



## Technical Memorandum #2

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Re: Technical Memorandum #2: Healthy Design Best Practices

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## Introduction

While research establishing the connections between community design and health issues is still evolving, there are a number of good signposts in existing research and in practice indicating connections between the built environment and health on a number of diverse health issues, such as physical activity, access to healthy

foods, respiratory health, mental health, and injury prevention.<sup>1</sup> Many communities have begun to plan and design for a healthy community by ensuring that policy and standards support goals for active and healthy living. The following memorandum provides a summary of best practices for development code that supports walking and bicycling. This information about existing practices will help to inform the preparation of the Healthy Design Ordinance (HDO) and specific changes to Titles 21 and 22 of the existing Los Angeles County Code.

In addition, the second portion of this memorandum highlights practices that complement improvements to bicycling and walking and provide for additional opportunities to improve community health.

## Healthy Design Best Practices

### Transportation Design

There are many elements of transportation design that improve conditions for walking and bicycling. These elements – on- and off-street facility design, supportive amenities, street design, and connections to transit – are addressed in planning documents, local policies, and other guiding documents such as design manuals. Municipal and county codes often do little to regulate the design of these facilities explicitly, instead deferring to other guidance. The following section presents best practices in jurisdictional code related to active transportation facilities and amenities, parking (both motor vehicle and bicycle), and pedestrian and bicycle circulation.

#### Pedestrian and Bicycle Facilities

The high-quality design of pedestrian and bicycle facilities is the most direct way to support active transportation in a community. Sidewalks should remain unobstructed and should be wide enough for bidirectional travel. Bicycle facility types should vary depending on vehicle volumes, speeds, and other road characteristics. Multi-use trails should be wide enough to accommodate different types of users at different speeds and should connect to the on-street transportation network. The design of bicycle and pedestrian facilities is most often addressed in design guidelines and planning documents, but a few jurisdictions have created a direct link between their active transportation design guidelines or policies and their code. This code language can establish facility requirements for developers and call for conformance with policies and plans for all development.



***Sidewalks with no buffers to the roadway and large and frequent driveway aprons can damage the safety and comfort of a pedestrian environment.***

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<sup>1</sup> Design, Community & Environment. “Understanding the Connection Between the Built Environment and Health” (2006). Available at: <http://www.usgbc.org/ShowFile.aspx?DocumentID=1736>

### **Best Practice: Davis, California – Municipal Code**

Like many cities, Davis requires sidewalks as part of all new building or dwelling construction.<sup>a</sup> In order to improve walking conditions and safety, the City also sets forth driveway requirements across sidewalks, including maximum width (12 feet), location (not within four feet of any crosswalk), number per parcel of land (one, with some exceptions), and minimum distance between driveways on one property (24 feet). The Davis code also requires street lighting, improving pedestrian safety and comfort.<sup>b</sup>

### **Best Practice: Boulder, Colorado – Construction and Design Standards<sup>c</sup>**

As part of its code, Boulder includes Design and Construction Standards that address transportation design, as well as streetscape design, utilities, and stormwater standards. Linking these standards to the code provides requirements for all development that takes place in the jurisdiction. The Transportation Design chapter of the standards document includes site access, sidewalk design, residential street design, emergency access, bicycle facilities, multi-use paths, and street lighting. The sidewalks standards set forth grade and minimum width requirements and explicitly require conformance with the Transportation Master Plan and compliance with ADA guidelines. The bicycle facility standards provide requirements for bicycle lane design, bicycle parking, and conformance with the Bicycle System Plan section of the Transportation Master Plan. The Construction and Design Standards defer to the City's Greenways Design Guidelines for off-street facility design. Street lighting guidelines and design standards are provided and include priority locations for installation: locations with identified crash problems due to visibility, corridors with significant turning movement conflicts and night time pedestrian activity, and residential streets.



***The provision of wide, unobstructed sidewalks is an essential element of healthy design. A healthy design ordinance can require sidewalks where appropriate and regulate their design.***

### **Best Practice: Portland, Oregon – Municipal Code**

In most cases, Portland requires land owners to construct, reconstruct, maintain, and repair sidewalks, curbs, driveways, and parking strips abutting or immediately adjacent to their land.<sup>d</sup> The code also requires that all newly constructed and reconstructed sidewalk intersection corners, where deemed feasible, have curb ramps providing access to elderly and physically disable persons. The City Engineer determines the distance from sidewalk to property line, sidewalk width, construction

materials use, and location and size of curbs. These types of code requirements can ensure that sidewalks are present, maintained, and up to the appropriate standards.

