ARTICLE 27
DEVELOPMENT AND DESIGN GUIDELINES

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Sec. 27.1. Applicability.

Unless the context clearly indicates otherwise as specifically provided in this Article, the development requirements and guidelines are intended to apply to all land uses except for detached, single-family dwellings.

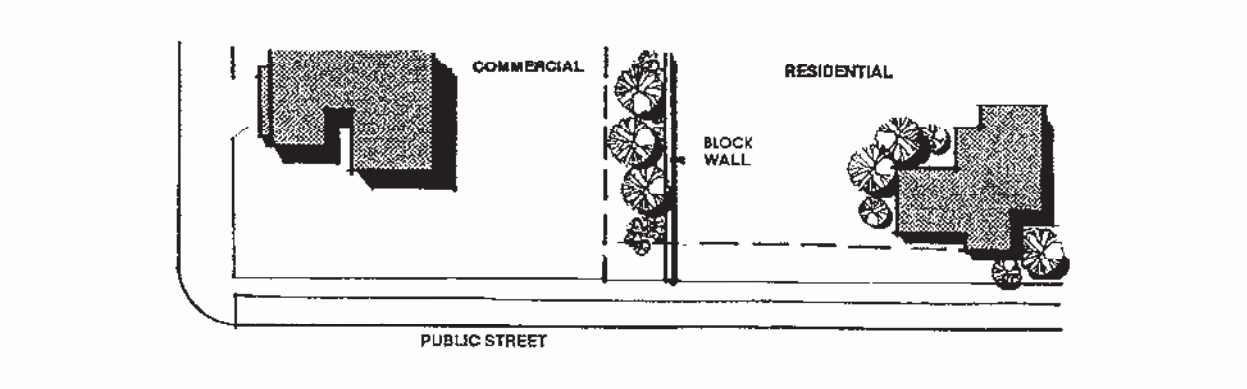
Sec. 27.2. Interpretation.

When the term “shall’ is used, that provision is a regulation and must be followed. When the terms “should” and “are encouraged” are used, that provision is a guideline and not mandatory. However, significant or successive departure from a guideline shall be due cause for disapproval of development plan approval.

Sec. 27.3. General Compatibility.

(a) The site plan, building design, and landscaping of new development should achieve high quality and appearance which will enhance and be compatible with the character of the surrounding area.

(b) Site planning and design of projects proposed adjacent to dissimilar land uses (outside of traditional neighborhood development and mixed use areas which provide for the mixing of compatible uses) should carefully address the potential undesirable impacts on existing uses. These impacts may include traffic, parking, circulation and safety issues, light and glare, noise, odors, dust control and security concerns.



Buffering of Incompatible Uses

Sec. 27.4. Environmental Compatibility.

(a) Evaluate the proposed development's compatibility with the existing environment to determine the limitations and capabilities of the site for development. Conserve and protect natural resources, including air quality, trees, natural vegetation, existing topography, streams, creeks, wetlands, watersheds, water quality, and wildlife habitat. Development should be limited to a level that does not exceed the capabilities and requirements of a healthy environment.

(b) Significant site features such as habitats, natural ground forms, existing site vegetation, large rock outcroppings, water, and significant view corridors should be identified and incorporated into development plans. Where possible, a diversity of habitats is preferred.

(c) Riparian zones, stream corridors, and wetlands should be protected for their wildlife habitat and other values. Development plans for these areas should treat these components as assets. A continuous, connected, natural vegetative corridor should be preserved along all creek and stream corridors to provide stream quality protection and for the efficient movement of wildlife throughout the area. No fill, removal, or modification of a riparian area should take place, unless there is no reasonable and feasible alternative. The alteration or improvement of significant natural resource areas where permitted, should ensure that potential losses are mitigated and best management practices are employed to minimize permanent damage.

(d) Existing vegetation should be retained to the maximum extent possible. Clearing of native vegetation should be limited to that required for the provision of essential purposes (i.e., access, building, sewage disposal, etc.). Where appropriate, existing native vegetation should be enhanced with plantings of the same variety.

(e) Preserve patches of high-quality habitat, as large and circular as possible, feathered at the edges, and connected by wildlife corridors.

Sec. 27.5. Grading.

(a) Developments should be designed to fit the existing contours and landform of the site and to minimize the amount of earthwork. Excavation and earthworks should be

kept to a minimum to reduce visual impacts and erosion. Where cut and fill is required, balancing the cut and fill is highly encouraged.

(b) Avoid the creation of harsh, easily eroded banks and cuts. Abrupt or unnatural-appearing finished grading is strongly discouraged, but if the site to be developed must be clearcut and graded level, then a landscape plan and tree planting plan should show how the developer is compensating for loss of trees.

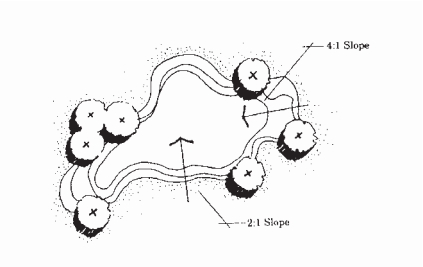
(c) The height and length of retaining walls should be minimized and screened with appropriate landscaping. Tall, smooth-faced concrete retaining walls should be avoided in highly visible areas. Terracing should be considered as an alternative to the use of tall or prominent retaining walls, particularly in highly visible areas on hillsides.

(d) Disturbed areas which are not used for roads, buildings, or other auxiliary uses should be replanted.

Sec. 27.6. Drainage.

(a) Natural on-site drainage patterns should be used where practicable. Detain runoff with open, natural drainage systems where possible.

(b) Design man-made lakes and stormwater ponds for maximum habitat value and/or to serve as amenity features, if possible considering cost, land area, end users, liability, safety and security issues.



Stormwater Pond as an Amenity Feature

Sec. 27.7. Architectural Design.

(a) Architectural design shall be compatible with the developing character of the neighboring area. Design compatibility includes complementary building style, form, size, color, materials, and detailing. The designer shall consider each of the following contexts as part of the design process:

1. Size (the relationship of the project to its site)
2. Scale (the relationship of the building to those around it)
3. Massing (the relationship of the building's various parts to each other)
4. Fenestration (the placement of windows and doors)
5. Rhythm (the relationship of fenestration, recesses and projections)
6. Setback (in relation to setback of immediate surroundings)
7. Materials (their compatibility with the district in which the building is located)
8. Context (the overall relationship of the project to its surroundings)

(b) Efforts to coordinate the height of buildings and adjacent structures are encouraged. This is especially applicable where buildings are located very close to each other. It is often possible to adjust the height of a wall, cornice or parapet line to match that of

an adjacent building. Similar design linkages such as window lines should be placed in a pattern that reflects the same elements on neighboring buildings.

(c) Diversity of architectural design should be encouraged. "Theme" or stylized architecture which is characteristic of a particular historic period or trend is not encouraged, unless the existing building or site is historically important to the district or necessary for architectural harmony.

(d) Multiple buildings on the same site should be designed to create a cohesive visual relationship between the buildings.

(e) Long or continuous wall planes shall be avoided, particularly in pedestrian activity areas, where buildings should exhibit more detail and elements appropriate for close range pedestrian view. Recesses and projections should be used along the front façade to break up long expanses of wall planes.

