



Community Choices

Bicycle and Pedestrian Facility Standards

What is the role of bicycle and pedestrian facilities?

Bicycle and pedestrian facilities refer to where bicyclists and pedestrians travel, primarily roads and sidewalks. Bicycling and walking can be attractive alternatives to automobile use, can reduce the number of vehicle trips that are necessary, and can improve the health of the region. Conventional euclidian zoning¹ techniques, including the segregation of land uses, and low density suburban development patterns, have limited the opportunity for bicycling and walking in the OKI region.

Bicycle facilities primarily include shared roadways, signed shared roadways, wide right travel lanes, wider shoulders, bike lanes, and shared-use paths. Other bicycle facilities include bicycle parking, bicycle racks on buses, showers and clothing lockers at work to promote employees' use of bicycle commuting, and bicycle route maps.

Pedestrian facilities include sidewalks, trails, and when other options are not available, roads. Walking is a fundamental form of transportation that is important to our communities. The construction of pedestrian facilities during development and redevelopment is an opportunity to incorporate new and better maintained sidewalks, walking trails, and new crosswalk markings. Traffic calming facilities such as islands and signage along with crosswalk markings can also help to alert drivers to pedestrian activity.

Why are bicycle and pedestrian facilities important?

Bicycle and pedestrian facilities can...

- ...provide transportation options for households who don't own cars.
- ...provide efficient alternative transportation options.
- ...provide continuous and more direct routes for travel by walking and biking.
- ...better accommodate public transit use.
- ...provide a well functioning multi-modal transportation network.
- ...create healthier neighborhoods.

Considering bicycle and pedestrian facilities is more important now than in the past for multiple reasons. As the population ages, transportation needs will also change. As the number of non-drivers increase the need for safe and convenient pedestrian facilities and public transportation will also increase.²

As an alternative to the automobile, individuals working in downtowns may want to avoid increased highway congestion and high gas prices by using transit to get to work, which should be accessible on foot or by bike. As the number of bicycle-friendly roadways increases in the region, road design will help improve the safety of cyclist. An increase in workers using alternative transportation, aging baby boomers with changing transportation needs, and the

¹ **Euclidean zoning:** traditional zoning technique that features the segregation of residential, commercial, and industrial uses into specified geographic districts and dimensional standards, such as bulk and height controls are imposed to limit the scale of the development activity.

² Kochera, Andrew, Audrey Straight and Thomas Guterbock, *Beyond 50.05 A Report to the Nation on Livable Communities: Creating Environments for Successful Aging*, AARP, May 2005, http://www.aarp.org/research/housing-mobility/indliving/beyond_50_communities.html (accessed 3 April 2007)

constant need for bicycle and pedestrian facilities for children (who can not drive) creates the need for improved bicycle and pedestrian facilities to ensure the safety and quality of life in our neighborhoods, communities, towns, and cities.

How Can Bicycle and Pedestrian Facility Standards Be Implemented Effectively?

A comprehensive plan that contains proper goals, objectives and policies that address bicycle and pedestrian travel is essential. Comprehensive planning can assist communities in determining where resources for bicycle and pedestrian facilities should be focused and to establish pedestrian and bicycle facility standards that protect the health, safety and welfare of the public. Once the comprehensive plan is in place to provide guidance and a basis for future actions, then the community can move forward in identifying the specific types of pedestrian and bicycle facilities for the appropriate locations within the community. Establishing the public goals and the bases for bicycle and pedestrian standards up front gives citizens and developers certainty about the intent of the local government.

Communities will also want to identify where improvements need to be made or where pedestrian and bicycle activity is currently occurring and why it is successful. Communities may want to determine how walkable or bicycle friendly their community is by conducting an audit or an inventory of existing facilities. Attention should be paid to details such as whether or not sidewalks are continuous or in disrepair, whether or not the street, adjacent buildings and landscaping provide a pleasant environment, and whether or not the sidewalks are wide enough for two or more people to pass each other. These evaluations will begin to identify the areas that may need to be addressed for redevelopment or new development. Similarly, with bicycling, an audit or inventory can determine whether or not there are sufficient road widths along a given route or whether or not bicycle parking is available. This will help to identify existing routes that can currently be used for cycling and those that need improvements.

Many design manuals for effective pedestrian and bicycle facilities exist from various sources such as the US Department of Justice (ADA (Americans with Disabilities Act) Standards for Accessible Design), the FHWA (Federal Highway Administration), Active Living by Design, and AASHTO (American Association of State Highway and Transportation Officials).

Communities should also be aware of the cost of such improvement projects if they choose to construct bicycle and pedestrian facilities. The federal Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU) includes a Safe Routes to School Program. This program provides funding for state departments of transportation which can be passed through to local communities. The general purpose of such programs is to facilitate projects that will enable and encourage children to safely walk and bicycle to school, promote healthier lifestyles, and reduce traffic.

Beyond providing the facilities, the community must be educated as to how to effectively use bicycle and pedestrian facilities. Educating motorists, cyclists and pedestrians in the community about safety issues such as safe crossing behaviors, watching for pedestrians when backing out of a driveway or during turning movements, and proper bicycle turning signals, can increase bicycle and pedestrian activity and reduce the chance of injury. Education and support from the community is essential for bicycle and pedestrian facilities to be implemented effectively.

What are some challenges of instituting Bicycle and Pedestrian Standards?

Typical euclidean zoning techniques have segregated land uses, which makes it difficult for residents of a community to walk to areas for convenience shopping or to walk to school. This existing land use pattern makes the encouragement of walking and biking a challenge. The cost of retrofitting neighborhood with sidewalks or bike lanes, as well as finding adequate space to make such additions, may hinder the installation of facilities in existing neighborhoods.

Similarly, when new developments are created or new roadway construction is completed, sidewalks and bicycle lanes are often the last detail to be included in design and are only included if there is space left over. There can be an alleged lack of demand for these facilities along with the perceived fear in some neighborhoods that these facilities will attract outsiders and bring crime into the neighborhood. Developers will often request waivers of sidewalk construction, for example, which go unchallenged because of the perceived lack of demand.

In areas where cul-de-sac development is the trend, connectivity of a pedestrian and bicycling network is at issue because the sidewalks or bike lanes lead nowhere. The use of trails with alternative paving surfaces to connect dead ends and to enable travel to multiple destinations outside of the subdivision is an option.

Creating an attractive walkable or bicycle friendly community can also be challenging. More than the pavement itself, the inclusion of other amenities such as trash cans, benches, and bike racks can attract activity and increase the use of the facilities. Additionally, proper design can help to reduce crime and increase activity.

Sample Regulations

This document contains sample ordinances that address various topics of interest that are specifically related to bicycle and pedestrian facilities and standards. These standards are often within the text of the zoning ordinance or subdivision regulations related to transportation and traffic circulation, or as part of a specific overlay district that seeks to increase pedestrian or bicycle activity. The selected language highlights some ways to include bicycle and pedestrian standards in the zoning ordinance (additional standards for architectural design for pedestrian activity, connectivity and relationship to transit can be found in other OKI documents including *Community Choices: Transit Friendly Development* and *Community Choices: Street Connectivity*).

The following examples are presented as a starting point for considering pedestrian and bicycle facility standards. They have certain design elements that can be tailored to meet the characteristics of different communities and reflect locally defined priorities. The included text is only a portion of a much larger ordinance that can be consulted for additional information. The appropriate local planning and legal staff should craft any new zoning language proposed to be adopted within a community to implement local goals and objectives.

Required Bicycle and Pedestrian Facilities

Providing adequate bicycle and pedestrian facilities includes the consideration of multiple issues. Determining the acceptable widths and the appropriate locations for facilities, and the proper circulation patterns within a development will be necessary. Identifying areas where connections need to be made between developments, areas appropriate for crosswalks, what amenities (benches, etc) and design will attract pedestrian and bicycle activity is also necessary. Additionally, understanding how pedestrian and bicycle facilities will function with other transportation modes, especially transit, is essential to providing facilities that will be successful.

The use of pedestrian and bike ways (sidewalks, bicycle lanes, paths, and trails) can help to increase connectivity. Providing adequate pedestrian and bicycle facilities can help to reduce vehicle trips by providing alternative transportation options. This notion of providing for “complete streets” includes designing streets that are safe for pedestrians, bicyclists, motorists and transit riders.