Within the code, Portland’s public recreational trail standards are brief, but it is worth noting that the stated purpose includes supporting alternative modes of transportation and providing connections to other transportation systems.<sup>e</sup> Establishing a nexus in policy and in code between trails and transportation is an important step in developing a comprehensive active transportation network for all users.

## **Circulation and Access**

Interconnected streets and pathways help create a safe and viable active transportation network. With well-planned connectivity and circulation, individuals can choose to walk and bike for more trips. Many cities establish on- and between-site circulation standards in order to provide safe and efficient movement for pedestrians and bicyclists within and between developments. The intent is to ensure a consistent, reliable pedestrian and bicycle network throughout the jurisdiction as development occurs.

### **Best Practice: Eugene, Oregon – Land Use Code**

Eugene’s zoning code provides on-site pedestrian circulation standards<sup>f</sup>, block length standards<sup>g</sup> (not to exceed 600 feet in most cases), and street connectivity standards<sup>h</sup>. The on-site pedestrian circulation standards are designed to ensure safe and convenient movement for pedestrians within all developments and include specific standards depending on use. Design standards are set forth for all on-site pedestrian pathways including requirements for ADA compliance, directness, grade-separation from roadways, markings for crossings, and pedestrian-scale lighting. The street connectivity standards are intended to encourage walking and bicycling, to accommodate emergency vehicles, and to reduce travel distances for all modes. Among other regulations, the standards require public access on streets and alleys, connections to streets with one quarter mile of the site, street connections to adjacent properties, and emergency access.



***Accessways provide pedestrian and bicycle connections within and between developments, encouraging healthy transportation.***

### **Best Practice: King County, Washington – Zoning Code<sup>i</sup>**

King County’s zoning code requires that all non-residential uses and residential uses with five or more dwelling units provide pedestrian and bicycle access within and onto the site. Non-residential

uses must provide access points every 800 to 1000 feet along perimeter sidewalks and walkways; at arrival points to the site, including intersections, crosswalks, and transit stops; and to and from adjacent lots to provide circulation between developments. Residential uses of five or more dwelling units also require pedestrian and bicycle access; of note, access is required at transit and school bus stops and between cul-de-sacs or groups of buildings to allow access to adjacent activity centers, parks, and open spaces intended for active recreation, schools or other public facilities, transit and school bus stops, and public streets. The code also includes specifications for where and under what circumstances accessways should be provided, as well as design standards. Design standards include lighting requirements, physical separation from driveways and motor vehicle parking spaces, minimum width, ADA compliance, and mid-point crossings for blocks greater than 660 feet long.

#### **Best Practice: Portland, Oregon – Zoning Code<sup>j</sup>**

Portland requires that commercial developments provide pedestrian connections between streets and building entrances, between all main entrances on the site, and to other areas, such as parking areas, bicycle parking, recreational areas, common outdoor areas, and any pedestrian amenities. The code provides design standards, including hard surfacing, six-foot minimum width, lighting, and landscaping. Portland's commercial zoning code also requires that pedestrian accessways be clearly identifiable where crossing driveways, parking areas, and loading areas through the use of elevation changes or speed bumps (of four inches or higher), different paving material, or other similar methods not including striping. Where parallel and adjacent to auto travel lanes, pedestrian connections must be raised (by at least four inches and equipped with curb ramps) or separated by physical barriers (with bollard spacing no wider than five feet). Employment zones have similar pedestrian standards.

### **Vehicle Parking Requirements and Design Standards**

Municipal and county codes have historically provided standards for the minimum number of motor vehicle parking spaces required for developments. The intent of minimum parking requirements has been to ensure that peak parking demand is met onsite. The outcome in many places has been an excess of parking supply much of the time. A number of cities are now turning to different strategies for managing parking demand and supply. Alternatives to traditional minimum parking requirements include reduced minimum standards, maximum parking allowances, and shared parking or other exceptions to minimum requirements. Limiting parking capacity through these strategies can encourage more healthy transportation choices; promote efficient use of valuable urban, suburban, and rural land; improve the pedestrian environment and aesthetic quality of an area; improve the economic viability of a development project by reducing the overall cost of the project; and protect air and water quality by reducing auto traffic and the coverage of impervious surfaces.

Further, pedestrian and bicycle circulation and access within and through parking areas is equally important to circulation on the rest of the site. As described below, King County, Washington's zoning code addresses this issue.

#### **Best Practice: Portland, Oregon – Zoning Code**

Portland has established maximum parking ratios as part of their municipal code.<sup>k</sup> The intention is to accommodate most auto trips based on typical peak parking demand, not parking demand for the one busiest day of the year. Maximums vary based on intensity of development and accessibility for alternative transportation modes; areas with denser development and better accessibility have lower

maximums. For example, higher maximums are assigned to areas more than a quarter mile walk from a frequently served bus stop or more than a half mile walk from a frequently served transit station (The Portland area's transit agency defines frequent service as every 15 minutes or better during peak times).