(f) The walls of buildings for office, institutional, commercial, and industrial use shall not extend more than 200 linear feet parallel to a street unless the front façade of the building is designed in a way that breaks up the building face into discrete architectural elements, which can be accomplished through the following:

Façade modulation: stepping back or extending forward a portion of the façade; and/or

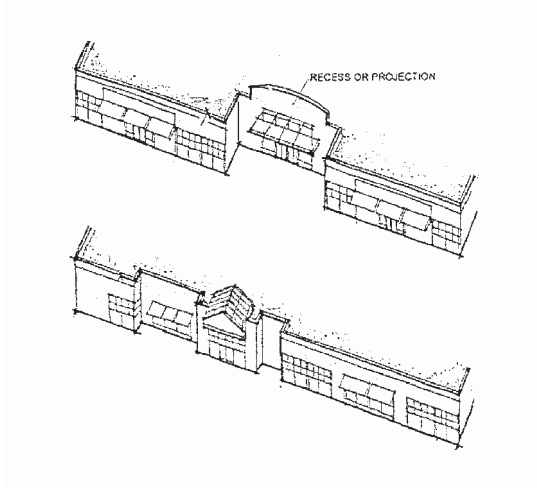
Providing bay windows or repeating window patterns at regular intervals; and/or

Providing a porch, patio, deck, covered entry to portions of the façade at the ground level, or in the case of buildings containing two or more story, balconies; and/or

Changing the roofline by alternating dormers, or using stepped roofs, gables, or other roof elements; and/or

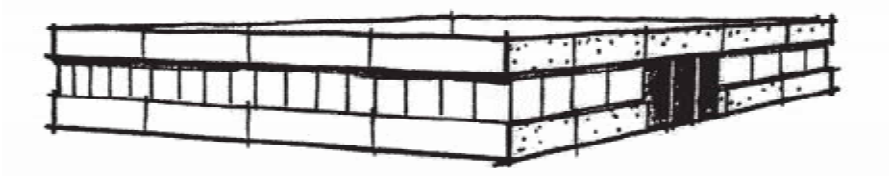
Changing materials with the change in building plane.

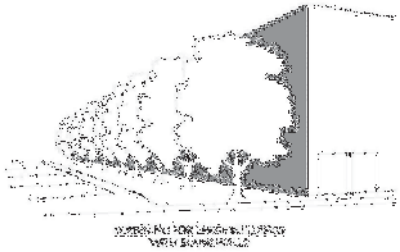
Façade Modulation: Recesses and Projections



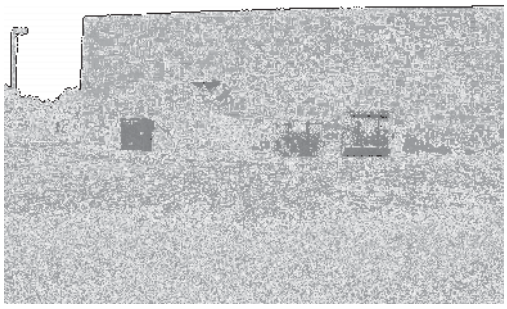
<u>Consistent</u>: Roof planes should be varied to increase visual interest, and awnings above windows and entrances also help to provide visual interest.

Inconsistent: Flat roofs and lengthy, non-articulated walls.





Consistent: A line of mature trees that almost entirely screens what would otherwise be a large, imposing side wall of a big box.



Inconsistent: The rear side of this shopping center consists of a finished but monotonous wall. Trash receptacles are not enclosed.

(g) Outside of pedestrian retail districts, building surfaces over two stories high or fifty feet in length should be relieved with changes of wall plane (i.e., recesses and projections) that provide strong shadow or visual interest.

(h) Except in M-I zoning districts, all sides of a building may impact on its surroundings and should be considered for treatment with an architectural finish of primary materials (i.e., brick and stone), unless other materials demonstrating equal or greater quality are used. As a general rule, except in M-I zoning districts, front facades should be at least 80 percent brick and stone. Side facades should be at least fifty percent brick and stone. Rear facades do not have a minimum suggested standard for primary materials unless they are visible from a public right-of-way.

(i) Except in M-I zoning districts, exterior building materials on the primary structure should not include smooth-faced concrete block, tilt-up concrete panels, or prefabricated steel panels. Exterior building elevations within employment/industrial character areas may be split face (integrated block), tilt-up concrete panels accented with steel panels. However, elevations visible from the public right-of-way must be permanent, non-metal construction.

(j) The following types of building materials should not be used: highly reflective, shiny, or mirror-like materials; mill-finish (non-colored) aluminum metal windows or door frames; exposed, unfinished foundation walls; exposed plywood or particle board; and unplastered, exposed concrete masonry blocks.

(k) Material or color changes generally should occur at a change of plane. Piecemeal embellishment and frequent changes in material should be avoided. A horizontal accent stripe (e.g., a foot wide stripe of different color) should be used to help reduce the monotonous color and break up the appearance of large building walls.

(l) Facade colors should be low reflectance, subtle, neutral, or earth tone colors. High-intensity colors, metallic colors, black, or fluorescent colors should not be used. Building trim and accent areas may feature brighter colors, including primary colors, provided that the width of the trim shall not exceed four (4) feet.

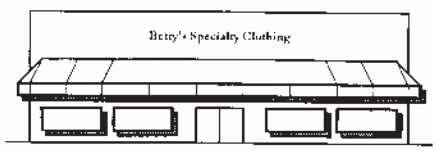
(m) Building colors should be carefully chosen so that each building complements that of its neighbors. Colors can be classified as the “base” color (used on the majority of the building surface), “trim” color (used on the window trim, fascia, balustrades, and posts), and “accent” color (used on signs, awnings, and doors). The base color should consist of more subdued earth tones or brick shades. Trim colors should have contrasting lighter or darker shade than the base color. If natural brick is used, it should not be painted.

(n) The use of awnings on buildings is recommended so as to provide much needed protection from sun, wind, and rain, and to improve aesthetics of the building exterior.

(o) Awnings are recommended to be constructed with a durable frame covered by a canvas material. Awnings that are backlit through translucent materials may be acceptable but are not particularly encouraged. Aluminum and other metal canopies are acceptable in most instances, particularly when integrated into shopping center designs. Flameproof vinyl, canvas or metal awnings and canopies may be used.

(p) Solid colors are preferred over striped awnings, but striping is permitted if colors compliment the character of the structure or group of buildings.

(q) Awnings are encouraged for first floor retail uses to provide architectural interest and to encourage pedestrian activity. Where awnings are used, they should be designed to coordinate with the design of the building and any other awnings along the same block face.



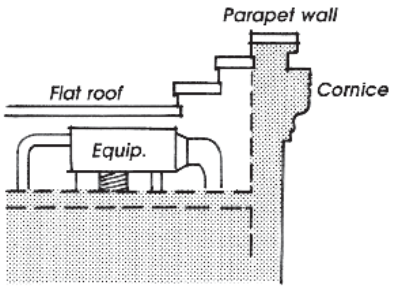
Encouraged:
Shops Facing Street
With Awnings and Storefront Windows
Help Define Streetscape

(r) The design of fences and walls shall be compatible with the architecture of the main building(s) and should use similar materials. All walls or fences fifty feet in length or longer, and four feet in height or taller, should be designed to minimize visual monotony though changes in plane, height, material or material texture or significant landscape massing. Except in M-I zoning districts, chain link fencing is discouraged. Use of special fencing design or materials should be discussed in cases where site security is paramount. If used, chain link fences should be vinyl coated (black or green colored vinyl encouraged).

(s) All garbage dumpsters and other similar areas devoted to the storage of waste materials should be screened on three (3) sides of said dumpster or area with a minimum six (6) foot high solid wooden fence, or a wall constructed of materials substantially similar in appearance to the building on site. In addition, said dumpster areas should be gated on the fourth side with a material that provides opaque screening.