Problem Statement: Many zoning ordinances require sidewalks and bike paths as part of street design and improvements. There are often instances, however, where these facilities are not required or where they are considered expendable or unnecessary. Appropriate pedestrian and bicycle connectivity and design, both internal and external to the development, can increase pedestrian, bicycle and vehicular safety.

Objective: To create a multi-modal transportation network that includes bicycle and pedestrian activity through adequate infrastructure. To create attractive alternatives to automobile use and help reduce the number of vehicle trips that are necessary.

Code Writing Strategy: Include language in the zoning ordinance or subdivision regulation that requires or encourages pedestrian and bicycle facilities to be part of redevelopment or development projects. This includes requiring adequate construction of infrastructure for safety and convenience.

Required Bicycle and Pedestrian Facilities – Sample Code Language

Land Development Ordinance, Town of Cary, North Carolina

Chapter 7: Development and Design Standards

7.10.4 Standards for Pedestrian Facilities

In addition to the general provisions of Section 7.10.3 above, the following specific standards shall be met in designing and achieving a pedestrian circulation system in new residential and non-residential development:

(A) Sidewalks

- (1) All sidewalks shall be designed to comply with the standards provided by the Design Guidelines Manual, the Downtown Design Guidelines, and the Standard Specifications and Details Manuals.
- (2) Sidewalks shall be installed on both sides of all arterials, collector streets, and nonresidential cul-de-sacs, and within and along the frontage of all new development or redevelopment. On local streets, sidewalks shall be required on only one side of the street. Loop streets and/or residential cul-de-sacs are not required to have sidewalks, unless the street is located within 1.5 miles of a school, or 0.5 miles of a greenway, park, or shopping area, in which case a sidewalk shall be required on one side of the street only.
- (3) Pedestrian crossings shall be made safer for pedestrians whenever possible by shortening crosswalk distance with curb extensions, reducing sidewalk curb radii, and eliminating free right-turn lanes. Signals that allow longer crossing times in shopping districts, mid-block crossings in high-pedestrian use areas (if well marked and traffic speeds are low), and raised crosswalks and medians shall be provided as appropriate.
- (4) Within residential and/or non-residential developments, pedestrian ways, crosswalks, or multi-purpose trails no less than five feet in width, shall be constructed near the center and entirely through any block which is 900 feet or more in length where necessary to provide adequate pedestrian circulation or access to schools, churches, retail stores, personal service establishments, recreational areas, or transportation facilities.
- (5) Pedestrian walkways shall form an on-site circulation system that minimizes conflict between pedestrians and traffic at all points of pedestrian access to on-site parking and building entrances. Pedestrian walkways shall connect building entrances to one another and from building entrances to public sidewalk connections and existing or planned transit stops. Pedestrian walkways shall be provided to any pedestrian access point or any parking space that is more than 50 feet from the building entrance or principal on-site destination. All developments that contain more than one building shall provide walkways between the principal entrances of the buildings. All non-residential buildings set back more than 100 feet from the public right-of-way shall provide for direct pedestrian access from the building to buildings on adjacent lots.
- (6) Where residential developments have cul-de-sacs or dead-end streets, such streets shall be connected to the closest local or collector street or to cul-de-sacs in adjoining subdivisions via a sidewalk or multi-use path, except where deemed impractical by the Planning Director.

(B) Paths

While not encouraged to substitute for a good system of on-street facilities, multi-use paths may be used to enhance pedestrian and bicycle travel where the existing circulation system does not serve these patrons well, or where abandoned railroads or other open spaces provide corridors free of obstacles. However, all paths shall connect to the street system in a safe and convenient manner, and shall meet the following requirements in addition to the standards contained in the Town's Specification Standards and Details Manual:

- (1) All path connections shall be well signed with destination and directional signing.
- (2) All paths shall be located in corridors that serve origin and destination points such as residential areas, schools, shopping centers, parks, etc.
- (3) All paths shall be built in locations that are visible and easily accessible, for the personal safety of users. The location of asphalt paths shall be in keeping with the Greenways Master Plan.
- (4) Whenever possible, paths shall be designed in such a manner that motor vehicle crossings can be eliminated or significantly minimized. Where crossings exist, they must be carefully designed to ensure the safety of the users. In situations where asphalt paths are proposed to run parallel with roadways they shall be offset a minimum of 12' from the back of curb. Asphalt paths will only be permitted parallel to roadways where there are limited number of driveway and street crossings.
- (5) All paths shall be constructed of durable, low-maintenance materials, with sufficient width and clearance to allow users to proceed at reasonable speeds. In accordance with the Town's Standard Specification and Details Manual, asphalt paths shall be one 1/2" I-2 underlain by 4" CABC. Generally, paths shall be at least six feet in width. Where multiple uses are intended (i.e., shared pedestrian and bicycle traffic) the path should be ten feet wide whenever possible.
- (6) Paths shall be maintained in usable condition throughout the year depending on level of use, including snow removal as appropriate.

7.10.5 Standards for Bicycle Facilities

- (A) Bicycle lanes shall be incorporated in the design of all arterial, minor collector, and local streets where low traffic speeds and volumes allow bicyclists and motorists to safely share the road. Sidewalks are not encouraged as substitutes for bike lanes. Bike lanes shall be a minimum of four feet in width (excluding adjacent curb and gutter), and five feet when adjacent to on-street parking.

(B) Consistent with the recommendations of the Cary Comprehensive Transportation Plan, nonresidential development shall provide appropriate bicycle amenities to encourage cyclists. Signage indicating the presence and location of such amenities shall be scaled for easy reading by bicyclists and pedestrians as well as motorists. Bicycle parking shall be provided as part of all high density residential, commercial, retail, office, industrial, and mixed use development where appropriate. Short-term bicycle parking shall be located within 50 feet of a building's main entrance, preferably in a visible and prominent location where there is high pedestrian activity. When there is more than one building on the site, or parking is shared by adjacent sites, bicycle parking must be distributed to serve all buildings or main entrances. Long-term bicycle parking, where appropriate, may be provided on site, or within 500 feet of the site if the parking is secured in one of the following ways:

- (1) In a locked room or area enclosed by a fence with a locked gate.
- (2) Within view or within 100 feet of an attendant or security guard.
- (3) In an area that is monitored by security camera.
- (4) In a location visible from employee work areas.

Roswell Zoning Ordinance, Roswell, Georgia, August 1, 2003 Draft

Midtown Roswell Overlay District Chapter 12.3

Section 12.3.19 Pedestrian Access and Sidewalks

The large-parcel or small-parcel redevelopment site plan must demonstrate that the redevelopment project will be designed in a way that gives preference to pedestrian (including transit users) versus vehicular access. To this end, the applicant shall identify all existing transit stops and sidewalks within 500 feet of the redevelopment area and present a pedestrian access plan that provides pedestrian access connections to compatible adjacent properties as determined to be needed by the Zoning Director and the public sidewalk system.

For large-parcel redevelopments, sidewalks meeting or exceeding the construction specifications of the city shall be provided by the redeveloper along all streetscapes abutting transit corridors to specifications meeting or exceeding the recommendations of the Midtown Roswell Redevelopment Plan for the transit corridor. Sidewalks meeting said city specifications and the width requirements of this chapter shall also be required to be installed by large-parcel redevelopers along all other streets abutting the large-parcel redevelopment area and along public and private through streets within large-parcel redevelopments.

Town Center Overlay District, Snellville, Georgia

SECTION 9.14 TC– TOWN CENTER OVERLAY DISTRICT.