Portland's code also allows a number of exceptions to its minimum parking requirements, including shared-use parking agreements, reductions for areas well served by transit, and bicycle parking, transit-supportive plaza, and motorcycle parking substitutions.<sup>1</sup>



***Minimum parking requirements often plan for the peak day of the year, while capacity remains under utilized a majority of the time. A combination of strategies allow communities to strive for a more appropriate level of parking capacity, including maximum requirements, shared use adjustments, and accounting for the number of on-street spaces.***

### **Best Practice: King County, Washington – Zoning Code<sup>m</sup>**

The King County zoning code sets forth that, under particular circumstances, the amount of parking required by the code may be reduced for shared parking facilities for two or more uses. Parking minimums can also be reduced when transit service is provided within 660 feet of the site; the amount of the reduction is based on the service frequency and the land use. King County also requires that certain land uses (e.g., government uses, hospitals, universities, and high schools) reserve one of every 20 parking spaces for rideshare vehicles (meeting qualifications). These spaces are to be located closer to main entrances than all other spaces except disabled spaces.

The code also calls for on-site pedestrian and bicycle circulation to minimize conflicts between pedestrians and traffic. Walkways are required when a pedestrian access point or parking space is more than 75 feet from the building entrance or principal on-site destination. Walkways across parking areas are required every six rows when running parallel to parking rows and at least every 20 parking spaces when running perpendicular to parking rows. As mentioned in the *Circulation and*

Access section, on-site walkways must have appropriate lighting, physical separation, minimum widths, ADA compliance, and mid-point crosswalks for blocks greater than 660 feet long.

### **Best Practice: Charlotte, North Carolina – Zoning Code<sup>n</sup> and Urban Street Design Guidelines**

The City of Charlotte allows on-street parking spaces in the public right-of-way to count towards minimum parking requirements, provided that the parking is on the same side of the street as the use and meets the minimum dimensional requirements that the City sets forth. Should the number of parking spaces available in the public right-of-way decrease or be eliminated, property owners are not required to increase the number of spaces made available off-street and the use will not be made non-conforming. Beyond simply allowing minimum requirements to be reduced, the presence of on-street parking is encouraged in many locations in the City.

Charlotte recently amended its city code to directly address the guidelines laid out in its Urban Street Design Guidelines (USDG).<sup>2</sup> The result is more detailed code language with respect to pedestrian and bicycle facility design and other street elements that positively affect healthy design. As part of the USDG, the City emphasizes the importance of on-street parking for providing a buffer between pedestrians and auto travel lanes, calming traffic and improving pedestrian safety and comfort. At the same time, the guidelines recognize the need to provide enough physical space for on-street parking and bicycle facilities. Where both exist, the USDG calls for providing more width for either the bicycle lane or the parking lane, or a buffer in between.

## **Bicycle Parking Requirements**

The provision of bicycle parking encourages and supports bicycling as viable mode of transportation. In order for bicycle parking to be utilized, however, it must be provided appropriately. The following best practices demonstrate that in addition to simply requiring bicycle parking, jurisdictions are dictating the type, design, location, and volume of bicycle parking that should be installed at new and redeveloped sites.

### **Best Practice: Eugene, Oregon – Land Use Code<sup>o</sup>**

The Eugene code states explicitly that the bicycle parking standards are intended to provide safe, convenient, and attractive bicycle parking and to encourage bicycling. The code provides specific requirements for the number and type of spaces required based on land use. Minimum requirements begin at four spaces and increase based on use, such as square footage of commercial floor area or number of full-time students at universities; the requirements are set forth in a detailed table. With respect to facility type (short-term vs. long-term), percentages (e.g., 75 percent and 25 percent respectively) are also established based on land use. All long-term facilities require shelter, while short-term facilities require a percentage of spaces to be sheltered depending on the number required. All outdoor parking is to be located closer to the building entrance than the closest auto parking space.

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<sup>2</sup> City of Charlotte, North Carolina. *Urban Street Design Guidelines*. Available at:

<http://www.charmeck.org/city/charlotte/Transportation/PlansProjects/Pages/Urban%20Street%20Design%20Guidelines.aspx>.