Recommended Practice for Screening Dumpsters

(t) Rooftop mechanical and electrical equipment shall be screened from public view by building elements that are designed as an integral part of the building architecture, or by a parapet wall.

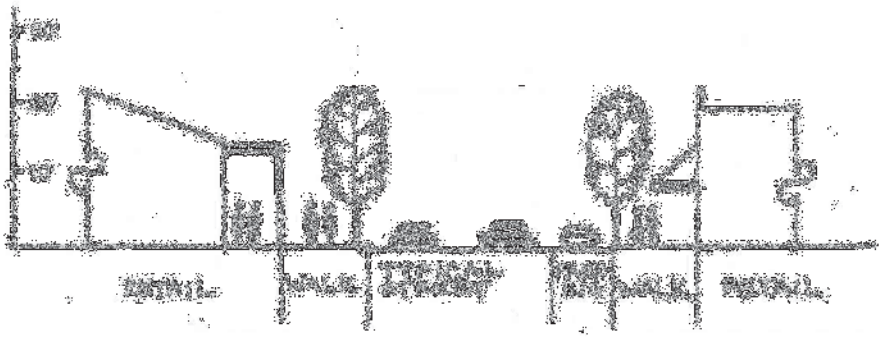


Roof top Screening

Sec. 27.8. Pedestrian Retail.

(a) These areas of commerce are designed first and foremost with attention to the pedestrian rather than the automobile. Sidewalks are wide enough for significant pedestrian activity and auto and truck access is limited in areas of pedestrian activity. Buildings frame the street by being located close to the street and with a height of at least 1.5 stories. The buildings, many of which are retail shops, have awnings and storefront windows, that add interest to pedestrians. Signs are smaller and closer to the ground, rather than being sized and located to attract motorists.

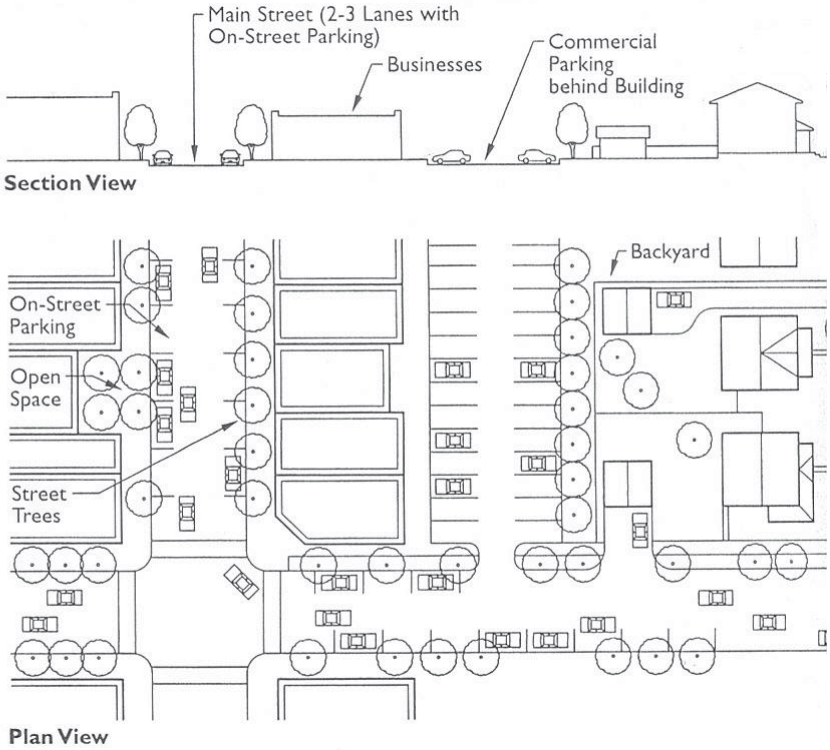
Consistent: 1.5-story or taller building heights, canopies and awnings, wide sidewalks with street trees, on-street parking.



Source: Arendt, Randall, et al. *Rural By Design: Maintaining Small Town Character*, Figure 9-11, p. 276. (Chicago: Planners Press, 1994).

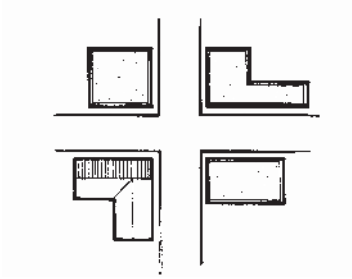
Consistent: Building frames the street. Sidewalk provided. Street tree planting strip in between on-street parking and the sidewalk.

Consistent: Store-front retail spaces have awnings and are located abutting a wide sidewalk. On-street parking and street trees.



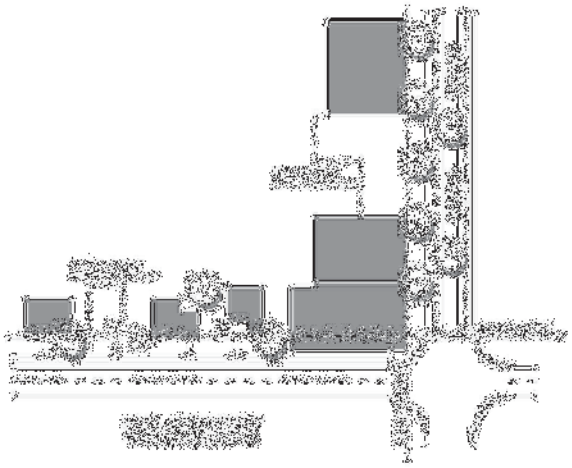
Source: Aaron Fortner, Market + Main, and Richard Dagenhart. Commercial Corridors, p. 418 in *Planning and Urban Design Standards* (New York: John Wiley & Sons, 2006).

(b) Building Placement. Buildings should be placed close to (with little if any setback from) streets internal to the development, or along public streets abutting the development area, as determined in the development review and approval process. The buildings should be generally placed so that the main entrance is oriented to the street sidewalk.



Source: Morris, Marya, ed. 1996. *Creating Transit-Supportive Land Use Regulations*. PAS Report No. 468. Figure 1-9, p. 10. Chicago: American Planning Association.

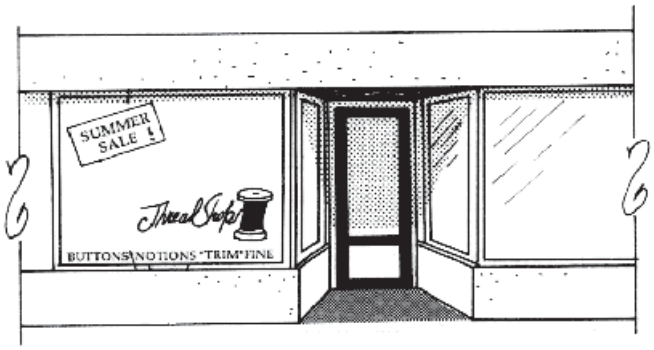
(c) Building Lines. Buildings should observe the setbacks or "build-to" lines requirements established by buildings on either side of the proposed building.



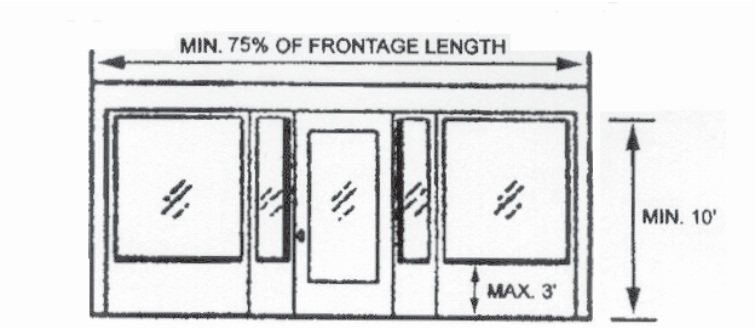
(d) Ground Floors. The ground level of multi-story buildings should contain retail or entertainment uses with direct entry from the street to provide pedestrian interest along sidewalks. Pedestrian interest can be enhanced with use of windows, entrances, and architectural details. Pedestrian signage, awnings, and ornamentation are encouraged.