H. Sidewalks shall meet the following criteria:

1. Public sidewalks shall be located along all public streets and shall have minimum widths as specified herein. No sidewalk shall be less than fifteen (15) feet in width. Sidewalks shall consist of two (2) zones: a street furniture and tree planting zone and a clear zone. The following regulations shall apply to all public sidewalks:
 - a. Street furniture and tree planting zone requirements: The street furniture and tree planting zone shall have a minimum width of five (5) feet. Said zone shall be located immediately adjacent to the curb and shall be continuous. Said zone shall meet the tree planting requirements of Section 9.14 H, 1, C (below) of this article. In addition to the required planting of trees, this zone may also be used for the placement of street furniture, including utility poles, waste receptacles, fire hydrants, traffic signs, newspaper vending boxes, bus shelters, bicycle racks and similar elements (containing no advertisements or signage) in a manner that does not obstruct pedestrian access or motorist visibility and as approved by the Director of Planning and Development.
 - b. Clear zone requirements: The clear zone shall be a minimum width of ten (10) feet. Said zone shall be located immediately adjacent to the street furniture and tree planting zone and shall be continuous. Said zone shall be hardscape, and shall be unobstructed for a minimum width of ten (10) feet. Sidewalk arcades shall meet the additional requirements of Section 9.14 H, 3, E, Sidewalk arcades of this article.
 - c. Street tree planting requirements: Street trees shall be planted in the ground thirty (30) to fifty (50) feet on center within the street furniture and tree planting zone and spaced equal distance between street lights. These trees shall count toward the landscape strip requirements of the landscape ordinance. Root barriers and expandable tree trunk protectors shall be installed in accordance with Article 20 of this ordinance. At time of planting, all new trees shall be a minimum of three (3) inches in caliper and shall be limbed up to a minimum height of seven (7) feet. Trees shall be planted a minimum distance of two (2) feet from the curb. Trees shall have a minimum planting area of thirty-two (32) square feet. The soil surface of the planting area shall be level to sidewalk grade and planted with an evergreen ground cover. All street trees shall be irrigated in accordance with the Landscape Ordinance. Tree species shall be selected in accordance with Appendix XXA. The area between required plantings shall either be planted with evergreen ground cover, or shall be paved in accordance with the Architectural Design Standards. The City Arborist shall approve all plantings, planting replacement and planting removal.

- d. Tree grates: Tree grates are not required where all sidewalk width requirements are met, unless determined by the City Arborist. Where tree grates are required or otherwise installed, they shall be a minimum of four (4) feet by eight (8) feet, shall be a type specified by the City Engineer and shall be placed within the street furniture and tree planting zone. Where tree grates are not required or otherwise installed, tree planting areas shall be planted with an evergreen ground cover.
- e. Paving: All paving within the street furniture and tree planting zone shall utilize pavers and shall be a type specified by the City Engineer in accordance with uniform design standards utilized by the Engineer for placement of such objects in the public right-of-way.
- f. Nothing shall be erected, placed, planted or allowed to grow in such a manner as to impede visibility within visibility triangles at street intersections between the heights of two and one-half (2.5) feet and eight (8) feet above grade.
- g. No awning or canopy shall encroach beyond the clear zone.
- h. Where property within this district abuts a residential district without an intervening street, the sidewalk area within twenty (20) feet of such district shall taper as necessary to provide a smooth transition to the existing residential district sidewalk. In the event that the abutting residential district has no existing sidewalk, the sidewalk shall taper to a width of six (6) feet.
- i. Decorative pedestrian lights shall be placed a maximum of (40) feet on center and spaced equal distance between required trees along all streets. Said lights shall be located within either the street furniture and tree planting zone or the supplemental zone. All said lights shall be Type "C" as approved by the Planning Department.
- j. All developments shall place utilities underground or to the rear of structures to allow for unobstructed use of sidewalks.
- k. Trash receptacles or similar elements, where installed, shall be a type specified by the Director of Planning in accordance with design standards utilized by the Director for placement of such objects in the public right-of-way and shall be placed within the street furniture and tree planting zone.

Sec. 78-467. Retail and Commercial Service Buildings in excess of 20,000 square feet.

10. Bicycle and Pedestrian Facilities.

- a. The entire development shall provide for safe pedestrian and bicycle access to all uses within the development, connections to existing and planned public pedestrian and bicycle facilities, and connections to adjacent properties.
- b. Pedestrian walkways shall be provided from all building entrances to existing or planned public sidewalks or pedestrian/bike facilities. The minimum width for sidewalks adjacent to buildings shall be ten (10) feet; and the minimum width for sidewalks elsewhere in the development shall be five (5) feet.
- c. Sidewalks other than street sidewalks or building aprons shall have adjoining landscaping along at least fifty (50) percent of their length. Such landscape shall match the landscaping used for the street frontages.
- d. Crosswalks shall be distinguished from driving surfaces to enhance pedestrian safety by using different pavement materials, pavement color, pavement textures, and signage.
- e. The development shall provide secure, integrated bicycle parking at a rate of one bicycle rack space for every fifty (50) vehicle parking spaces.
- f. The development shall provide exterior pedestrian furniture in appropriate locations at a minimum rate of one seat for every 20,000 square feet of gross floor area.
- g. The development shall provide interior pedestrian furniture in appropriate locations at a minimum rate of one (1) bench seat for every 10,000 square feet of gross floor area. Seating in food service areas, or other areas where food or merchandise purchasing activities occur shall not count toward this requirement. A minimum of four (4) seats shall be located within the store, with a clear view through exit doors to a passenger pick-up or drop-off area.

SECTION 10.31 TOWN CENTER FORM DISTRICT (TCFD) ZONE

J. TRANSPORTATION STANDARDS

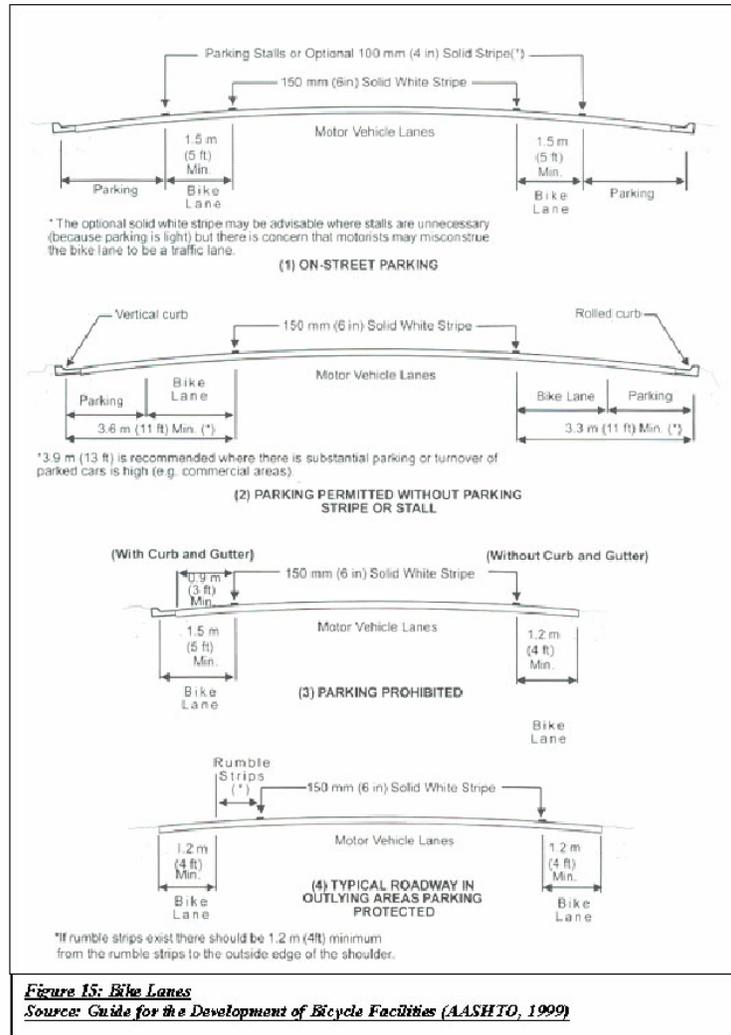
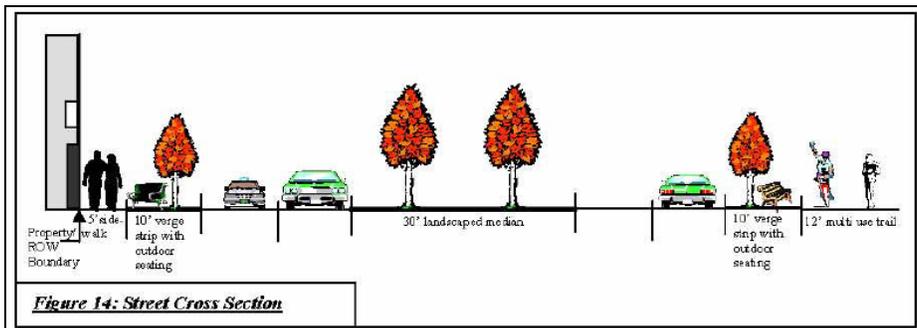
3. Pedestrian

- a. Direct pedestrian connections are required between all uses, existing and future.
- b. Developments that create public and private streets shall connect with and provide for future extension of pedestrian access.
- c. All uses within the form district shall provide pedestrian connections with adjacent uses outside the form district.
- d. Developments that adjoin vacant sites shall be designed to accommodate future connections with access easements if necessary. Easements and agreements must be identified on the submitted development plans and submitted prior to the pre-Certificate of Occupancy meeting per Section 10.31, B, 9.