### **Best Practice: Boulder, Colorado – Municipal Code<sup>P</sup>**

Boulder lists bicycle parking requirements alongside vehicle parking requirements in their city code. The requirements list the required number of short- and long-term bicycle parking spaces based on square footage of commercial properties or number of dwelling units for residential developments. The parking standards also dictate the quality of bicycle parking, requiring that facilities are able to secure both bicycle frames and wheels; cause no damage to bicycles; allow easy locking without interference from or to adjacent bicycles; have sufficient anchoring; are appropriately designed for the environment; are sited in



***In order for bicycling to be a viable transportation mode, a Healthy Design Ordinance should provide detailed bike parking requirements, including standards for the number, type, and location of facilities.***

convenient, highly visible, active, well-lighted locations; and do not interfere with pedestrian movements. Further, the bicycle parking requirements detail the purpose and importance of and standards for both short-term and long-term parking facilities. Short-term facilities must be publicly accessible, be located within 50 feet of main building entrances, and be outdoors. Long-term facilities require cover, lighting, and secured entry, must be within 300 feet of buildings they serve, and must be clearly marked if provided within an auto parking garage.

### **Best Practice: Santa Cruz, California – Zoning Code<sup>Q</sup>**

The Santa Cruz zoning code requires bike parking for any new building, addition or enlargement of an existing building, or for any change in the occupancy of any new building that results in the need for additional auto parking facilities. The code provides standards for the number (between 10% and 35% of car parking depending on use), type (short-term/long-term), and location and design of spaces required. Santa Cruz's bicycle design standards are similar to those found in Boulder's code and also include placement standards dictating that no more than 16 spaces be grouped together and racks not be installed so close to walls or to each other to impede locking.

## Complete Streets

A roadway network that is dominated by automobile traffic with limited or no facilities for bicycling and walking deters active transportation and access to vital community services for those who cannot or choose not to drive. Complete streets policies and ordinances ensure that transportation planners and engineers must consistently design community roadways for all potential users including bicyclists, public transportation vehicles and riders, persons with disabilities, and pedestrians of all ages and abilities. There is no standard design for complete streets. Roadways that support multiple users may look very different in a rural or urban context. There are as many implementation strategies as there are potential designs. Some communities have chosen to development ordinances that are reflected in code, while others have tied complete streets to conditions on funding. The practices summarized below illustrate some of the ways that communities can integrate complete streets concepts to support healthy design.



***Complete Streets policies and ordinances ensure that roads are designed (or redesigned) for all users: automobiles, transit, bicyclists, and pedestrians.***

### **Best Practice: Seattle, Washington – Complete Streets Ordinance<sup>3</sup>**

The City of Seattle is using a multifaceted approach to the development of a complete multimodal transportation network. The Complete Streets ordinance directs the Department of Transportation to ensure that all roadway projects provide for multiple modes. The resulting implementation of the ordinance prioritizes projects that have the most impact on network completion for all modes.<sup>3</sup> An internal complete streets steering committee clarifies the daily operational practices that the Department of Transportation takes to implement the policy.

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<sup>3</sup> American Planning Association, “Complete Streets: Best Policy and Implementation Practices,” Barbara McCann and Suzanne Rynne Editors. Planning Advisory Service Report 559.

**Best Practice: San Francisco, California – Transit First Policy<sup>5</sup>**

The city's charter explicitly states that transit, bicycles, and pedestrians should be prioritized when allocating limited right of way within the City. The policy directly ties the provision of complete streets to economic, environmental, and personal vitality. In addition, the policy provides explicit direction to prioritize transit movement and bicycle and pedestrian safety and mobility over automobile mobility when necessary.

**Best Practice: Louisville, Kentucky Metro – Complete Street Resolution and Manual<sup>6</sup>**

The Manual combines land use character and street types to develop preferred roadway designs for rural, suburban, traditional and downtown districts. Developers select cross sections appropriate for their project area – all of which include accommodations for multiple modes. For example, rural roadways are now required to have paved shoulders at a minimum to accommodate pedestrians and bicyclists. In addition, the complete streets manual has helped Metro to articulate regional complete streets goals for design of roads to the state DOT and incorporated cities. This means that there is greater consistency in the network for all users.

**Best Practice: Redmond, Washington – Complete Streets Ordinance<sup>7</sup>**

In order to better integrate its long range land use goals with transportation planning, the City of Redmond replaced the vehicle-based intersection LOS standard with plan-based concurrency as the standard for evaluation of new projects and development. This allows for the development of a network of complete streets where mobility for multiple modes and access to services is prioritized. The implementation of the transportation plan with complete streets at the core explicitly supports achievement of the comprehensive plan's visions and policies. The City uses an annual mobility report card to assess needs and determine priorities for improvements.