(e) Uses on Shopfront Streets. Within buildings fronting storefront streets in Traditional Neighborhood Development, the Central Business District, or mixed use areas only commercial, office, civic, or institutional uses should occupy the ground-level floor. Floors above the ground level may be occupied by office or residential uses.

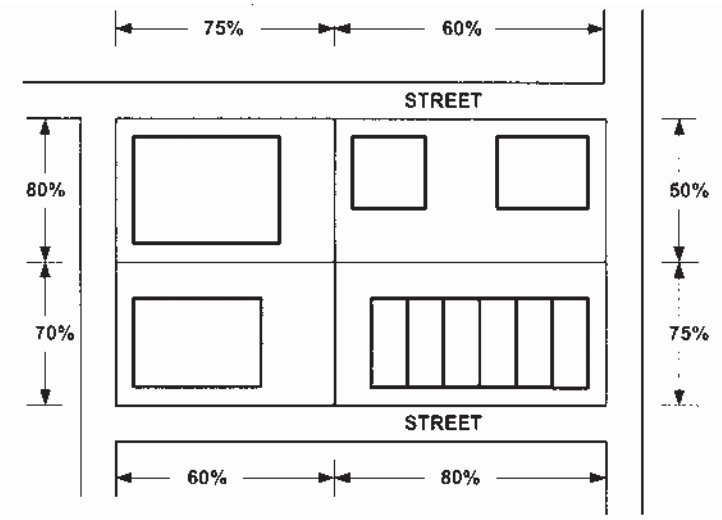
Consistent: Storefront windows should be transparent. Mirrored glass, faux windows or display casements are strongly discouraged.



(f) Shopfront Windows. In designated shopfront areas, at least 75 percent of the building's front façade shall consist of clear glass window and/or door.



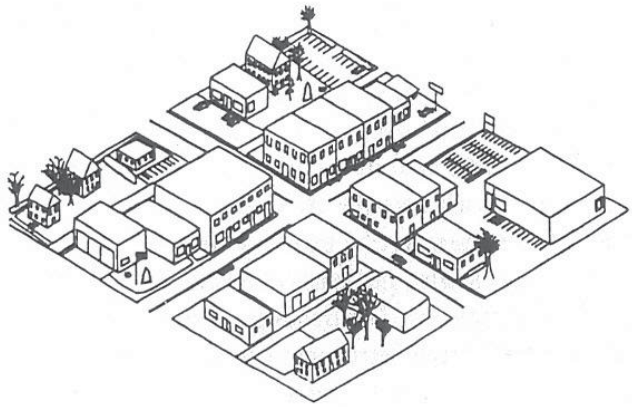
(g) Minimum Building Frontage. The percentage of the lot's street frontage that is occupied by one or more principal buildings should be compatible and consistent with buildings on either side of the proposed building.

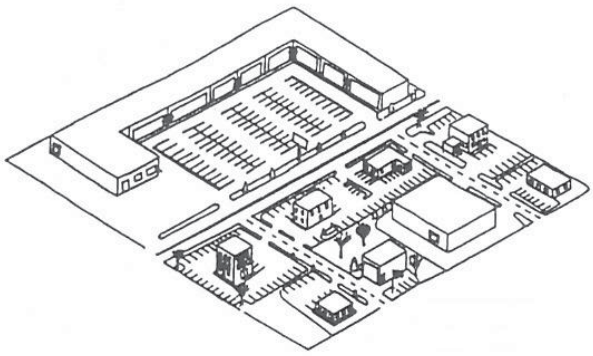


Illustrative Building Frontages

Consistent: Grid block pattern. Buildings are not set back much if any from streets and they frame the street frontage and street corners. Two-story height for buildings desirable. Parking is mostly behind buildings (some on-street parking is permitted).

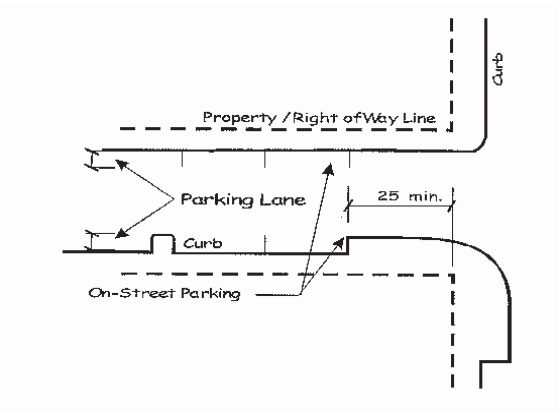
Inconsistent: Mostly single-story development with parking in the front of buildings. Strip shopping center has little if any articulation (projections and recesses). Individual development sites are not coordinated with one another.



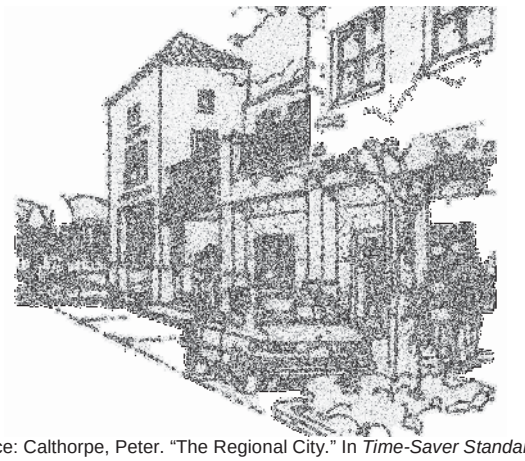


Source: Arendt, Randall, et al. *Rural By Design: Maintaining Small Town Character*, Figure 9-2, p. 118. (Chicago: Planners Press, 1994).

(h) On-street Parking. On-street parking should be provided on streets within Traditional Neighborhood Development and Mixed Use Zoning Districts, except within twenty-five feet of the right-of-way of an intersecting street.



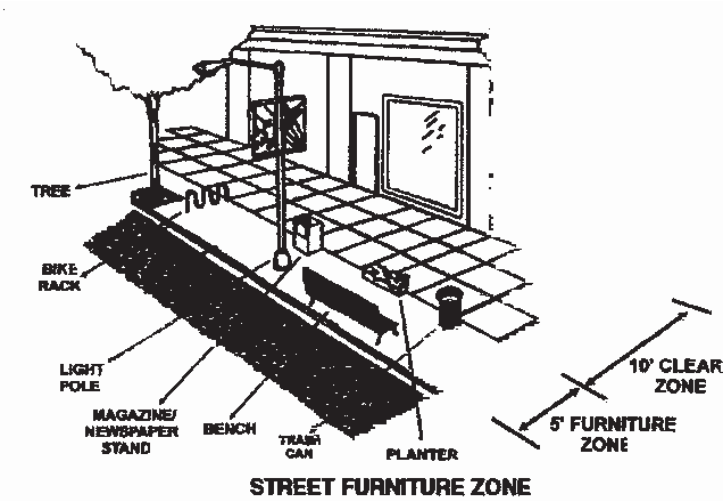
Source: Kendall, Florida. Ordinance 99-166. Downtown Kendall Urban Center District.



