusive housing.

Proprietor: the person or corporation responsible for the maintenance of a building. The proprietor of rental apartments or a commercial building has a particular responsibility for the ongoing vitality of the neighborhood and may be subject to controls by a community council. This role is absent in CSD homeowners' associations.

Covenants & Restrictions: contractually agreed regulations imposed within a common interest development (such as a condominium or co-op) to regulate the permitted uses, the minimum maintenance, and the appearance of properties within it.

Crime Prevention Through Environmental Design; CPTED: the application of behavioral and social science to physical design in order to minimize the actuality and the perception of crime. A specialty initiated by Oscar Newman, its main prescriptions are:

1. Windows overlooking public space; eyes on the street.
2. Clear assignment and demarcation of open space to public or private ownership, minimizing semipublic space.
3. Delineation of private open space by fences and walls.
4. Adequate illumination.
5. Provision of clear sight lines by straight passages; elimination of dense, low-lying vegetation and other potential hiding places.
6. Curtailment of drive-by traffic by strangers through the creation of discontinuous thoroughfares.

All but the last are intrinsic to TND practice.

Community Policing: the practice of crime prevention by assigning a police officer permanently to a specific sector for surveillance by foot or bicycle patrol. Community policing differs from the common practice of responding to emergencies by patrol car on a city-wide basis. It depends on the personal knowledge and observation of the police officer to discern potential crime before its occurrence. Community policing is technically impossible within the anti-pedestrian pattern of CSD. Syn.: **foot patrol**

Charrette: a multiple-day collaborative design event capable of at least three feedback loops, and which lasts at least four and usually more days. A Charrette is used for design processes, and is capable of taking a plan from a cold start to a set of alternative concepts, to a preferred plan, and finally to a tested plan. The goal is the best design outcome with minimal rework. It requires collaboration and cross-functional design. *Source: Bill Lennertz*

A charrette conducts the necessary detailed study and testing under public scrutiny. In a Charrette, the design process takes place in proximity to the site and in the presence of those affecting and affected by the outcome, generally the neighbors, developers, elected officials, and administrators, all who will ultimately pass judgement upon it. The process tends to catalyze agreement by engaging in ongoing negotiation during the stage of maximum flexibility, at the moment of conception. The principal advantages of a charrette are the efficiency of the process, the assent which it earns, and the accurate response to the problems and opportunities. Ultimately, the purpose of a Charrette is to give those concerned enough information to make rational decisions.

Design Workshop: a public collaborative design event that lasts less than four days that is capable of producing shared visions, but conducts the design work out of view. A Design Workshop can be thought of as a truncated Charrette.

Post-Urbanism: a technological homage to ad-hoc social and formal juxtapositions. It celebrates the heroic and the disconnected, to the extent that it approaches the incomprehensible and unbuildable. Post-urbanism does not accept a relationship between behavior and physical form, so it demands that the user explore ever-more-unfamiliar possibilities. It is exemplified by the work of Frank Gehry, or his successors of the moment.

New Urbanism: a recovery and extension of "whatever works best in the long run." It celebrates the appropriate and the beautiful, to the near-exclusion of the willful. The New Urbanism accepts that physical form, behavior, and culture are intertwined, so it revitalizes and extends persistent, resonant forms such as (especially) "neighborhood," "street," and "facade." It is exemplified by the walkable, compact urban fabric of its hundreds of communities.

Everyday Urbanism: a retreat leaving urbanism free of professional design's ministrations. It celebrates the ad-hoc and the informal—even the ephemeral. Everyday urbanism accepts that there is a relationship between behavior and physical form, but it seeks out the exception rather than the rule. It is exemplified by the intense study of the inventive genius of the bricoleur in the favela.

Pedestrian Network Diagram: an analytical diagram that is generated as an overlay of a master plan drawing, extracting and displaying only those public areas dedicated to the pedestrian. The drawing shows the open spaces, sidewalks, passages, and paths, excluding vehicular pavement. A network plan verifies the connectivity of the pedestrian trajectories as well as the logical declension and distribution of the open space.

Compositional Urbanism: a planning technique defined by: a foundational project establishing a fixed, a priori figure of buildings, public open space, and landscape; its execution in large-scale, predictable increments; its assembly over time that realizes strictly the form of the original project; and construction depending on a singular public and private authority. *Source: Stef Polyzoides*

Combinational Urbanism: a planning technique defined by: an open-ended foundation establishing a field of development possibilities; type-based coding offering a menu of coordinated projects, buildings, public open spaces, and landscapes; incremental and relatively unpredictable build-out over time; a balance between a multitude of development initiatives and civic oversights necessary during construction. *Source: Stef Polyzoides*

Sequential Design: a process of town planning that systematically exploits the factor of time in order to achieve character. Designers working sequentially, rather than a committee, carry out the planning phase. The building phase, rather than being designed by a single architectural team, is carried out by designers working independently over time. This process replicates, albeit in accelerated form, the historical development of an urban fabric. The authentic variety that ensues, and its gradual evolution, is the essence of its character.