- e. All development shall provide clearly defined safe pedestrian access to the public right of way, to the building entrances, to bus stops, and connecting to or including installation of the bicycle and pedestrian multi-use trail within the required Riparian Buffer.
- f. With KYTC approval, pedestrian access is required to be located within abutting rights-of-way and across driveways with striping or contrasting pavements, or raised surfaces that meet Kenton County Subdivision Regulations.
- g. Sidewalks and trails must connect with any presently adjacent sidewalks and shall be a minimum of five (5) unobstructed feet in width. Sidewalks and trail connections are required to be constructed and completed at the time of street construction.
- h. Construction of the bicycle and pedestrian multiuse trail shall in no case be less than ten (10) feet in width, with vertical grades no steeper than three percent (3%), and designed as shown in Figure 13.

4. Bicycle

- a. Direct bicycle connections are required between all uses, existing and future.
- b. Developments that create public and private streets shall connect with and provide for future extension of bicycle access. Bicycle lanes, shared use paths, paved and marked shoulders, or wider outside lanes designated for bicycles and with signage shall be installed on both sides of all streets with the following standards.
 - (1) Shared Use Paths – See Figure 13
 - (2) Bicycle Lanes – see Figure 15
 - (3) Paved Shoulders shall be minimum 4 feet in width.
 - (4) Wide outside lanes must be at least 14 feet in width.
- c. Connections are required to be constructed and completed at the time of street construction.
- d. Developments that adjoin vacant sites shall be designed to accommodate future connections with access easements if necessary. Easements and agreements must be identified on the submitted development plans and submitted prior to the pre-Certificate of Occupancy meeting per Section 10.31, B, 9.
- e. Construction of the bicycle and pedestrian shared use trail shall in no case be less than ten (10) feet in width, with grades no steeper than three percent, and designed as shown in Figure 13.



Discussion:

Varying levels of complexity are presented in these samples. Some strive to create a character of development through the provision of amenities and aesthetics and some simply require the facilities themselves to be provided. The proper use of these requirements should be tied to the purpose of the ordinance and connected to the goals and objectives of the community's comprehensive plan.

Two commonly debated issues relative to bicycle and pedestrian facilities are the location and the width. Some communities elect to allow sidewalks only on one side of the street and to be five feet in width, while the optimum would include sidewalks along both sides of all streets eight feet in width.

Parking Areas

Bicycle parking is necessary to promote bicycling. The appropriate amount of parking for bicycles should be well planned in order to prevent bicycle theft or vandalism. Safety should be a consideration when selecting the type of bicycle parking facility and when planning for lighting. Much like automobile parking, bicycle parking requirements may be based on the intensity of the land use. Long term parking facilities such as bicycle lockers in an good safety alternative for places of employment.

Pedestrian access and safety in parking lots can be another issue. Pedestrian safety and convenience within in a development can be increased by constructing paths or sidewalks through parking areas to provide pedestrian access to vehicles or from building to building.

Problem Statement: While parking for automobiles is almost always addressed in zoning codes, parking for bicycle rarely is. Similarly, automobile access through drive aisles and to parking spaces is high priority, but pedestrian access to buildings through parking areas is rarely addressed. This creates a transportation disconnect.

Objective: To provide facilities that will increase pedestrian and bicycling activity.

Code Writing Strategy: Require amenities and design techniques to be used such as bicycle parking and pedestrian facilities through parking lots that provide sufficient access to businesses through a multi-modal transportation network.

Parking Areas – Sample Code Language

Town Center Overlay District, Snellville, Georgia

SECTION 9.14 TC– TOWN CENTER OVERLAY DISTRICT.

K. Minimum Bicycle Parking Requirements:

All non-residential developments, which provide automobile parking facilities, shall provide bicycle/moped parking facilities at a ratio of at least one (1) bicycle/moped parking space for every twenty (20) automobile parking spaces. Multi-family developments shall provide said facilities at a ratio of at least one (1) bicycle/moped parking space for every five (5) multi-family units. No development, except a one or two-family development, shall have fewer than three (3) bicycle/moped parking spaces nor be required to exceed a maximum of fifty (50) spaces. Bicycle/moped spaces shall be located within the street furniture zone a maximum distance of one hundred (100) feet of the building entrance, or shall be located at least as close as the closest automobile space, except for handicapped parking spaces. Each space shall include a metal anchor sufficient to secure the bicycle/moped frame when used in conjunction with a user supplied lock.

SECTION 10.31 TOWN CENTER FORM DISTRICT (TCFD) ZONE

K. PARKING, LOADING AND UNLOADING

4. Pedestrian circulation

- a. Clearly defined safe access must be provided from parking facilities, adjacent public rights of way and activity areas to building entrances.
- b. Parking lots must have walkways minimum five feet in width.
- c. Walkways must be lighted and must connect parking areas with building entrances. Walkways must be differentiated by means of landscaping, alternative paving materials or change in grade.
- d. Walkways adjacent to parking spaces must be 5 feet wide with separation by curbing, bollards, bumper blocks, elevation 4 inches high, or landscaping.
- e. Walkways that cross drive aisles must be defined by stripes, contrasting pavement materials, elevated pavement or combination.
- f. Walkways shall not pass behind a row of parking spaces.
- g. All developments must provide for future pedestrian circulation connecting parking lots or alleys, by hard surface walkways or similar.

7. Bicycle parking

- a. For non-single-family residential uses, two bicycle parking spaces are required plus one additional space per 25,000 square feet GFA (Gross Floor Area) of building area.
- b. The parking spaces must be a minimum of 2 feet from a parallel wall and 2.5 feet from a perpendicular wall (See Figure 16).
- c. If located on or next to a sidewalk, a minimum of 5 feet of clear sidewalk must remain when bicycles are parked at the device.
- d. If the device is installed at a transit stop, its location cannot impede transit boarding.
- e. If the installation is near a curb cut on a street with motor vehicle parking, at least three feet of space must remain between a bicycle parked at the rack and the curb.
- f. Whenever the device will be placed in the public right-of-way, the appropriate jurisdiction must approve the locations.

A-III. Bicycle Parking Design Guidelines.

A. Bicycle Parking Location and Design.

1. All parking spaces for bicycles should be equipped with a security rack that is designed and installed in conformance with the Pedestrian and Bicycle Facility Design Guidelines, contained in the Comprehensive Transportation Plan. Bicycle racks other than the standard detail may be approved, subject to design review and approval by the Public Works Manager;

2. Areas set aside for bicycle parking should be clearly marked and reserved for bicycle parking only;
3. Bicycle parking should not impede or create a hazard to pedestrians. Parking areas should be located so as to not conflict with vision clearance standards;
4. Bicycle parking should be conveniently located with respect to both the street right-of-way and at least one building entrance (e.g., no farther away than the closest parking space). It should be incorporated whenever possible into building design and coordinated with the design of street furniture (e.g., benches, street lights, planters and other pedestrian amenities) when street furniture is provided;
5. Bicycle racks should be installed near main building entrances and located in areas with shade. A pedestrian pathway linking the bicycle parking area to the public sidewalk and the primary building entrance(s) should be provided;
6. Site design for bicycle parking should conform to the Pedestrian and Bicycle Facility Design Guidelines contained in the Comprehensive Transportation Plan;
7. Bicycle parking should be visible to cyclists from street sidewalks or building entrances, to aid in security from theft and damage; and
8. Bicycle parking should be at least as well lit as vehicle parking for security.

B. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.

Revised Municipal Code, City and County of Denver, Colorado, adopted Oct. 13, 2006.

Chapter 59 ZONING*

ARTICLE VI. OFF-STREET PARKING REQUIREMENTS*

Sec. 59-582. Duty to provide and maintain off-street parking spaces

(e) *Parking for bicycles.* Nonresidential uses having an off-street parking requirement of at least fifteen (15) and not more than forty (40) automobile spaces shall provide a minimum of two (2) off-street bicycle parking spaces. Nonresidential uses having an off-street parking requirement of forty (40) or more automobile spaces shall provide off-street bicycle parking spaces equal to five (5) percent of the total number of automobile off-street parking spaces provided. Subject to review and approval by the transportation office of the entire proposed off-street parking area including but not limited to the design; location; and security features, the total number of required automobile off-street parking spaces may be reduced at the ratio of one (1) automobile off-street parking space for each six (6) bicycle spaces. However, the total number of required automobile off-street parking spaces shall not be reduced by more than five (5) percent. The director of planning shall adopt rules and regulations establishing the dimensional and equipment standards for bicycle parking areas.

Discussion:

Bicycle parking can take the form of open air racks, covered parking, or bicycle lockers. Without parking, individuals will either choose not to bike, or to lock their bikes to objects, such as a tree in the sidewalk, which can disrupt normal pedestrian flows or cause property damage.

Traffic Calming and Safety

Good design can increase pedestrian and bicycling activity. Design that caters to pedestrians includes architectural elements such as windows (for window shopping and to provide interest at the pedestrian level), lighting, and landscaping. Design of roadways and details such as signage, drainage inlet grates and the removal of rumble strips can create a better environment for bicyclists as well. (For other architectural and site design techniques see other OKI documents, including *Community Choices: Transit Friendly Development* and *Community Choices: Large Scale Retail Development*.)

Crime prevention through environmental design is another technique that can reduce the incidence and fear of crime, and thus increase activity. Traffic calming devices like roundabouts and speed humps can help slow traffic and create a safer environment for both cyclists and pedestrians. Many communities have programs that allow neighborhood groups to apply for funding for speed humps to slow neighborhood traffic.

Problem Statement: Development design is often centered around automobile travel. Providing an atmosphere that is attractive, safe and convenient for pedestrians and bicyclists is often an afterthought.

Objective: To design developments to be safe and convenient for all modes of transportation, including walking and bicycling.

Code Writing Strategy: Include design techniques in the zoning ordinance that will increase safety for the pedestrian and bicyclist.

Traffic Calming and Safety – Sample Code Language

Zoning and Development Code, City of Tempe, Arizona, January 20, 2005

A-II. Building Design Guidelines.

C. Crime Prevention Through Environmental Design (CPTED). Safe environments and pedestrian activity are interrelated and one cannot exist without the other. Therefore building designs should support pedestrian activity and provide natural surveillance of spaces from key locations inside and next to buildings. This should be accomplished through the appropriate design and placement of windows, entrances, pedestrian amenities, lighting, outdoor rooms (e.g., balconies, arcades, and similar features), and activity support. Buildings should incorporate entrances, windows, balconies, and activities allowing visibility of the street, parking areas, and entrances from inside buildings; and visibility of building entrances and other public gathering spaces from the street, as generally shown below. Lighting must conform to the provisions of Part 4, Chapter 8.

The CPTED principles are:

1. Natural Surveillance

Natural surveillance is the CPTED concept that encourages an open design. It promotes opportunities for people, as they are engaged in their normal behaviors, to observe the space around them.

This principle allows people to feel comfortable as they use a space, maintain distance from intruders that may be in or near the space, and encourage observation of those individuals that may be using the space with criminal intent.

Natural Surveillance encourages the design and placement of physical features so as to maximize visibility. This includes building orientation, placement of windows, building and site entrance and exit locations, refuse containers, landscape materials, parking lots, walkways, walls and fences (including the use of wrought iron and similar materials that promote visibility), signage, and other physical obstructions. It may also include the placement of persons or activities to maximize surveillance possibilities.

Minimally maintained lighting standards that provide for nighttime illumination of parking lots, walkways, entrances, exits and related areas, to promote a safe environment, are also Natural Surveillance components of good CPTED design.

2. Access Control

Access control is the CPTED principle directed at decreasing criminal accessibility. This principle is especially important where intruders will not be easily observed. Fences, walls, and actual building location on a site are primary considerations to access control.

However, provisions of access control must encourage the use of natural surveillance, where practical, to restrict criminal intrusion into an area.

Intruders are more readily recognized through the proper location and use sidewalks, pavement variations, gates, lighting, signage, fencing, landscape and other techniques used to clearly guide the public to and from activity areas and are primary to effective access control.

3. Activity Support

Activity support involves the placement of activities where the individuals engaged in those activities become part of the natural surveillance and access control systems.

Examples include:

Placement of safe activities in areas so as to discourage would be offenders. The goal is to increase the likelihood of good natural surveillance and the perception of safety for normal users, and the perception of risk for the offenders.

Placement of high-risk activities in safer locations to overcome the vulnerability associated with these activities through the use of good natural surveillance and access control techniques.

The location of gathering areas in places that provides good natural surveillance and access control.

4. Territoriality

Territoriality is the CPTED principle that is used to clearly delineate private space from semi-private and public spaces. Properly used it creates a sense of ownership in private and semi-private areas.

Territoriality creates an environment where strangers and intruders stand out and are more easily identified. This is accomplished through the effective use of signage, grade changes, fencing, landscape edging, lighting, and any number of imaginative techniques that encourage individuals to take pride in their surroundings and report criminal activity.

5. Maintenance

Proper maintenance of landscape, lighting, addressing, and other features can facilitate the principles of CPTED. It is clear that Access Control, Natural Surveillance, and Territoriality all have a maintenance component.

Examples:

Proper maintenance of security lighting to insure that lamps are working properly and the required minimum lighting level are being maintained.

Landscape which is maintained to prescribe standards so as to minimize conflicts between natural surveillance opportunities and landscape at maturity.

The recognition of these principles should help guide owners, architects, planners, and developers of property to design built environments that accomplish the goals of the police department's crime prevention goals.

A-V. Access and Circulation Design Guidelines.

B. On-Site Traffic Calming. Traffic calming features such as curb extensions, special paving, humps or other features may be required for the on-site circulation systems and street access points of larger developments. Traffic calming measures should conform to the Pedestrian and Bicycle Facility Design Guidelines, contained in the Comprehensive Transportation Plan.

Discussion: Many of the concepts included in this sample can be addressed more specifically in other sections of the zoning ordinance as well.

Pedestrian Overlay Districts

Some communities choose to include standards for bicycle and pedestrian activity within the general text of the zoning ordinance or subdivision regulations and some communities choose to use overlay districts specifically to increase pedestrian or bicycle activity (For more information on overlays see *Community Choices: Corridor Overlay Districts*.) These overlay districts deal with the human scale of the built environment. The arrangement of buildings, architectural and urban design, and public spaces are addressed to specifically accommodate and encourage pedestrian activity. Pedestrian overlay districts allow individuals to incorporate walking into their daily routine and can help create a vibrant community where neighbors do their shopping and come together to meet.

Problem Statement: Conventional euclidian zoning techniques segregate land uses and low density suburban development patterns, which discourage pedestrian activity. Site design and dimensional and architectural standards do not often meet the needs of a pedestrian.

Objective: To provide opportunity for appropriate land uses and specific design techniques that are pedestrian friendly and create attractive alternatives to automobile use that help to reduce the number of vehicle trips.

Code Writing Strategy: Include an overlay zone that can be applied to areas in the community where pedestrian activity is desired. Include language for development requirements that relate to land use, site design, aesthetics and urban design.

Pedestrian Overlay Districts – Sample Code Language

Zoning Code, Charlotte, North Carolina

PART 8: PEDESTRIAN OVERLAY DISTRICT

Section 10.801. Purpose.