Source: Calthorpe, Peter. "The Regional City." In *Time-Saver Standards for Urban Design*, edited by Donald Watson, Alan Plattus, and Robert Shibley. New York: McGraw-Hill, p. 1.5-6.

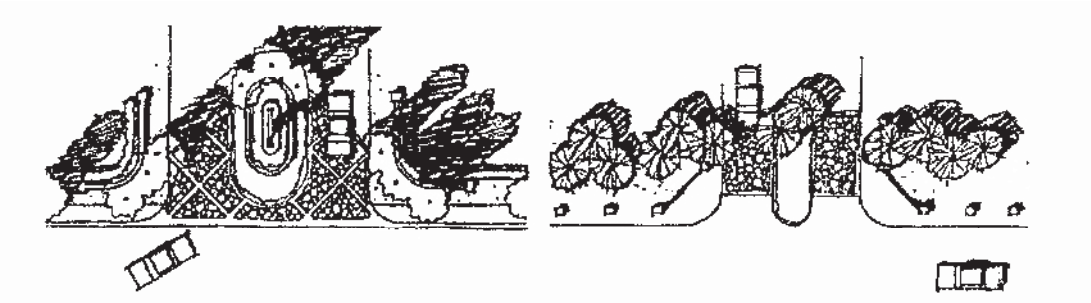
(i) Signs. Within pedestrian retail districts, projecting signs are permitted and encouraged, provided that they clear sidewalks by a minimum of eight (8) feet in height.

(j) Sidewalk Clear Zone and Street Furniture Zone. In pedestrian retail areas, the street sidewalk shall consist of a minimum five foot wide (5') clear zone. Between the clear zone and street curb, there shall be a five-foot wide street furniture zone for the placement of light poles, benches, bicycle parking, trash receptacles, tree planting, and planter boxes.



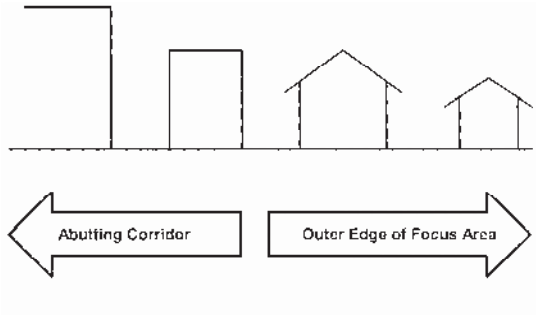
Source: City of Atlanta. 2000. City of Atlanta Neighborhood Commercial Zoning District Regulations.

(k) Pedestrian Crossings of Driveways and Intersections. The color and composition of sidewalk shall be continued as it crosses vehicular driveways and street intersections. Where the sidewalk color and composition of the sidewalk is not otherwise distinguishable from the driveway or roadway composition and color, the sidewalk shall be composed of material with color and texture that demarcates the pedestrian crossing. This provision is required to promote safety of pedestrians, as different textures or colors of pedestrian crossings alert or remind the motorist pedestrians are present.



Sec. 27.9. Shopping Centers Including Automobile-Related Establishments.

(a) Within a shopping center, a logical hierarchy of building forms should be created. Building heights and masses should be greatest in the focus area and inner portion of the support area (the part closest to the focus area), and should transition to lower heights and less mass outward from the focus area to the outer edge of the support area. Building massing should be varied to create a logical hierarchy of building forms, to break up long expanses of façade, and to create shade and shadow. Buildings at the outer edge of an activity center's support area should be comparable in height and mass with the surrounding neighborhood beyond the support area.



Decrease Height and Mass in the Focus Area

(b) Building location, setbacks, and orientation should be carefully considered so as to increase pedestrian comfort.

(c) As far as practicable, buildings in activity centers should not be separated from fronting streets by large parking lots. At a minimum, placement of outparcel buildings between a large parking lot and the street should be used to help define the streetscape, and lessen the visual impact of the parking lot from the street.

(d) Auto service facilities should not have their service bays facing the street, and parking for all uses should be located to the side or rear of the building rather than in the front yard. Regardless, service areas and/or service bays shall be screened or sited so they are not visible from the street.

(e) Vehicles under repair shall be kept either inside a structure or in an area which is screened from views from the street.

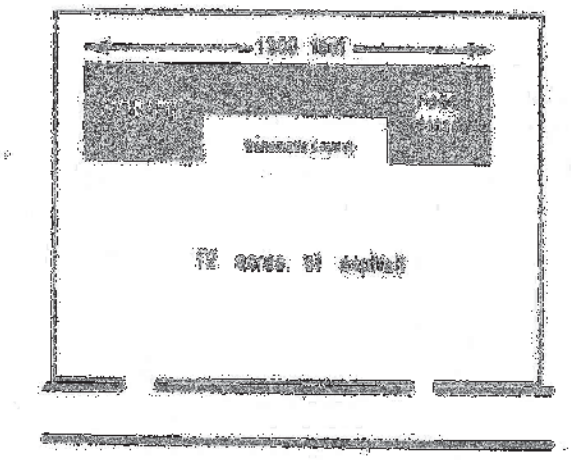
(f) Service areas shall provide adequate queuing space that does not impede vehicle circulation through the site or result in vehicles stacking into the street.

(g) Perimeter and security fencing, when needed, should be constructed of attractive materials which are compatible with the design and materials used throughout the project. Razor wire or electric fencing shall not be used, and chain link fencing is discouraged but if used shall be black, vinyl coated.

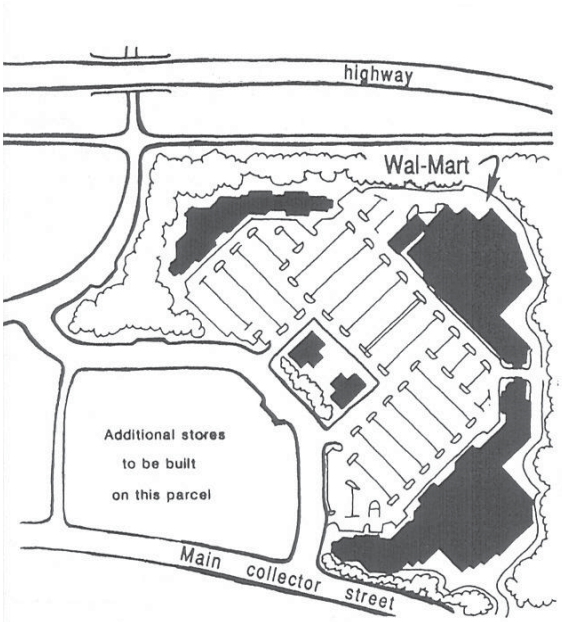
(h) Separate structures (canopy, car wash, cashier's booth, etc.) on the site should have consistent architectural detail and design elements to provide a cohesive project site. If a car wash is incorporated into the project, it should be well integrated into the

design. The car wash opening should be sited so that it is not directly visible as the primary view from the street into the project site.

(i) All areas devoted to the outside storage of vehicles, merchandise, and/or equipment not intended for display for public rent, lease, or sale, shall be screened from view from the right-of-way of the highway or public road along the entire property frontage, except in areas where access crossings have been approved. Screening may be accomplished by a natural vegetative buffer, by a building, by an earthen berm, by a 100 percent opaque, solid wooden fence or wall, or combination of these screening methods. The use of low-lying landscaping that does not screen the display areas from view from the public right-of-way shall not be deemed to comply with this policy.



Source: Arendt, Randall, et al. *Rural By Design: Maintaining Small Town Character*, Figure 3-1, p. 28. (Chicago: Planners Press, 1994).



Source: Arendt, Randall, et al. *Rural By Design: Maintaining Small Town Character*, Figure 3-1, p. 28. (Chicago: Planners Press, 1994).