## Land Use

People who engage in active travel, walking or bicycling, instead of driving to commute or run errands, have lower rates of obesity and diabetes and get more physical activity.<sup>4</sup> Patterns of low-density and poorly connected development can often result in auto-centered communities that discourage residents from walking. Land use development patterns – including the location and density of uses – affect automobile use and contribute to the form and character of the community. Note that land use is affected by both the zoning code (as focused on in our examples here) as well as general plans. In order for a city or county to maximize the potential health promotion of their land use patterns, zoning/regulatory code changes should be combined with the creation of a policy framework for health supporting policies through general plan updates and/or amendments. Crafting a health-friendly land use element is critical to overall health of the community.

## Neighborhood Pattern and Block Assembly

The pattern of neighborhood uses and the configuration of blocks determine how easily a resident can travel between home, work, play, and daily needs. This pattern provides a blueprint that determines the distance between destinations and the directness of the routes in between destinations. Neighborhoods with mixed

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<sup>4</sup> Pucher J et al, "Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data," American Journal of Public Health, October 2010, Vol 100, No. 10: 1986.

land uses are associated with shorter trip distance and greater transit ridership, walking, and overall physical activity. People living in highly walkable, mixed-use communities are more than twice as likely to get 30 or more minutes of daily exercise as people who live in more auto-dependent neighborhoods.<sup>5</sup>

### **Form-Based Code**

Form-based codes can contribute to the walkability of a neighborhood by ensuring greater control over the streetscape environment. A form-based code deals primarily with the form of the building, its relationship to the site and to



***Interconnected streets with short block lengths make destinations easier to reach on foot and by bicycle.***

other buildings, as well as the role of the building in forming the public realm. Form-based codes for public space standards often include regulations for sidewalks, travel lanes, street trees, street furniture, and the façade of buildings. Form-based codes for building standards often include regulations controlling lot sizes, building placement and form, use, parking, encroachments, frontage types, and sometimes building types.

### **Best Practice: Albuquerque, New Mexico – Form-Based Code<sup>v</sup>**

Albuquerque uses a form-based code for controlling block sizes. Albuquerque’s code provides for the boulevard as the widest permissible street type, and the code provides a number of restrictions and controls to make these larger streets safer and more welcoming for pedestrians. By providing for one-way slip roads separated from the primary three or four lanes, the boulevard ensures that pedestrians walking along the right of way experience slower traffic and are buffered from the rapidly-moving bulk of vehicular traffic. Additionally, the landscaped medians that separate the slip from traffic provide some refuge for pedestrians who are crossing, ensuring that they need not make their way across so broad and inhospitable an expanse of roadway.

### **Best Practice: Sarasota County, Florida – Form-Based Code<sup>w</sup>**

Sarasota also uses a form-based code with strict standards on maximum block sizes. The creation of an appropriate scaled street network is one of the most critical aspects of a code for any site that does not have a walkable street network.<sup>6</sup> Sarasota’s code provides 14 acceptable street types and 12 acceptable lot (building) types. Urban designers are allowed considerable latitude in proposing additional street or lot types.

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<sup>5</sup> L. Frank et al., *Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings*, Part D, Vol. 5, Transportation Research, at 173-796 (2000).

<sup>6</sup> Daniel G. Parolek, Karen Parolek and Paul C. Crawford, *Form Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (Hoboken, N.J.: Wiley, 2008), 273.

## Land Use Mix

In many communities today, different types of neighborhood uses are strictly separated from one another: one area exclusively residential, another filled with office buildings, a third containing shops and businesses, making walking from home to work or the store virtually impossible. In contrast, when a neighborhood has a mixture of uses, people can leave their home on foot and run errands, access different types of services, and maybe even commute to work, all within a walkable distance. Mixed use areas with storefronts and restaurants that open out towards sidewalks are more attractive and interesting, and encourage walking.<sup>7</sup> Research shows that people who live in neighborhoods with a mix of shops and businesses within easy walking distance have a 35 percent lower risk of obesity.<sup>8</sup>



***Providing a mix of land uses encourages walking and bicycling to get to destinations.***

Communities can require or encourage neighborhoods to have a combination of different types of development, ensuring that residential buildings are close to commercial, retail, civic, and recreation destinations. Uses can be mixed vertically (in the same building) or horizontally (along the same block). This mixture of uses promotes walking, keeps spending local to strengthening local economies, and reduces dependence on cars by creating neighborhoods with many different services in a small area.

### **Best Practice: St. Lucie County, Florida – Land Development Code<sup>x</sup>**

In encouraging a mixture of land uses, the code from St. Lucie County, in Florida, takes a city-wide approach, requiring a mix of uses in each neighborhood. Rather than simply allowing different types of uses, St. Lucie's code requires that each neighborhood contain a minimum number of retail and civic building lots. St. Lucie provides for continuous street walls and accounts for transitions in scale and type, placing considerable emphasis on urban design and aesthetic impact.