The purpose of the Pedestrian Overlay District (PED) is to reestablish an urban fabric by promoting a mixture of uses in a pedestrian-oriented setting of moderate intensity. The district encourages the reuse of existing buildings that contribute to the unique character or history of the area. The standards also encourage high quality design, mixed use development, the use of public transit, and development, which complements adjacent neighborhoods.

Section 10.802. Uses

The uses permitted in the PED shall include those permitted by right and under prescribed conditions in the underlying district, except outdoor storage and outdoor advertising signs. All permitted accessory uses will also be allowed except drive-thru windows for restaurants and retail establishments and outdoor advertising signs.

In addition the following uses shall be permitted subject to the following requirements:

- (1) Dwellings, mixed use, subject to the standards of PED.
- (2) Drive-through service windows for offices must be located to the rear of the building, and are limited to no more than four (4) drive-through stations, including lanes servicing Automatic Teller Machines (ATM's) (*Petition No. 2002-147, § 10.802(2), 01-21-03*)
- (3) Nightclubs, bars and lounges as a principal use, shall be subject to the standards of this overlay district, and be at least 400 feet from any residential use in a residential district or from a residential district. This separation distance may be reduced by a streetscape plan approved by the City Council.

The following use, which is not permitted in the underlying district, shall be permitted:

Residential uses in an underlying industrial district, subject to the standards of this overlay district.

Section 10.803. Development standards.

The following PED Overlay standards and requirements have precedence over the underlying zoning district standards and requirements. The PED development standards shall apply to all buildings or uses in PED unless specified otherwise in Section 10.805.

(*Petition No. 2002-147, § 10.803, 01-21-03*)

(1) Minimum lot area

None required.

(2) Floor Area Ratio

No maximum.

(3) Minimum setback

The minimum building setback will be specified in a streetscape plan approved by the City Council. The minimum setback will be measured from the back of all existing or future curbs, whichever is greater. If the existing right-of-way is greater than the minimum setback from the back of existing or future curbs, the right-of-way line will become the minimum setback. If the existing curb line varies, the setback shall be measured from the widest section. Curb lines are to be determined by the Charlotte Department of Transportation (CDOT) in conjunction with the Planning Commission staff.

However, if new construction incorporates an existing structure located within the required setback, the CDOT and the Planning Commission staff may allow the setback for the addition to be reduced to the established setback. In no event shall the setback of any portion of the new structure be less than ten (10) feet from the back of the curb.

The “Charlotte Tree Ordinance” will be applicable in addition to any approved streetscape plan. For the purposes of this section, the setback applies to all street frontages, not just to the street toward which the structure is oriented. All new transformer vaults, utility structures, air vents, backflow preventers, or any other similar devices, including these facilities when located below grade, must be behind the setback. No new doors shall be allowed to swing into the minimum, setback, except for emergency exit doors.

No walls or fences are permitted in the established setback, except as screening for parking as provided for in Section 10.803.(8) Screening.

(4) Minimum side and rear yards

None required. However, a 5-foot minimum side yard and/or a 20-foot minimum rear yard is required where the lot abuts an existing residential structure or a residential zoning district. If side and rear yards are provided, the minimum shall be five (5) feet.

(5) Maximum height

The permitted height shall be determined by the distance of the structure from property used and/or zoned for residential purposes. The base height for this district is 40 feet, for every 10 feet in distance from the property line of the nearest site used and/or zoned for residential purposes, except for property zoned PED, MUDD, or UMUD. For purposes of this Ordinance, distances shall be measured in a straight line from the closest edge of the PED property to the nearest residentially used/zoned property. The intent of this standard is to allow the height of a portion of a structure to increase as the distance from residential properties increases. The maximum height shall be 100 feet. *(Petition No. 2002-147, § 10.803(5), 01-21-03)*

(6) Parking standards

Provisions for parking and loading shall conform to the general requirements of CHAPTER 12, PART 2, OFF-STREET PARKING AND LOADING, except as provided for in this section.

(a) Permitted uses within this overlay district shall be required to provide offstreet parking spaces for new uses as follows:

Religious institutions: one (1) space per 8 seats *(Petition No. 2002-147, § 10.803(6)(a), 01-21-03)*

Residential uses: one (1) space per dwelling unit

Restaurants/nightclubs: one (1) space per 125 square feet

Hotels and motels: 0.5 space per room

For all other non-residential uses: one (1) space per 600 square feet

The required number of parking spaces for any building within the district, including mixed use buildings, is the sum total of the requirements for each use in the building calculated separately.

A 25% parking reduction is allowed if located within 400 feet of a parking facility available to the general public. (Such facility must be wholly available for public use.) This section in combination with Section 12.202(2) allows for no more than a total of 25% parking reduction.

- (b) For new parking, the minimum stall and aisle dimensions must conform to those of the current Charlotte-Mecklenburg Land Development Standards Manual. At least 75% of the required spaces must be full-sized spaces.
- (c) No surface parking or maneuvering space is permitted within any required or established setback, or between the permitted use and the required setback, except that driveways providing access to the parking area may be installed across these areas. It is the intent that these driveways be as nearly perpendicular to the street right-of-way as possible.
- (d) Underground parking structures are permitted, except within any required setback.
- (e) On-street parking spaces located along the portion of a public street(s) abutting the use where parking is currently permitted may be counted toward the minimum number of parking spaces as required by this ordinance. Those on-street parking spaces must be located on the same side(s) of the street as the use, have a dimension of at least 22 feet in length, and be in locations approved by the Charlotte Department of Transportation (CDOT). However, on-street parking directly across the street from the use may be counted if that parking abuts property, which is undevelopable because of physical constraints. In the event that the City or State removes any on-street parking that was allowed to count toward the minimum requirement, the existing use will not be required to make up the difference and will not be made non-conforming.
- (f) All recessed on-street parking shall have a minimum width of 8 feet measured from face of curb. (*Petition No. 2002-147, § 10.803(6)(f), 1/21/03*)

- (g) The parking requirements (for new spaces) of the district may be met onsite or off-site at a distance of up to 800 feet from the permitted use. Offsite parking to meet the requirements of this section may be provided through a lease, subject to the review and approval of the Zoning Administrator.
- (h) Parking that is located to the rear of the primary structure may extend the entire width of the lot, with the exception of any required planting strips. Parking that is located to the side of the primary structure may cover no more than 35% of the total lot width.
- (i) The five-foot planting strip or wall as required under Section 10.803(8)(a) may be eliminated if abutting parking lots are combined or interconnected with vehicular and pedestrian access. If a wall is provided, then the area devoted to the wall shall be wide enough to allow for its maintenance. Surface parking lots shall conform to the “Charlotte Tree Ordinance”. (*Petition No. 2002-147, § 10.803(6)(i), 1/21/03*)

(7) Loading standards

- (a) Non-residential buildings and structures, excluding parking structures, subject to the provisions of this Part must provide a minimum number of off-street service/delivery parking spaces. These spaces must be designed and constructed so that all parking maneuvers can take place entirely within the property lines of the premises. These parking spaces must not interfere with the normal movement of vehicles and pedestrians on the public rights-of-way, except as permitted by Section 20-29[14-25] of the City Code. These parking spaces must be a minimum of 10 feet by 25 feet and be provided in accordance with the following:

Non-residential uses with gross floor area:

- Less than 50,000 square feet: None required
- 50,000 – 150,000 square feet: One (1) space
- Each additional 100,000 square feet: One (1) space
- Existing buildings are exempt from these loading standards.

- (b) No loading spaces may be permitted within any required or established setback, or between the permitted use and the required setback, except that driveways providing access to the loading area may be installed across these areas. It is the intent that these driveways are as nearly perpendicular to the street right-of-way as possible.

(8) Screening.