Inconsistent: Buildings are long and not articulated. Parking provided entirely in front of the shopping center is discouraged.

Consistent: Shopping center is buffered from major highway, and access is from a collector street instead of directly onto the highway or frontage road. Parking lot is broken up by outparcel.

Consistent: Shopping center has highly articulated architecture, with pitched roofs and other special architectural features including stacked stone. Sign is externally rather than internally illuminated. Cut-off fixtures are used for exterior lighting of the parking lot.

Inconsistent: No landscaping in the parking lot.

(j) Live/Work Units. Mixed use developments may include live/work units.

Source: Nashville, Tennessee, Metro Planning Department. 31st Avenue/Long Boulevard Urban Design Overlay. Adopted 3/16/04. Attachment to Ordinance No. BL 2004-151.

Sec. 27.10. Office, Institutional, Business, and Industrial Parks and Campuses.

(a) Buildings for institutions should be dispersed throughout the site in a campus arrangement. Substantial wooded buffer should remains along the perimeter streets, and riparian areas should remain undeveloped. Parking should be distributed throughout the site. Greens should be provided within the campus in areas likely to be used by patrons and visitors.

(b) A monument-style sign should be used to mark the entrance to the campus or park. Entrances shall be attractively landscaped, including street trees and flowers planted at the base of monument signs.

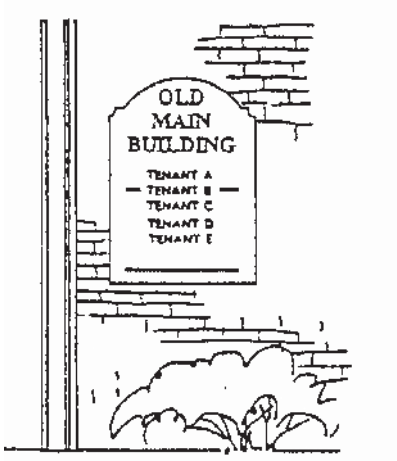
Sec. 27.11. Signage.

(a) In pedestrian retail districts, where possible, directory signs should be integrated onto buildings rather than free-standing.

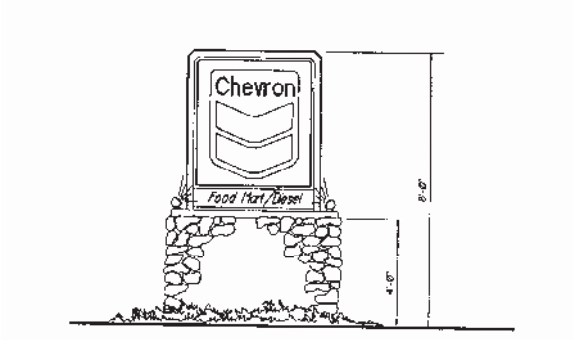
(b) Signs within locally established historic districts require review and approval by the Historic Preservation Commission.

(c) Monument signs, i.e., those with a brick or stone base, are preferred.

(d) The height of signs should be kept as low as possible while still maintaining visibility by motorists. In pedestrian districts, freestanding signs should have a four (4) foot height limit.

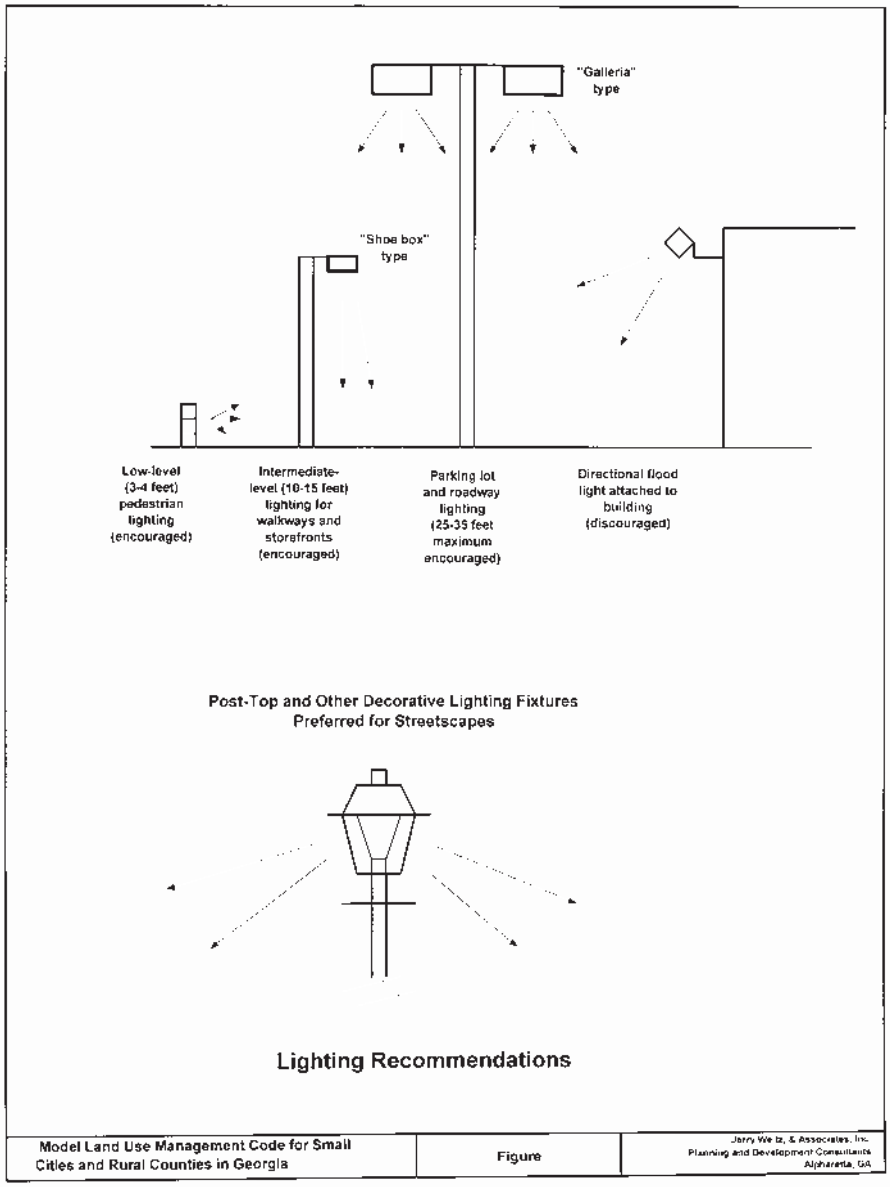


Wall Directory Sign

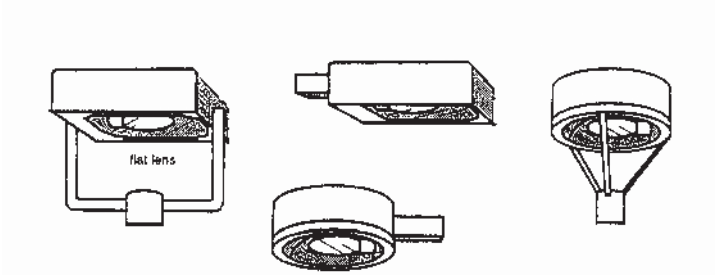


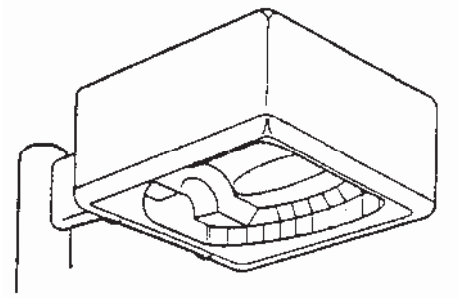
Sec. 27.12. Exterior Lighting.