Scale Comparison Diagram: an analytical diagram that shows the master plan (or portion thereof) and simultaneously the plan of the historical model being emulated. A scale comparison verifies the character of the urban pattern as well as the size of the component elements such as the blocks and the open spaces.

Parcel: the designation of a portion of land without the semantic overlay of lot or tract. Similar to but smaller than a sector. See: **Sector**

Site: the term for a subdivided portion of land without the semantic overlay of lot or tract. Applied to the location of potential projects of any scale, from single buildings to towns.

Sector: a neutral term for a geographic area. In the SmartCode there are six specific Sectors for regional planning that establish the legal boundaries for Open Space and Development.

Ward: See: **Sector**

Town Architect: a regulator who administers the TND codes by verifying the compliance of submitted building designs. Ideally, this is a straightforward technical procedure requiring consultation by a committee only in the event that a variance is required. The town architect is also responsible for the design of the public spaces and their furnishing. The town architect is retained by a municipality or a community council.

Regulators: the staff and the procedures created to scrutinize projects for compliance with the codes and to grant permits. In TND practice, the office of the town architect, initially under the auspices of the community council, evolves into the municipal bureaucracy upon incorporation as a town. The procedures of regulators should be technocratic, rather than subjective or by committee opinion. As Jorge Luis Borges wrote: "Bureaucracies, to be effective, must be slow and impersonal, in the manner of planets and vegetables."

Trace: the preexisting physical evidence on a site, which may influence the urban fabric being designed. Traces may be paths, roads, stone walls, windows, wood lots, and the like. Usage: "trace road"

Proffer: a donation volunteered by a developer or town founders to the public realm within or outside the project site. These include donations of school sites, meeting halls, or child care centers.

Master Developer: the person or corporation responsible for the acquisition, design, permitting, financing, construction, marketing, and sale of the urban infrastructure, but not the buildings that are the product of the builder. The master developer of a TND should be a founder.

Founder: the person responsible for the character of a community. This includes the conception of the community council documents, the support of nascent cultural institutions, and the attraction of merchants and residents of character. The founder provides the sociocultural software that enlivens the economic and infrastructural hardware provided by the master developer. See: **Community Council**

Builder: the developer of buildings, as opposed to the master developer individual or developer of the community. The developer (or town founder in the case of TNDs) creates and implements the master plan and code that the builder must follow. There is a naturally adversarial relationship between the master developer and the builder. The former tries to elevate the quality of the building to raise the value of the remainder of the landholding. The latter usually tries to build as economically as possible. A fixed price is attributed to a specific market segment, and the profit is the difference between the cost and selling price. The codes that are part of the master plan help maintain the builder's standards and generate the predictability of the community, which is a marketable asset.

Civic Reservation Process: the systematic reservation of sites for civic buildings. Civic sites should be associated with distinguished locations at plazas or squares, or at the terminations of vistas. The existence of such sites, together with a dedicated revenue stream from the community council, creates the potential for institutional development. The founder should not select the civic institutions as, the maturing society will organically develop them over time.

Civic Use: premises used by organizations considered to support the common good and therefore accorded special treatment within TNDs. Civic uses include educational, cultural, social, service, and religious not-for-profit organizations. Existing and potential civic organizations should have sites reserved within every TND even if their advent is in the distant future. Communities develop such institutions with the reserved civic sites acting as a reminder and an incentive.

Special Landscape Reservation: a site designated on the Regulating Plan for a park as a public asset, effectively zoned for that purpose. A landscape reservation can be rescinded only by appeal to the Planning Board in public hearing.

Parking Garage Reservation: a site designated on the Regulating Plan for a parking garage as a public asset, effectively zoned for that purpose. A parking garage reservation can be rescinded only by appeal to the Planning Board in public hearing.

Civic Building Reservation: a site designated on the Regulating Plan for a civic building as a public asset, effectively zoned for that purpose. A civic building reservation can be rescinded only by appeal to the Planning Board in public hearing.