### **Best Practice: Portland, Oregon – Zoning Code<sup>y</sup>**

Portland's code creatively uses traditional zones and overlay zones to provide for a mixture of uses. Portland's neighborhood commercial zone contains flexibility to foster different uses, and limits size of commercial uses so as to moderate potential negative consequences of mixing residential and commercial uses.

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<sup>7</sup> Boarnet, M., Joh, k., Siembab, W., Fulton, W., Nguyen, M. T. (2011) "Retrofitting the Suburbs to Increase Walking: Evidence from a Land-Use-Travel Study." *Urban Studies*. vol. 48 no. 1129-159

<sup>8</sup> Frank, L.D., Andresen, M.A., & Schmid, T.L. (2004). "Obesity relationships with community design, physical activity, and time spent in cars." *American Journal of Preventive Medicine*, 27, 87-96.

## Connectivity

An interconnected street network is crucial for pedestrians.<sup>9</sup> Shorter blocks with frequent crossings provide quick connections between attractive pedestrian destinations like schools, parks and shops, making walking a more attractive, convenient option. Such a network can take a grid, modified grid, or non-grid form. The traditional grid street network brings a variety of benefits to pedestrians. A grid provides direct routes, as well as parallel streets for alternate routes, clear orientation



***Not all street patterns need to be grids, but development should always allow for pedestrian and bicycle connectivity, through shorter blocks, frequent crossings, or accessways between otherwise disconnected streets.***

so that pedestrians do not get easily lost, and an orderly progression of streets and places. However, the repetitive form of the traditional grid network can be visually boring, especially for pedestrians. A modified grid, with T intersections, appears to reduce the number and severity of collisions, increasing pedestrians' safety.<sup>10</sup> Variations on the grid network can help increase pedestrian activity in an area by providing visual interest. Further, the streets can be oriented to frame vistas for beauty and to help with pedestrian orientation.

### **Best Practice: San Diego, California – Municipal Code<sup>7</sup>**

San Diego's code explicitly calls for a grid pattern. It also allows a modified grid, providing flexibility that may enable it to maximize the benefits of a grid while avoiding some of the drawbacks, particularly in places where topography makes a grid less practical. The code provides for short blocks, and recognizes pedestrians' desire to reach destinations without crossing busy streets. The code also calls for streets to frame vistas to enhance visual interest and orientation for pedestrians.

### **Best Practice: St. Lucie County, Florida – Land Development Code<sup>aa</sup>**

St. Lucie's code provides for an interconnected network, but puts less emphasis on a grid per se, allowing streets to be curved or bent, as long as they connect to other streets. St. Lucie emphasizes short routes and connectivity between attractive pedestrian destinations such as schools, parks, and retail. Interestingly, both San Diego and St. Lucie call for alleys as one method of balancing vehicle and pedestrian needs.

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<sup>9</sup> Greenwald, M.J. & Boarnet M.G. (2001). "Built environment as determinant of walking behavior: Analyzing non-work pedestrian travel in Portland, Oregon." *Transportation Research Record*, 1780, 33-42.

<sup>10</sup> Eric Dumbaugh and Robert Rae, "Safe Urban Form: Revisiting the Relationship Between Community Design and Traffic Safety," *Journal of the American Planning Association*, Volume 75, issue 3, 2009.

## **Pedestrian Supportive Commercial Uses**

Some types of commercial and civic spaces are more supportive of pedestrians than others. It is important that commercial spaces be oriented to pedestrians rather than cars. Having stores, parks, libraries and restaurants at street level – and ensuring that street level uses are oriented toward pedestrians – helps create more walkable and inviting areas. Pedestrian malls, located in civic, commercial and retail areas, are prime examples of commercial uses designed with the pedestrian in mind.

Placing commercial and public uses next to complimentary ones allows a pedestrian to trip-chain to accomplish weekly errands on foot easily. For example, clustering business like dry cleaners, post offices, and retail in one area allows for errands to be accomplished efficiently. These types of businesses can be segregated from businesses that are not visited on a regular basis and require a larger footprint, such as automobile-related businesses and offices.



***Having stores, parks, libraries, and restaurants at street level – and ensuring that street level uses are oriented toward pedestrians – helps create more walkable and inviting areas.***

### **Best Practice: Seattle, Washington – Municipal Code<sup>bb</sup>**

Seattle’s code takes a streamlined approach to require commercial uses of the type that support pedestrian activities by requiring that all lots on designated pedestrian-oriented streets have at street level a park, library, or supportive commercial use, such as a store, restaurant, or entertainment related businesses.