(a) Exterior lighting should be architecturally compatible with the building style, material and colors. Galleria style and shoe box styles (cutoff fixtures) are preferred over cobra type light fixtures and directional flood lights. Fixture mounting height should be appropriate for the project and the setting. The mounting height of fixtures in smaller parking lots or service areas should not exceed twenty feet, with lower mounting heights encouraged, particularly where adjacent to residential areas or other sensitive land uses. Use of low, bollard-type fixtures, 3-4 feet in height, are encouraged as pedestrian area lighting.



(b) Exterior lighting of the building and site should be designed so that light is not directed off the site and the light source is shielded from direct offsite viewing. All outdoor light fixtures should be fully shielded or be designed or provided with light angle cut-offs, so as to eliminate uplighting, spill light, and glare.





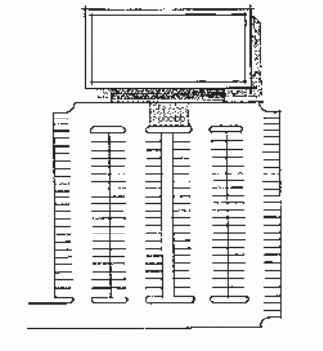
Cut-Off Fixtures

Sec. 27.13. Parking Lot Landscaping.

Parking lots that face a street should be partially screened from the street by a low fence, wall, hedge, berm, or vegetated buffer. If a parking lot fronts an arterial or major collector street or is visible from a residential street, and is of such a size that it dominates views from the fronting arterial/collector street and detracts from the overall streetscape and community appearance, then the parking lot should be screened or buffered with vegetation in its entirety from view along the fronting roadway(s) within the required right-of-way frontage planting strip.

Sec. 27.14. Design for Pedestrians.

Pedestrian circulation should take precedence over vehicular circulation. Where pedestrian circulation crosses vehicular routes, a change in grade, materials, textures or colors should be provided to emphasize the conflict point and improve its visibility and safety. Accent strips of brick or textured paving may also be appropriate for defining pedestrian walkways.

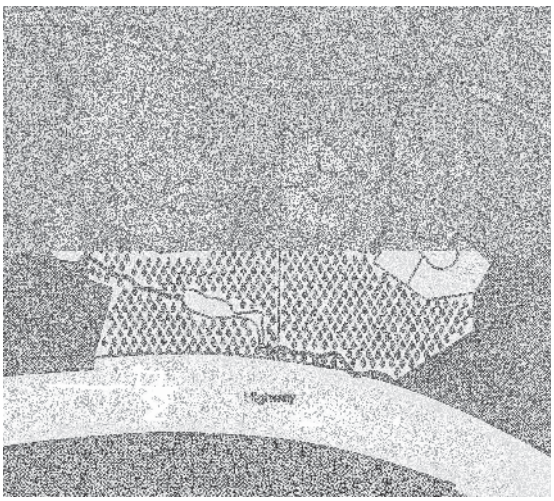


Consistent: Pedestrian crossing a high traffic area is marked with change in paving materials. The central aisle provides a direct connection for pedestrians.

Sec. 27.15. Noise.

(a) Forsyth is bisected by Interstate 75. The potential impacts of noise on adjacent and nearby land uses is a concern, particularly for residential properties. Residential developments, if located near the interstate corridor, will need to carefully consider the potential impacts of noise on residential living conditions.

(b) Noise analysis is performed by determining existing and future traffic noise levels for a site and surrounding areas. Noise impacts



Illustrative Noise Mitigation,

can be very subjective, since the data is dependent on the relative distance of the observer or receptor from the source of noise.

Residential Development

(c) Maximum acceptable noise levels as shown in the Table below shall not to be exceeded. When the development is located near the I-75 highway corridor or otherwise involves machinery, equipment or other significant sources of noise, the Zoning Administrator may require an acoustical analysis and mitigation measures prior to development plan approval.

Sound Acceptability Thresholds

Receiving Land Use Category	**Noise Level (dB A)**	
	10:00 p.m. to 7:00 a.m.	**7:00 a.m. to 10:00 p.m.**
All residential	45	60
Commercial	60	65
Industry	70	70

Sec. 27.16. Access Management.

(a) Access management specifications will be applied when existing development is modified or new buildings are added. It is desirable to direct access onto arterial roads or roads not visible from residential or historic neighborhoods. For those parcels that do not currently have direct access to abutting arterials, it is desirable to provide connections to access roads as opposed to new curb cuts or access points directly onto the arterial. By providing for the connections among parcels via frontage roads and inter-parcel access easements, the number of additional access points onto arterial roads can be minimized. The necessary spacing of driveways (and roads) depends on speed limits and must account for driver perception and reaction time. On state highways, driveways are subject to Georgia Department of Transportation *Regulations for Driveway and Encroachment Control*, dated March 2, 2004, updated 27/01/04, or any official revisions thereto, and other adopted local or state regulations.

(b) Aligning access points on opposite sides of a road or highway is important in terms of vehicular safety and the economy of road construction. Aligning access points (curb cuts) on opposite sides of the roads is considered essential when the road is divided by a median and a median break occurs. The entire parcel, rather than simply a particular project, needs to be considered in formulating and approving access plans.

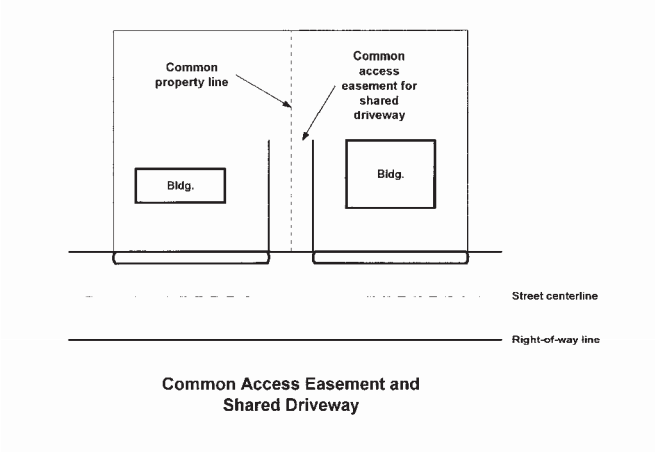
(c) In the event that a subdivision or land development required to file development plans with the City has access to a city street which is an unimproved or substandard road, improvements need to be considered through a development agreement.

Sec. 27.17. Interparcel Access.

(a) Consideration needs to be given to how each land development will connect with compatible land use developments that it abuts. In order to do so, each land development has to be planned with driveway connections across property lines,

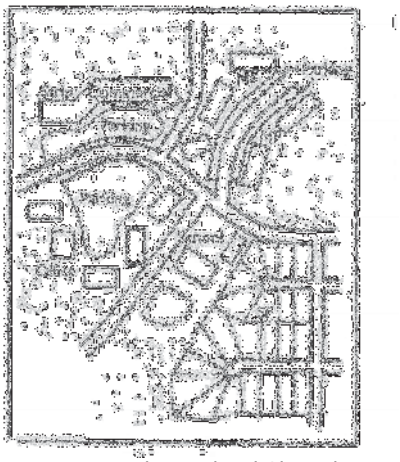
when the abutting land uses are compatible. When cut or fill is involved in the grading of an individual building pad or development site, the finished grade of the parking lot or driveway needs to be terminated far enough inside the property to allow for the slope to return to that of the natural ground at the property line.