Civic and Private Buildings: for the purposes of urban design and coding civic buildings are considered to be those held for community use or benefit by governmental, cultural, educational, religious or transportation organizations. All others are considered to be private buildings. There is a dialectical relationship in the configuration of civic and private buildings generally understood to include the following attributes: Public/Private, Architecture/Building, Major Work/Minor Work, Art/Craft, Artistic/Artisanal, Stylish/Folkish, Special/Everyday, Intensively Designed/Casually Designed, Classical Syntax/Vernacular Syntax, Expressive/Silent, Urban Ornament/Urban Fabric, Object Building/Space-Defining Building, Foreground Building/Background Building, Singular Building/Repetitive Building, Superhuman Dimensions/Human Dimensions, Monumental Scale/Domestic Scale, Architectonic/Tectonic, Accomplished/Simple, Symbolic/Evident.

Land Use: the combination of category of use (Restricted, Limited, and Open) and intensity (Transect Zone) of a locale. By reducing land use to a functional classification, CSD has hampered planners' ability to coordinate it effectively with transit and thoroughfares.

Premises: a specific building and/or open space within an urbanized area.

Artisan Use: premises used for the manufacture and assembly of artifacts creating no adverse impact. The location of artisan activity shall be limited to buildings and outbuildings with alley access. The building area assigned to this use shall be limited to 500 sq ft. Storage shall be within the building or masked by garden walls.

Commercial Use: the term collectively defining workplace, Office, Retail, and Lodging functions.

Congregate Care Use: premises specialized for the housing and care of elderly persons who are sometimes frail or incapacitated. This use is emphatically not considered to generate an adverse impact, nor is it a prohibited use. See: **assisted living, independent living, continuing care retirement community**

Hedgerow: a hedge composed of trees.

Fence: a permeable metal or wooden wall, independent of a building, located along a frontage line. Fences demarcate the public and private realms, separating the lot from the streetscape. Fences are appropriate for the more rural zones of the Transect. Fences may be used in conjunction with porches to provide the element of social inhabitation while controlling trespassing. See: **Street Wall**

Garden Wall: an outdoor wall surrounding a plot of land. Garden walls can be built on a lot line.

Hedge: an alignment of tightly growing shrubs. Hedges serve to delineate boundaries, to block winds, and to define compartments within open spaces. A hedge is one of the variants of an urban street wall, performing a masking role along a frontage. It should be composed of an evergreen species.

Palisade: a fence made of small tree trunks vertically inserted into the ground. This and the split-rail fence are the most rural of street walls.

Screen: a wall, a trellis, or a row of trees designed specifically to define a space, mask an undesirable view, or create more privacy. Also applicable to the interior of a building.

Common Wall: a wall or walls shared by more than one building at the side or rear lot line. Common wall buildings are desirable in Urban Centers (T-5) and Urban Cores (T-6).

Party Wall: a single wall shared by two structures, such that it bears the beams of both. This type is now endangered because of fire codes, but the legal format of the reciprocal easements it required has spun off the useful "party wall agreement." See **Party Wall Agreement**

Abutting Wall: a wall abutting another directly with a narrow, sealed gap, such that the collapse (as in a fire) will not pull down the other. Such a wall also satisfies legal requirements for independence – required not least by mortgage lenders.

Party Wall Agreement: an agreement as to specific rights to use a common wall, obligations as to maintenance, and reciprocal easements. Such an agreement can be applied to a party wall or an abutting wall. Such agreements can also cover similarly interlocking but physically dissimilar situations.

Deck: a roofless floor structure, at rooftop or ground level, specifically allowed to encroach into a yard. A deck is similar to a terrace but made of boards.

Required Planting: the portion of the landscaping that must be supplied and installed by code. Planting of street trees and the landscaping of open spaces is required of the master developer (the founder). The trees on the private lots are required of the builder/developer or owner. The size and description of the required planting is controlled by the landscape regulations. The responsibility for the maintenance rests on the community council for the planting on public tracts, and on the property owner for the planting on private lots.

Street Trees: trees of a determined species selected for planting along a thoroughfare. Street trees should be selected for availability, durability, resistance to disease, and formal attributes in support of the urban intention of the transect. Street trees may be selected for shade in warm climates where the frontage setback is available, and they must be selected for their tight silhouettes on urban streetscapes where front setbacks are shallow. The forms may be sculptural for the more urban sector, and formally picturesque for clustering at edge zones. Street trees in TNDs should be coordinated by code to the frontage of the private yards in order to create a coherent ecosystem within the public and private realm.

Shade Tree: A tree planted for shade. Before the advent of air conditioning, street trees were usually shade trees with large, spreading canopies. After the advent of air conditioning, maintenance of wired infrastructure, tight municipal budgets, and traffic engineers worried about runaway cars, and shade trees are rarely used for street trees.

Syntax/Style/Fashion: three modes of design often dictated by codes. An architectural code should endeavor to achieve tectonic harmony before stylistic cohesion, and stylistic cohesion before fashion. A syntax, fashion, or style is the mean of that which is most repeated. A building must be within its context's "stylistic range" of that mean.