### **Best Practice: San Francisco, California – Planning Code<sup>cc</sup>**

San Francisco’s code takes a similar but more detailed approach, explicitly noting the goal of supporting pedestrian-oriented commercial uses, and laying out in detail the acceptable uses for street level frontages on given streets. San Francisco also specifies that such uses shall not include uses oriented toward motor vehicles.

### **Best Practice: Denver, Colorado – Zoning Code<sup>dd</sup>**

Denver has recently reinvigorated their downtown and transit station areas with a special focus on physical planning. In main street zoned districts, a certain percentage of buildings must be at the build-to line, creating a building mass forming along the street edge. This is coupled with a transparency and ground story activation requirement for entrances. The code distinguishes between these different physical contexts at a street block scale or neighborhood scale. The regulations are calibrated for the building scale based on those contexts.<sup>11</sup> Denver refers to this concept as the

<sup>11</sup> Laetz E and T Halbu. “Return to Physical Planning.” Planetizen. Available at: [www.planetizen.com/node/46586](http://www.planetizen.com/node/46586).

context-based approach, where they separate the urban parts of the city from the suburban parts. In their general plan, they distinguish between pedestrian-active uses of retail like banking, eating places, and public parks from those that are not, such as amusement centers, sale of automobiles, and retail sale of hospital supplies. The downtown code focuses on filling the urban parts with “pedestrian-active uses.”

## Parks and Civic Spaces

### Active Spaces

Parks and public spaces like playgrounds, plazas, and gardens not only make a neighborhood more beautiful, but they also attract a variety of people at all times of the day, help break up long blocks, and encourage physical activity. Creating new places for physical activity or improving their accessibility can increase the proportion of residents who exercise three times a week by 25 percent.<sup>12</sup> When these public spaces border the streets and sidewalks and are accompanied by other commercial enterprises, they increase the use of the public spaces, add to the character of an area, and create a sense of place for pedestrians.

#### **Best Practice: Montgomery, Alabama – Code of Ordinances<sup>ee</sup>**

Montgomery’s public space requirements are very innovative. Montgomery’s code uses the idea of a pedestrian shed, the quarter mile radius defining the area within which the average pedestrian can comfortably walk, to describe public space requirements. Under the code set forth below, within certain districts, five

percent of each pedestrian shed is reserved for public open space, including one primary centrally located public space. Montgomery’s code also requires playgrounds within 1000 feet of every residential use. By requiring that public spaces border streets, Montgomery’s code increases the appeal and use of such spaces. Public spaces that function as extensions of the sidewalk receive more impulsive use and add visual interest and appeal to the street.



***Parks and public spaces not only make a neighborhood more beautiful, but they also attract people at all times of the day, help break up long blocks, and encourage physical activity.***

<sup>12</sup> F. Kahn et. al and the Task Force on Community Prevention Services, *The Effectiveness of Interventions to Increase Physical Activity*, American Journal of Preventive Medicine (May 2002).

### **Best Practice: Cambridge, Massachusetts – Zoning Ordinance<sup>ff</sup>**

Cambridge's code provides for an interesting mechanism to increase and preserve public space within a redevelopment district. The code provides a density bonus available only with provision of at least 2.2 acres of public open space, half or more to be contiguous and within a designated neighborhood. Additionally, the total open space within the district may not shrink below 100,000 square feet even if the density bonus is not used. The code spells out a choice of property control approaches to ensure that the space remains public for 75 years or longer.

### **Joint Use Agreements**

A joint use agreement is a way to open up more safe places to exercise and play when they are few and far between. This legal agreement can open schoolyards and gymnasiums to community use, allow schools to share recreation space in community parks, or ensure community residents have access to recreation and play facilities constructed as part of a private development. A joint use agreement refers to a written agreement between a school district and one or more public or private (nonprofit) entities setting forth the terms and conditions for sharing the use of the district's facilities. While local governments do not have the ability to unilaterally require joint use in general plans, they can encourage partnerships with school districts and others.

There is a long history in California of laws promoting community use of school facilities. Understanding the purposes and parameters of these laws can help local advocates and decision-makers determine the best way to proceed to open schools in their community. In particular, the California Civic Center Act and the Community College Civic Center Act focus more generally on community use of public schools, directing public schools and community colleges to make their facilities available for after-hours use for many different purposes, including recreation.

### **Best Practice: San Francisco, California**

Where apartment buildings are plenty, the City of San Francisco has found ways to include open space and recreational facilities with the joint use agreement concept. In the Urban Design Element of their general plan, the Neighborhood Environment: Health and Safety section requires "recreation space in large developments" and recommends "well-designed plazas with public access with good exposure to sunlight for the downtown area."<sup>gg</sup> In the case of apartment developments, joint use agreements are recommended for those developments where recreational needs of the occupants cannot be satisfied on the site itself. Joint use of space by several properties in the block is recommended.