(b) In cases where a parcel has access to a state highway or arterial street, shared driveways between two parcels, including common access easement at the property line, may be needed. In such cases, each property owner provides for and grants a common access easement to facilitate the movement of motor vehicles across the site.



Common Access Easement and Shared Driveway

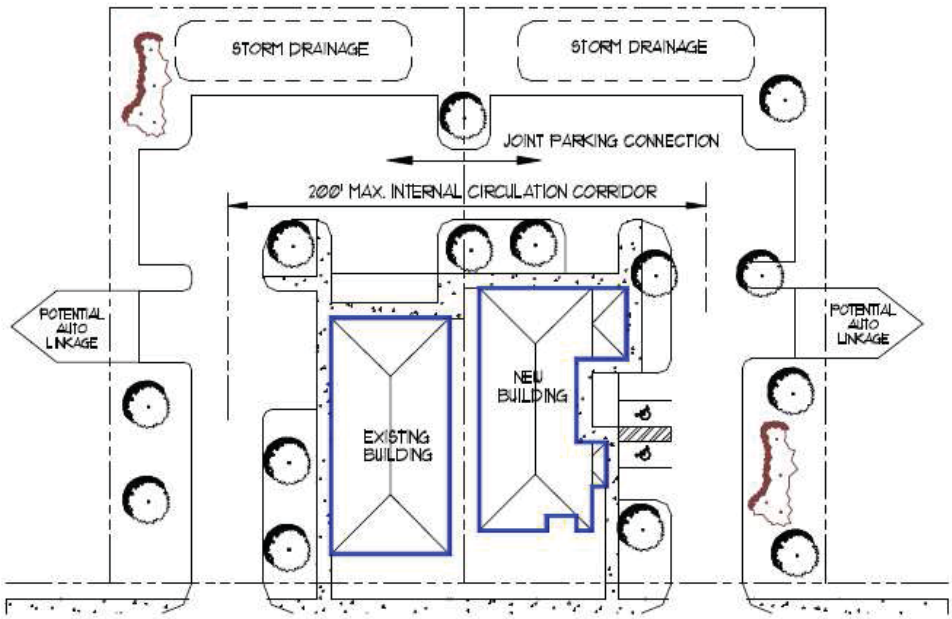
Inconsistent: Single-function, separated land uses. Conventional development patterns shown here provide no connections among different land uses. In this illustration, the residential subdivisions could be, but are not, connected with a pedestrian access-way to the school site and beyond.



Source: Calthorpe, Peter. "The Regional City." Figure 4, p. 1.5-4. In *Time-Saver Standards for Urban Design*, edited by Donald Watson, Alan Plattus, and Robert Shibley. New York: McGraw-Hill, 2003.

(c) The finished grade of any parking lot or driveway should be no more than fifteen (15) percent higher or lower than the natural ground elevation of the property at each abutting property line with frontage on the highway, to allow for driveway connections at acceptable grades. In addition to transportation benefits, proper grading at property lines also provides for a blending of the finished site elevations in a manner so that stark contrasts in the landscape will not occur and so that grading practices will be more in keeping with the natural topography.

Consistent: Inter-parcel access provided. Storm drainage located to the rear of lots. Parking is provided to the side and rear of the lot.

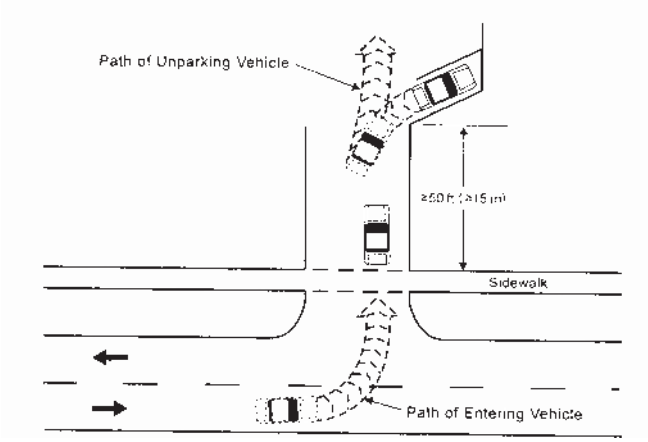


Source: Peirce County, Washington. Title 18J – Development Regulations – Design Standards and Guidelines.

Sec. 27.18. On-site Circulation Standards for Land Development.

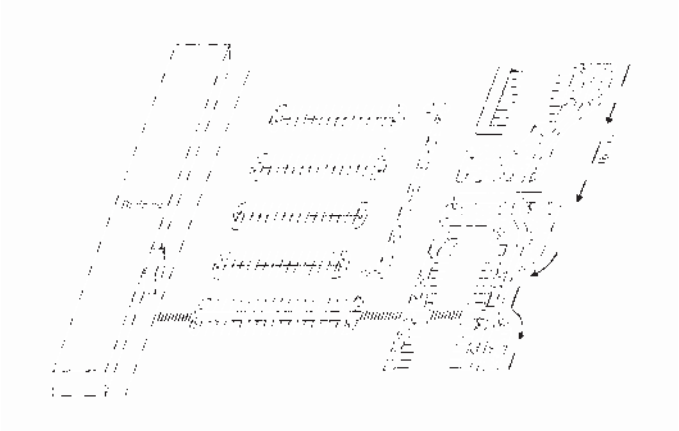
(a) Service functions (e.g., deliveries, maintenance activities) need to be integrated into the circulation pattern in a manner which minimizes conflicts with vehicles and pedestrians. Access for service vehicles, trash collection and storage areas need to be located on alleys where alleys exist. When no alley exists, access needs to be provided to the rear or sides of buildings being served. Larger commercial developments need to have service and loading areas separate from main circulation and parking areas.

(b) Driveway entrances need to provide a 100 foot deep clear zone between the pavement of an arterial road and the first turning movement. On any other road (city street) the clear zone or throat length normally needs to be at least 50 feet before a turning movement occurs (including parking), to provide sufficient queuing room for cars and/or delivery vehicles exiting the street.



Provide adequate driveway throat length
Source: Stover, Vergil G., and Frank J. Koepke. 2002. *Transportation and Land Development* (2nd Ed.). Washington, DC: Institute of Transportation Engineers. Figure 7-22, p. 7-31.

(c) Except for detached, single-family dwellings, pedestrian access needs to be provided to individual developments and each establishment within the development. Pedestrian ways should be well defined, take as direct a path as possible, and be separated where practical from automobile access ways. Parking aisle dividers are appropriate locations for pedestrian access facilities.



Direct Pedestrian Travel from Street to Store Front

Source: Stover, Vergil G., and Frank J. Koepke. 2002. *Transportation and Land Development* (2nd Ed.). Washington, DC: Institute of Transportation Engineers. Figure 8-28, p. 8-35.

Sec. 27.19. Extension of Downtown Street Grid.

To ensure compatibility with the unique street grid pattern in Forsyth's downtown, development in and near the downtown core should be served with adequate road capacity, pedestrian-friendly design features, good connectivity, and improved streetscapes. From a town planning standpoint, the small block pattern found in the center of downtown should be extended as more dense, urban development proceeds outward.

Sec. 27.20. Traffic Impact Studies.

A traffic impact study for developments generating 100 or trips in a peak hour or 1,000 vehicle trips per day shall be required to determine the most appropriate road improvements, including driveway locations, and as a basis for determining improvements required to the road system. Prior to development approval, additional road right-of-way for a local road or frontage road may be needed at intersections or at other locations fronting the property where turning lanes, storage lanes, medians, or realignments are required for traffic safety, and where the existing right-of-way would be inadequate to accommodate the road, drainage, and utility, and other improvements necessitated by the development.