Syntax: the arrangements of parts, particularly structural parts, as in a building.

Style: a permanent attribute of design, based upon the motifs and manner of arrangement of given times and places

Fashion: an attribute of design based upon the motifs and manners of the moment.

Architectural Harmony: a quality generally held to be agreeable. Harmony in urbanism is primarily a visual phenomenon, derived from a compatible architectural syntax. This includes size, proportion, material, and color. Harmony is an important tool with TND, as it enables the necessary variety of building uses and types to coexist in close proximity.

Architectural Proportion: the ratio of the height to the width of a figural plane, solid, or space. Figures with similar proportions are intrinsically compatible visually, leading to harmony between buildings of different uses and by different designers. Compatible proportions are usually secured by coding, particularly by prescriptions within the architectural regulations pertaining to porches, fenestration, and roof slope.

Architectural Tectonics: the materials, techniques and configurations of building, the basis of architectural style. Architectural codes, when properly executed, are based upon the open system of tectonic elements, not upon the closed system of resolved details. Example: The Celebration Pattern Book.

New Blight: a building in such disharmony with the adjacent urban fabric in function, disposition, or configuration that it immediately reduces the value of the real estate in its proximity. Dingbats, parking lots, high schools, and concentrations of affordable housing usually have this effect. The codes of American inner cities seldom offer protection from this phenomenon. CSD practice, to its credit, is precise in the avoidance of this negative effect. It is an important function of TND codes to emulate this practice.

Gallery Frontage Lines: the lot lines required to provide a covered gallery over the enfronting sidewalk.

Arcade Frontage Lines: the lot lines required to provide a covered arcade spanning the sidewalk.

Retail Frontage Line: the lot lines required to provide a storefront making the ground level available for commercial use.

Focus Point: the location at the axial termination of a thoroughfare. A building at a terminated vista may be required by the Regulating Plan to receive the axis by an articulation of the facade. Syn.: **Terminated Vista**

Solar Building: a building disposed uniformly toward the most advantageous solar orientation. The resulting urbanism is usually buildings in parallel rows, incapable of defining a streetscape, establishing a frontage, or clearly enfronting public and private open space. Such a specialized concern has given solar buildings a bad reputation as urban buildings. This deficiency can be overcome by certain strategies followed individually or in combination: 1. Allow the solar disposition of the buildings on their lots, then resolve the frontage requirements by means of street walls. 2. Position the buildings on their lots according to the requisites of the frontage, then resolve the variable solar orientation by specialized architectural elements such as massing controls, fenestration, overhangs, porches, balconies, and differential insulation.

Solar Thoroughfares: thoroughfares specifically designed for the sake of pedestrian comfort. In cold climates, solar thoroughfares running east-west have the sidewalk on the northern side, which is favored by sunlight as the southern sidewalks are shaded by buildings. In hot climates, the reverse is true, with the favored sidewalk to the south and the provision of street trees along the north to shade the sidewalk.

Building Envelope: the maximum potential configuration of a building as determined by the code. The actual configuration of building is usually subtractive from the building envelope, except at mandatory build-to-lines.

Enclosed Building Area: the measure of the area of a building for purposes of calculating floor area ratios and parking ratios. The enclosed building area calculation excludes porches, loggias, arcades, and patios, as these are considered to be of social utility, not disincentives.

Lot Coverage: the maximum area of a lot that may be occupied by a structure. Lot coverage is expressed as a ratio. Arcades, open porches, decks, terraces, and stoops are excluded from the calculation.

Parking Ratio: the relationship, fixed by code, between parking quantity, building use, and building size. Parking ratio is one of the determinants of building size along with floor area ratio (FAR), lot coverage, and bulk controls. Parking ratio is usually the determinant, limiting building size. There are three conditions of parking that establish thresholds: 1. No parking required. This is an exceedingly rare situation. While "downtown" or core codes sometimes allow this, lending criteria and the reality of automobile use create a parking requirement nevertheless. Only in Manhattan and San Francisco are the densities, the use mix, the mature transit system, and the ethos

such that a no-parking code is actually implemented. 2. Parking structures. This is a rare situation which can be implemented when the value of land, the economics of the development, or the public subsidy justifies it. 3. Surface parking both in parking lots and on the street. This is a common situation which must be assumed in planning and coding unless otherwise stated. With surface parking, the constraint is masking the parking lots behind the buildings without creating excessively large blocks.

Ghost Parking: the method of setting aside land to make up the difference between parking provided at a low parking ratio and the theoretical demand set by a higher legal or market-driven one. The authority requires that land enough for the theoretically demanded parking be set aside, but requires that only a part of it be built initially. The land is available if the demand materializes, but if it does not, then the land becomes available for other uses, such as Civic Space. Source: Will Sellman, TDPA

Floor Area Ratio: the ratio of building area to lot area, given as a dimensionless number. Because this number is sensitive to the invisible boundary of the lot (including the rear boundaries), and to small changes in setbacks, it is unhelpful for regulating the look and feel of a place.