- (a) All surface parking lots for more than 10 vehicles, service entrances or utility structures associated with a building, loading docks or spaces and outdoor storage of materials, stock and equipment must be screened from the abutting property and view from a public street or from a transitway as designated by an adopted plan. Such screening shall consist of either a 5- foot wide planting strip consisting of evergreen shrubbery according to the provisions of Section 12.303(2), or a 3-foot high minimum to a 3.5-foot high maximum solid and finished masonry wall or alternative as approved by the Planning Director. However, a wall cannot be substituted for the planting strip along any public street or transitway unless supplemented by landscaping in a minimum 3-foot wide planting strip. Screening may be reduced in height to 30 inches within sight triangles as required by the CDOT.
- (b) Dumpsters or trash handling areas must always be screened from adjacent property and from public view with a minimum 6-foot high solid and finished masonry wall with a solid and closeable gate. A solid wooden fence may be substituted if the dumpsters or trash handling areas are not visible from a public street or transitway. Dumpsters are not allowed in any required setback or yard space.

(9) Buffers.

- (a) All uses in the PED, other than single-family detached units, must provide buffering along all edges abutting residential districts. In addition, uses in PED, which are separated from a residential district by an alley of 25 feet or less, must also provide buffering along all edges abutting the alley. However, multi-family developments abutting multi-family uses or undeveloped multi-family zoning districts are exempt from this buffering requirement.
- (b) Such buffering shall consist of a 10-foot wide planting strip. The planting strip shall consist of a combination of evergreen trees and evergreen shrubs. Plant materials will be provided at a minimum of six (6) trees and twenty (20) shrubs per 100 linear feet in accordance with Section 12.302(9)(b), (c), (d) and (e). The 10-foot wide planting strip may be reduced to 8 feet and the shrubs need not be planted if a masonry wall with a minimum height of 6 to 8 feet in a side yard or 8 to 10 feet in a rear yard is installed. This buffering area may be interrupted with a gate/pedestrian access way to an adjacent site.

(10) Outdoor lighting.

- (a) The maximum height of the light source (light bulb) detached from a building shall be 20 feet.
- (b) All outdoor lighting will be screened in such a way that the light source can not be seen from any adjacent residentially used or zoned property.

Section 10.804. Urban design standards.

(1) Design Standards.

All buildings and uses developed in this overlay district must meet the following minimum standards:

- (a) Street Walls. The first floors of all buildings must be designed to encourage and complement pedestrian-scale interest and activity.

The first floor of all buildings designed and/or used for retail or office uses fronting directly to a street must include transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 50% of the length of the first floor building elevation along the first floor street frontage. Expanses of blank walls may not exceed 20 feet in length. A blank wall is a facade that does not add to the character of the streetscape and does not contain transparent windows or doors or sufficient ornamentation, decoration or articulation.

For all other uses it is intended that this be accomplished principally by the use of transparent windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 25% of the length of the first floor street frontage. When this approach is not feasible, a combination of design elements must be used on the building façade and/or in relationship to the building at street level to animate and enliven the streetscape. These design elements may include but are not limited to the following: ornamentation; molding; string courses; belt courses; changes in material or color; architectural lighting; works of art; fountains and pools; street furniture; landscaping and garden areas; and display areas.

Ventilation grates or emergency exit doors located at the first floor level in the building facade oriented to any public street must be decorative.

(b) Structured Parking Facilities. Structured parking facilities must also be designed to encourage and complement pedestrian-scale interest and activity.

Structured parking facilities must be designed so that the only openings at the street level are those to accommodate vehicular entrances and pedestrian access to the structure. In the event that any openings for ventilation, service, or emergency access are located at the first floor level in the building façade, they must be decorative and must be an integral part of the overall building design. These openings, as well as pedestrian and vehicular entrances, must be designed so that cars parked inside are not visible from the street or transitway.

The remainder of the street or transitway level frontage must be either available for commercial or residential space or an architecturally articulated façade designed to screen the parking areas of the structure and to encourage pedestrian scale activity. If fronting on a Class III (major arterial) or Class IV (minor arterial) street, the portion of the first level along the thoroughfare frontage must be available for retail, office, or residential space.

Cars on all levels of a structured parking facility must be screened from view from the street utilizing decorative elements such as grillwork or louvers.

(c) Canopies. Canopies, awnings and similar appurtenances are encouraged at the entrances to buildings and in open space areas. Such features may be constructed of rigid or flexible material designed to complement the streetscape of the area. Any such facility may extend from the building to within two (2) feet of the back of the curb. Supports for these canopies are not allowed in the minimum setback. If this extension would reach into the public right-of-way, an encroachment agreement from the City or State is required.

(d) Building Entrances. At least one operable pedestrian entrance per building must face a street or transitway and be distinguishable from the rest of the building. Such entrances must be recessed into the face of the building with a minimum 15 square foot area to provide a sense of entry and to add variety to the streetscape. No new doors will be allowed to swing into the minimum setback, except for emergency exit doors.

(e) Signs, Banners, Flags and Pennants. Where signs, banners, flags and pennants for identification or decoration are provided, they must conform to the requirements of Chapter 13, except for the following:

- (1) Specifications for permanent signs shall be according to Section 13.108a, except for signs located on any building wall of a structure shall have a maximum sign surface of all signs on one wall not to exceed 5% of building wall area to which the sign is attached, up to a maximum of 100 square feet. Wall signs may be increased by 10% per sign in lieu of a ground mounted or monument sign. *(Petition No. 2002-147, § 10.804(e)(1), 1/21/03)*

- (2) No permanent detached pole signs shall be permitted in PED.
- (3) Ground mounted or monument signs are allowed as follows:
 - a. Not to exceed 5 feet in height and 20 square feet in area.
 - b. Located behind the right-of-way and out of any sight distance triangle prescribed by the Charlotte Department of Transportation (CDOT).
 - c. Signs must be located a minimum of 14 feet from the existing or future curb, whichever is greater.
- (4) No outdoor advertising signs will be permitted.
- (5) Marquee and message center signs are allowed.
- (6) Signs are allowed to project nine (9) feet into the required setback or one-half the width of the required setback, whichever is less. A minimum overhead clearance of eight (8) feet from the sidewalk must be maintained.

(f) Streetscape Requirements. The streetscape requirements of the Pedestrian Overlay District (PED) are as follows:

- (1) Sidewalks and trees will be installed in accordance with a streetscape plan approved by the City Council
- (2) Trees must be planted in accordance with the "Charlotte Tree Ordinance" as per the "Charlotte-Mecklenburg Land Development Standards Manual".
- (3) The Planning Director with the affirmative recommendation of the City Arborist/ Urban Forester shall have the authority to modify the above streetscape requirements, including the modification of the planting strip, sidewalk location and width in order to preserve existing trees.

(Petition No. 2002-147, § 10.804(f)(3), 1/21/03)

(g) Valet Parking standards. Valet parking may be incorporated into the parking plan, and shall be reviewed on a case-by-case basis. If utilized, the following requirements shall be met:

- (1) Valet parking shall be located at the existing curb.
- (2) Valet Parking plans shall be submitted to the Charlotte Department of Transportation (CDOT) for review. Approval of the valet parking plan shall be obtained from CDOT.
- (3) Valet parking is not permitted on streets or thoroughfares where on-street parking/loading is not permitted.
- (4) No reduction in the width of the sidewalk or the planting strip is allowed for valet cutouts. If special valet parking is desired, it shall be incorporated into the parking lot or parking structure area. *(Petition No. 2002-147, § 10.804(g), 1/21/03)*

Section 10.805. Applicability.

The PED will be applied to selected corridors as an overlay to existing zoning districts, but will not be applicable to the Mixed Use Development District (MUDD), Uptown Mixed Use District (UMUD), and the Neighborhood Services District (NS). If the regulations and standards of this Pedestrian Overlay District conflict with those of the underlying district, those of this overlay district shall apply.

A PED is not established until a rezoning petition is approved designating the boundaries for the particular corridor and a streetscape plan is approved by the City Council. The designated PED shall be shown on the official zoning maps. The development and urban design standards for a PED are stated in Sections 10.804 and 10.805 respectively.

Exceptions to Applicability.

New development within areas designated as PED is subject to the development and urban design standards of PED, with the following exceptions:

(a) Change of Use, Non-Residential to Non-Residential With No Expansion

- (1) A change of use in an existing building from a non-residential use to another non-residential use that does not require more than five (5) additional parking spaces based on the PED parking standards will require screening of existing and expanded parking. However, none of the other PED requirements will apply.
- (2) A change of use in an existing building from a non-residential use to another non-residential use that requires more than five (5) additional parking spaces based on the PED parking standards must provide all of the additional required parking. Existing parking must comply with the parking lot screening requirements of PED. Any additional parking must conform to the requirements of the PED, but none of the other PED requirements are applicable.