Footprint: the horizontal extent of a floor or building itself upon the ground plane.

Double Frontage: an urban condition where a lot has more than one frontage, generally at the corner of a block. The primary frontage may be designated on the regulating plan. The secondary frontage is also called a **flankage**.

Range: a set of buildings designed as a single composition. Generally applied to rowhouses.

Liner Building: a building conceived specifically to mask a parking lot or a parking structure from the frontage. Liner buildings are shallow in depth as they are conceived to mask parking without consuming it, as a conventional building would.

Sleeve: liner buildings on both sides of a thoroughfare to get past a difficult condition.

Garage Ratio: the vertical surface area of the garage (the doors and their surrounds) relative to that of the rest of the facade. The garage door, being blind, has a negative effect on pedestrian continuity but may be acceptable as a small part of the overall surface of the facade. The garage ratio should not exceed 1 to 3. The impact of the garage may also be minimized by pulling it behind the facade away from the frontage. **(to be illustrated)**

Adverse Impact: the negative consequences of a use on adjacent lots, usually as a result of noise, vibration, odor, or pollution. Consequences confined to the lot boundary are not considered to create adverse impact.

Prohibited Use: premises that generate adverse impacts beyond their lot boundaries. TND codes prohibit outdoor vending machines, billboards, and locales supporting drive-through transactions (with the exception of gasoline stations), all of which undermine pedestrian-oriented commerce.

Density: a measure of building in proportion to land area. Density is usually stated in units/acre for residential use and floor area ratio (FAR) for commercial use (an FAR of .5 means the built area is half the area of the lot). In theory, density is assigned as a function of zoning. In practice, the highest densities are determined by parking ratio. TNDs foster a variety of densities that correspond to a range of market segments. Core and Center Zones require the more urban attribute of higher density, while Edge and Greenedge Zones control density to provide a more rural lifestyle. See: **Parking Ratio**

Shadow Density: the units or commercial building area that are allowed in addition to the basic zoned density, usually as an incentive.

Mixed Use: multiple functions within the same building or the same general area through superimposition or within the same area through adjacency. Mixed use is one of the principles of TND development from which many of the benefits are in fact derived, including that of pedestrian activity and traffic capture. Suburban zoning categories specifically or by secondary consequence prohibit mixed use; TND ordinances assure it. Syn.: **24-hour city, day-night use**.

Vernacular: the common language of a region, particularly in reference to the architectural tectonics. Through time and use, the vernacular has intrinsically resolved the architectural response to climate, construction technique, and to some extent, social mores. The writing of codes based on the emulation of the vernacular can dispense with basic research, resulting in design efficiency and the minimizing of errors.

Regionalism: the thesis that the design of artifacts should be informed by the ethos of a region. Regionalism has a salutary effect on the urban pattern, a decidedly positive one on building type, and an essential one on the architectural vernacular.

Ecological Building: a building constructed of materials that are, as much as possible, harvested and manufactured locally, recycled or recyclable, and derived from renewable sources. Ecological buildings are also expected to consume scant energy in maintaining the human comfort zone. Syn.: **green building, energy-efficient building**

Environmental Building: a building constructed primarily of materials that are nontoxic. Syn.: **healthy building**

Gizmo Green: the technology-oriented aspect of "green" design in which wasteful elements of life are made less wasteful through technological prowess. Examples include fuel-efficient cars, compact fluorescent bulbs, and biodegradable plastics. Although Gizmo Green succeeds in reducing waste, it is insufficient by itself. *Source: Steve Mouzon*

Original Green: the tradition and pattern-oriented aspect of "green" design in which wasteful ways of living are replaced by holistic patterns of sustainable communities and sustainable buildings. Original Green depends on making places both efficient and lovable. *Source: Steve Mouzon*

Roof: that element of a building that covers the top as the walls enclose the sides. The roof, perhaps more than any other tectonic element, defines a harmonious vernacular and should therefore be controlled for material, slope, and overhang by the architectural regulations.

Eave: the junction of the wall of a building and an overhanging roof. To avoid discouraging pitched roofs, the designated maximum building height should be measured to the eave, not to the ridge of the roof.

Gable: the orientation of a pitched roof that shows the vertical, triangular side rather than the sloped. A gable facing towards a frontage individualizes a building more strongly than a shed that reads horizontally. For example, the code of Alexandria, Virginia, forbids gables from facing frontages, except on civic buildings. Syn.: **shed roof**

Roof Overhang: the overhead cantilever of an architectural element beyond the building wall. Balconies and roofs are the most common overhangs, and allowances must be made for them where setbacks are shallow. The first type of allowance permits an easement over the public right of way. The second holds a minimum setback of three to six feet and extends the sidewalk so that it is partially on private ground. The easement procedure is generally more diffi-

cult to arrange as the liability of public and private must be allocated. The degree of roof overhang and the slope are environmental and technical determinants as well as sources of harmony in the building of a community.

Roof Slope: the angle of the roof, usually stated as a ratio of vertical to horizontal. A certain slope of the roof is one of the attributes of the vernacular. It is usually an evolved technical response to rain, snow, wind, and available spanning and cladding material. This vernacular system is currently to be found undermined by efficient distribution systems with readily available material and with architectural style rather than the environmental factors determining the slope. Nevertheless, a shared attitude toward roof slope is useful as it is one of the principal sources of visual coherence in a community. A narrow range of slope should be specified within the architectural code.

Enfront: To place an element along a Frontage, as in 'porches enfront the street.' *Source: Charles Moore*

Hip Roof: a roof without gables that rises up from all sides in a pyramidal fashion. Hip roofs have historically been more expensive to build than gabled roofs, and have connoted status. They can be jarring if inexpertly combined with gabled roofs even of the same slope, as the sloping pyramidal edge does not parallel the gable edge.

Arcade: A Private Frontage conventionally for Retail use wherein the Facade is a colonnade that overlaps the Sidewalk, while the Facade at the Sidewalk level remains at the Frontage Line.

Colonnade: a series of columns similar to an arcade but trabeated (spanned by straight lintels rather than arches). The canon of modernist architecture permits colonnades but demonizes arcades, although arcades offer superior structural performance, particularly at the moment of connection.

Loggia: an open-air room within the mass of a building with ceiling and floor but no wall on at least one side.

Porch: an open-air room appended to the mass of a building with floor and roof but no walls on at least two sides.

Outside Corner: *tbd*

Poche: the variable thickening of a building wall to reconcile the requirements of the interior and exterior when they do not coincide. It is quite sophisticated because it acknowledges that there is no reason that the interior program should coincide with the requisites of the urban condition. Poche was normative in pre-modern architecture, but has been considered unethical by modernists because it masks the interior function from the outside. It is one of the ways that we can identify a modernist floor plan. Ironically, the hyper-modernism of Gehry takes poche to an unprecedented extreme; his exterior sculptural forms have little to do with the interior.

Fenestration: the openings that form part of a facade, such as windows. Fenestration may be regulated as a ratio of the aggregate of the openings to the wall surface, or by height-to-width ratio. These ratios should be an attribute of a regional architectural vernacular. Such compatible proportions are an important determinant of visual harmony. See: **Harmony**

Mullions: the subdivision of windows. Mullions were originally a means for assembling small glass panes into large windows. Mullions were inevitable when technology limited glass size, but this is no longer a determinant. They continue to be effective in creating a modicum of psychological privacy from the interior of buildings. Mullions are warranted when the distance between buildings is short, particularly with courtyards. The actual mechanism is the blurring when the eye focuses on the web of mullions rather than on the objects beyond, although the aesthetics of light and color are fully perceived.

Color: an element of architectural tectonics having certain environmental and aesthetic attributes. Color is useful primarily as an instrument of harmony. Wall, roof, and trim colors are generally controlled through the architectural regulations. Colors may be listed by name and number, or by reference to a single quadrant of the color wheel, where the colors are automatically harmonious. Civic buildings may be assigned a

unique color to establish a semantic difference. A color may also be reserved for civic elements such as lamp posts, trash cans, and municipal vehicles. Example: the Queens Red

Awning: an ancillary lightweight structure of wood, metal, or canvas, cantilevered from a building facade and providing shade to the fenestration and spatial containment to the pedestrian. Awnings, to be an effective adjunct to a shopfront, must thoroughly overlap the sidewalk and be no higher than 10 ft. at the front edge. The pedestrian will thereby be within the *ambit* of the shop, and the display window will be free of reflective glare.

Balcony: an unenclosed, habitable structure, usually cantilevered from a facade or an elevation, providing private outdoor space to an apartment. Balconies in great numbers, with excessive depth, tend to dematerialize the vertical plane of a facade, interfering with its role of spatial definition. A better alternative to avoid this is to use a French balcony and the loggia.

French Balcony: a shallow balcony, almost flush with a facade, accessed by a single pair of inward-swinging doors. French balconies do not dematerialize the spatially-defining character of facades as does the "egg crate" of conventional deep balconies. French balconies virtually transform the adjacent interior room into an outdoor space.