(b) Change from a Residential Use to a Non-Residential Use With No Expansion

If a residential use is changed to a non-residential use with no expansion, the use is exempt from the PED requirements except the following shall apply:

- (1) Implement streetscape requirements of PED
- (2) Remove any non-conforming parking and provide required parking of PED
- (3) Meet buffering and screening requirements of PED

(c) Expansions of less than 5% of the building area or 1,000 square feet, whichever is less, are exempt from the PED requirements except:

- (1) Such expansion must meet the minimum setback, yard and height requirements of PED.
- (2) Provide any required additional parking according to the PED standards.

(d) Expansions of more than (c) above:

The entire site must be brought up to the PED requirements, except any existing building which will become non-conforming may remain.

(e) Creation or expansion of outdoor seating

- (1) Creation or expansion of outdoor seating is not considered an expansion of the building area.
- (2) Additional parking spaces shall not be required unless such outdoor seating requires more than 5 added spaces based on the PED parking standards. Any additional parking must conform to the requirements of the PED, but none of the other PED requirements are applicable.
- (3) Outdoor seating within an existing right-of-way or public sidewalk easement must have an encroachment agreement approved by the CDOT.

(f) Major facade improvements to existing buildings:

New exterior improvements (beyond paint and general maintenance such as roof or window repair or replacement) that exceed 25% of the current listed tax value of the entire property shall be subject to the following:

- (1) Eliminate any non-conforming parking from the required setback. Such elimination will not require any additional parking even if the site is rendered non-conforming.
- (2) Streetscape improvements and screening according to the PED standards will be required.

(g) Additional parking for existing development

No additional parking areas may be developed in the established setback.

(h) Removal of Required Buffer for Additional Parking

If an existing buffer or screening area is removed for more than five (5) additional parking spaces, an equal number of existing non-conforming parking spaces within the established setback must be removed and replaced with landscaping, patios and/or other related amenities, in addition to the requirements of Section 10.804(1)(f). The additional parking must meet the requirements of this overlay district. (*Petition No. 2002-147, § 10.805(h), 1/21/03*)

Section 10.806. Administrative Approval.

To offer some degree of flexibility the Planning Director has the authority to administratively alter any of the development and urban design standards by 5% in this overlay district. If administrative approval is for parking, the Planning Director will only grant this approval after consulting with the CDOT. On matters that do not involve quantitative measurements, the Planning Director may also make minor alterations if he/she determines that such changes would be an innovative design approach to development and/or would be in keeping with the general intent of the PED.

Any approval must meet the following criteria:

- (1) Incorporates existing buildings, trees, topographic features, or other existing elements consistent with the PED intent; and
- (2) Provides urban open space, seating, fountains, accent landscaping, or other similar urban pedestrian amenities consistent with the intent of the PED.

Section 10.807. Board of Adjustment

The Board of Adjustment shall have no jurisdiction to grant variances from the development and urban design standards of Section 10.804. A deviation from a development or urban design standard, however, can be obtained as a result of administrative approval pursuant to Section 10.806 or as a result of a Council-approved Pedestrian Overlay District (Optional). The Board shall have no jurisdiction with respect to an interpretation of, or decision about, Section 10.803's or 10.804's urban design standards except as a result of notice of zoning violation for which an appeal can be filed to the Board.

Section 10.808. Pedestrian Overlay District (Optional); Purpose.

The Pedestrian Overlay District (PED) establishes minimum standards for development. However, circumstances may arise which those regulations do not address or did not foresee. Therefore, this section establishes an alternative process by which the City Council may evaluate and approve development, which does not meet the minimum standards of the PED. The Pedestrian Overlay District (Optional), or PED-O, is established to provide a mechanism to review and address new development concepts, innovative designs, special problems, public/private ventures, and other unique proposals or circumstances, which cannot be accommodated by the standards of the PED. It also serves as a mechanism for altering or modifying of these minimum standards as they relate to a specific development. The PED standards form the basic framework as guidelines that will be used to evaluate a PEDO proposal, but any of the standards in the PED may be modified in the approval of the PED-O application.

Section 10.809. Pedestrian Overlay District (Optional); Application.

Petitions for a zoning map amendment to establish a PED-O should be submitted to the Charlotte-Mecklenburg Planning Commission. A PED-O classification will be considered only upon application of the owner of the subject property or his duly authorized agent. Applications must be accompanied by a schematic plan and by any supporting text that becomes a part of the amending ordinance.

Section 10.810. Pedestrian Overlay District (Optional); Review and Approval.

The establishment of the Pedestrian Overlay District (Optional) shall be in accordance with the procedures of Section 6, Part 2: Conditional Zoning Districts. The City Council will also consider the extent to which the basic standards of the PED are proposed to be modified, the impacts of those modifications on existing and future development in the area, and the public purpose to be served by permitting the requested modifications.

Section 10.811. Pedestrian Overlay District (Optional); Effect of Approval; Alterations.

Changes to approved plans and conditions of development will be treated the same as changes to the Zoning Map and will be processed in accordance with the procedures Section 10.806, Administrative Approval.

Section 10.812. Preliminary review.

Applicants planning any development or redevelopment in a PED area are required to meet with the Charlotte-Mecklenburg Planning staff, Engineering and Property Management Department, and Charlotte Department of Transportation at two points in the design process: (1) during the conceptual design process in order that the staff may offer input into urban design objectives and to interpret the approved streetscape plan for that area, and (2) during the design development stage to insure that the plans meet the desired objectives and the minimum standards for the district. The Pedestrian Overlay District (Optional) process does not exempt applicants from this preliminary review. Building permits will not be issued until the Planning Commission staff approves the proposal as in conformance with this ordinance.

Discussion:

Pedestrian friendly design includes the establishment of short blocks and compact development. Provisions for street connectivity and traffic calming also encourages pedestrian activity. Standards related to shared access points, block length, sidewalk construction and street design can create a safer environment for pedestrians. Design standards that create developments that are pedestrian in scale with appealing aesthetic quality, can increase the attractiveness and value of the property. Architectural, signage, lighting, streetscape, and landscaping standards can create interest and provide safety for pedestrians at the street level.

**TOOLS AND TECHNIQUES FOR INSTITUTING
BICYCLE AND PEDESTRIAN FACILITY STANDARDS**

Needed Actions	Cautions	Possible Incentives
Increase community support and education	Resistance to more facilities may come from a perception that crime may increase and safety may be compromised.	Provide opportunity for community input. Consider design and traffic calming techniques and education the public of the effectiveness of such.
	Education on the safety issues for motorists, bicyclists and pedestrians is essential.	Safety education and the proper use of all transportation modes can help to reduce accidents. Knowledge is the best safety weapon.
Provide Multi-Modal Transportation options	Be sure to balance the needs of all transportation in the community, including pedestrian, automobile, bicycle, and transit.	Designing an integrated network that allows residents to efficiently use multiple modes of transportation is the key to success, safety and efficiency.
	Developers and public officials may perceive that there is no demand for alternative transportation facilities.	Provide for public input during the zoning adoption process. Ask for involvement of those in the community who are active in the alternative transportation modes.
Revise Zoning Code	Ensure proper facility design to meet the needs of the community. ADA standards should also be considered.	Locate appropriate pedestrian and bicycle facilities in the proper locations to meet the goals of the community, and to serve all residents regardless of disability.
	Be sure to require connections not only within a development but connecting to adjacent developments.	Revise the zoning code to increase connectivity through providing opportunities to connect to surrounding developments by trails or sidewalks or other appropriate facilities.
	To successfully increase pedestrian and bicycle activity, safety, amenities and aesthetics must be a consideration.	Design of the built environment that considers the human scale, including requirements of amenities such as benches, trash cans, lighting, and architectural details can make development attractive for pedestrians and bicyclists.
Fund projects	Retrofitting projects may be expensive.	Consider the use of public private partnerships, capital improvement planning, and applying for federal funding through SAFETEA-LU.

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