Perceptual Plane: the vertical aspect of a building; an elevation or facade as opposed to a plan, which is the horizontal plane. An aesthetic investment in the vertical plane is more effective than the horizontal, as it is the plane of perception of the human when standing.

Tower: a tall building or a portion thereof able to access a view that is distant or otherwise blocked. Ability to build a tower can increase the value of a building site not directly enfronting a desirable panorama. Providing a tower to increase density (as a high-rise) is questionable practice for several reasons:

1. It tends to increase the parking, forcing the creation of unworthy frontages.
2. It may absorb the market, leaving similar sites empty for years.
3. It darkens with shadow and tends to degrade the privacy of all other buildings that are not towers.

Chamfered Corner: a building corner that is cut back to a diagonal in order to permit a clear view triangle for vehicles in an urban condition of very short setback. A chamfered corner is an excellent location for the door of a commercial establishment, as it taps into the pedestrian flow from both thoroughfares.

View Triangle: *tbd*

Alcove: a recess in a wall that may enclose a bench, a fountain, or a sculpture. An alcove is an effective device to enliven the otherwise dismal pedestrian experience of a street wall.

Grille: a window-like opening in a street wall infilled by a perforated armature of tile, metal, or wood. Grilles permit ventilation and view while maintaining a secure perimeter.

Gate: a door connecting one outdoor space with another. Gates have a range of material, shape, detail, and opacity, depending on the degree of privacy to be achieved, as well as the location on the Transect. The design should correspond to the wall upon which it is hung. A metal gate, for example, is not appropriate on a wooden fence.

Trellis: a lattice-pattern frame supporting climbing plants, usually made of wood. A trellis may arch to form a tunnel, be straight as pergola or be a screen affixed to a wall.

SUBSIDIARITY: THE ABILITY TO DECIDE AND TO CONVENE													
ELEMENTS OF QUALITY OF LIFE = ECONOMIC PROSPERITY			PERSON	HOUSEHOLD	BLOCK	INSTITUTION	CORPORATION	NEIGHBORHOOD	THE CITY	THE COUNTY	REGION	STATE	UNITED STATES UNITED NATIONS
	1. AGRICULTURE	1A. AGRICULTURAL PRODUCTION							AGRICULTURAL PRODUCTION	AGRICULTURAL PRODUCTION	AGRICULTURAL PRODUCTION	AGRICULTURAL PRODUCTION	
		1B. FOOD SOURCE & DISTRIBUTION	FOOD SOURCE & DISTRIBUTION	FOOD SOURCE & DISTRIBUTION	FOOD SOURCE & DISTRIBUTION	FOOD SOURCE & DISTRIBUTION	FOOD SOURCE & DISTRIBUTION				FOOD SOURCE & DISTRIBUTION		
		1C. COMMUNITY GARDENS						COMMUNITY GARDENS					
		1D. YARD GARDENS		YARD GARDENS	YARD GARDENS								
	2. CLIMATE	2A. CLIMATE MITIGATION										CLIMATE MITIGATION	CLIMATE MITIGATION CLIMATE MITIGATION
		2B. CLIMATE ADAPTATION								CLIMATE ADAPTATION	CLIMATE ADAPTATION		
		2C. SEVERE WEATHER ADAPTATION		SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION	SEVERE WEATHER ADAPTATION			
		2D. COASTAL CONTROLS										COASTAL CONTROLS	
	3. EDUCATION	3A. HIGHER EDUCATION				HIGHER EDUCATION	HIGHER EDUCATION				HIGHER EDUCATION	HIGHER EDUCATION	
		3B. VOCATIONAL EDUCATION				VOCATIONAL EDUCATION	VOCATIONAL EDUCATION						
		3C. MIDDLE EDUCATION						MIDDLE EDUCATION	MIDDLE EDUCATION				
		3D. ELEMENTARY EDUCATION						ELEMENTARY EDUCATION	ELEMENTARY EDUCATION				
	4. INFRASTRUCTURE	4A. WASTE INFRASTRUCTURE						WASTE INFRASTRUCTURE	WASTE INFRASTRUCTURE				
		4B. STORMWATER INFRASTRUCTURE						STORMWATER INFRASTRUCTURE	STORMWATER INFRASTRUCTURE	STORMWATER INFRASTRUCTURE			
		4C. POTABLE WATER INFRASTRUCTURE			POTABLE WATER INFRASTRUCTURE				POTABLE WATER INFRASTRUCTURE	POTABLE WATER INFRASTRUCTURE			
		4D. ELECTRICAL INFRASTRUCTURE		ELECTRICAL INFRASTRUCTURE	ELECTRICAL INFRASTRUCTURE		ELECTRICAL INFRASTRUCTURE				ELECTRICAL INFRASTRUCTURE	ELECTRICAL INFRASTRUCTURE	
		4E. INTERNET INFRASTRUCTURE		INTERNET INFRASTRUCTURE	INTERNET INFRASTRUCTURE		INTERNET INFRASTRUCTURE				INTERNET INFRASTRUCTURE	INTERNET INFRASTRUCTURE	INTERNET INFRASTRUCTURE
	5. SECURITY	5A. FOREIGN POLICY											
		5B. MILITARY CAPACITY										MILITARY CAPACITY	MILITARY CAPACITY
		5C. SECURITY PROVISION		SECURITY PROVISION	SECURITY PROVISION	SECURITY PROVISION		SECURITY PROVISION	SECURITY PROVISION	SECURITY PROVISION			
		5D. PRIVATE SECURITY											
	6. OUTREACH	6A. MARKETING PROGRAM											
		6B. FEDERAL LOBBYING											
		6C. INTERNATIONAL AGREEMENTS											
	7. REGULATION	7A. BUILDING CODES										BUILDING CODES	
		7B. COMPREHENSIVE PLANS						COMPREHENSIVE PLANS	COMPREHENSIVE PLANS	COMPREHENSIVE PLANS	COMPREHENSIVE PLANS		
		7C. PLANNING & ZONING CODES						PLANNING & ZONING CODES	PLANNING & ZONING CODES	PLANNING & ZONING CODES	PLANNING & ZONING CODES		
		7D. BUSINESS LICENSES				BUSINESS LICENSES		BUSINESS LICENSES					
		7E. LIGHT RED TAPE ZONES				LIGHT RED TAPE ZONES		LIGHT RED TAPE ZONES	LIGHT RED TAPE ZONES	LIGHT RED TAPE ZONES	LIGHT RED TAPE ZONES		
		7F. ARCHITECTURAL STANDARDS						ARCHITECTURAL STANDARDS					
	8. SOCIETAL	7G. INTERIOR DESIGN	INTERIOR DESIGN	INTERIOR DESIGN									
		8A. HEALTH INFRASTRUCTURE						HEALTH INFRASTRUCTURE	HEALTH INFRASTRUCTURE				
		8B. SOCIETAL SERVICES				SOCIETAL SERVICES	SOCIETAL SERVICES					SOCIETAL SERVICES	
	9. TRANSPORTATION	8C. WORKFORCE HOUSING								WORKFORCE HOUSING			
		9A. MARINE INFRASTRUCTURE					MARINE INFRASTRUCTURE		MARINE INFRASTRUCTURE	MARINE INFRASTRUCTURE	MARINE INFRASTRUCTURE	MARINE INFRASTRUCTURE	
		9B. FREIGHT INFRASTRUCTURE					FREIGHT INFRASTRUCTURE		FREIGHT INFRASTRUCTURE	FREIGHT INFRASTRUCTURE	FREIGHT INFRASTRUCTURE	FREIGHT INFRASTRUCTURE	
		9C. AIRPORT INFRASTRUCTURE					AIRPORT INFRASTRUCTURE		AIRPORT INFRASTRUCTURE	AIRPORT INFRASTRUCTURE	AIRPORT INFRASTRUCTURE	AIRPORT INFRASTRUCTURE	AIRPORT INFRASTRUCTURE
		9D. HEAVY (INTERCITY) RAIL CORRIDORS							HEAVY (INTERCITY) RAIL CORRIDORS	HEAVY (INTERCITY) RAIL CORRIDORS	HEAVY (INTERCITY) RAIL CORRIDORS	HEAVY (INTERCITY) RAIL CORRIDORS	
		9E. LIGHT (INTRACITY) RAIL SYSTEM							LIGHT (INTRACITY) RAIL SYSTEM	LIGHT (INTRACITY) RAIL SYSTEM	LIGHT (INTRACITY) RAIL SYSTEM	LIGHT (INTRACITY) RAIL SYSTEM	
		9F. INTERMODAL HUBS							INTERMODAL HUBS	INTERMODAL HUBS			
		9G. BUS RAPID TRANSIT						BUS RAPID TRANSIT	BUS RAPID TRANSIT	BUS RAPID TRANSIT	BUS RAPID TRANSIT		
		9H. LOCAL BUS ROUTES						LOCAL BUS ROUTES	LOCAL BUS ROUTES				
		9I. VEHICULAR HIGHWAYS								VEHICULAR HIGHWAYS	VEHICULAR HIGHWAYS		
		9J. VEHICULAR STREETS							VEHICULAR STREETS				
		9K. BICYCLE WAYS						BICYCLE WAYS					
		9L. PEDESTRIAN WAYS						PEDESTRIAN WAYS					