### **Best Practice: Riverside, California**

The City of Riverside uses the joint use concept in collaboration with the school districts. The City also advocates for designing schools to be "the focal points of community life."<sup>hh</sup> They encourage school siting requirements that allow smaller neighborhood schools and allow new schools to be constructed in existing urbanized areas.

## Development Standards and Design

Buildings play an important role in defining the feel of nearby streets and public spaces. The width, height, architectural style, design, construction materials, arrangement, and use of buildings can either increase or decrease pedestrian use and comfort. These elements of building design can contribute to the physical and mental comfort as well as actual and perceived safety for pedestrians. Changes in the streetscape and building design can lead to significant increases in the amount of physical activity that residents get.<sup>13</sup> The best practices discussed below identify aspects of building design and use that make an area more user-friendly and inviting to pedestrians.

### Building Orientation and Setbacks

#### Pedestrian-oriented Building Entries

Buildings often have entrances and exits that only face their parking lots. Because such entrances can be difficult and dangerous for pedestrians to find and access from the sidewalk, they discourage people from accessing such services by walking, while increasing the likelihood of injury and making the walk more uncomfortable and inconvenient for those who do walk. To make sure that building entrances are easily and safely accessible to pedestrians, communities can require that buildings have their main entrance facing the street or a public square to facilitate pedestrians' access into the building.



***Pedestrian-oriented building entries encourage and prioritize walking and bicycling for getting to commercial areas.***

#### **Best Practice: Louisville, Kentucky<sup>ii</sup> and Fort Worth, Texas<sup>jj</sup> – Development Codes**

Both Fort Worth and Louisville have encouraged street-oriented buildings by ensuring that buildings can be accessed from the streets they abut. These requirements minimize the construction of retail stores that can only be entered from their parking lots, which are often located to the side or rear of the building. Fort Worth's code requires that primary entrances face the street, except where a public space adjoins a building. Louisville's code also requires that the primary entrance be oriented toward

<sup>13</sup> Frank, L.D., Schmid, T.L., Sallis, J.F., et al. (2005). Linking objectively measured physical activity with objectively measures urban form. *American Journal of Preventive Medicine*, 28 (252) 117-125; Guide to Community Preventive Services. Environmental and policy approaches: street-scale urban design and land use policies, [www.thecommunityguide.org/pa/environmental-policy/streetscale.html](http://www.thecommunityguide.org/pa/environmental-policy/streetscale.html).

the street or public open space. Where the primary entrance faces a public space other than the street, Louisville requires doors and windows to also appear on the primary street. Moreover, for a building located on a corner, there must be either an entrance on both streets, or a corner entrance. This same provision of Louisville's code also encourages buildings to create a sense of enclosure by forming a "street wall," bringing in another element of pedestrian-friendly design.

### **Setbacks/Street Walls**

A street wall consists of a continuous set of building façades with similar heights and setbacks aligned along a street. For pedestrians, having a street wall on both sides of the street creates a feeling of comfort and enclosure. Buildings should not stand too far apart from each other, and driveways should be kept to a minimum, not only for continuity of the street wall, but also so that pedestrians do not have to dodge cars turning into or out of driveways. Minor setback variations, however, should be encouraged to keep the street wall from feeling monotonous.

#### **Best Practice: Peoria, Illinois – Land Development Code<sup>kk</sup>**

Peoria's land development code has the demanding requirement that 80% of the façade be built to the required building line, but provides flexibility by allowing jogs of 18 inches to accommodate architectural details such as bay windows, shop fronts, and the like. The required building line frequently is the same as the street property line, but need not be. Peoria also ensures that the street wall prevails at street corners by requiring that the façade be built out to the required building line within 30 feet of a corner.

#### **Best Practice: Seattle, Washington – Municipal Code<sup>l</sup>**

Seattle's code requires that on designated pedestrian-oriented streets, each building façade must be built to the street property line for 70 percent of the building.

### **Building Treatments/Facades**

#### **No Dead Space**

Successful pedestrian areas minimize the blank, unfriendly expanses created by windowless structures, parking lots, or garages. Such "dead spaces" lack visual interest and can feel oppressive or unsafe to pedestrians, thereby discouraging pedestrian activity. Dead spaces include unadorned surface parking lots (empty or full), long blank walls, vacant lots, reflective glass facades, featureless open spaces, and garage doors lined up along the street. Communities have many tools to curtail dead space. By locating motor vehicle parking behind or underneath buildings so they are not seen from the sidewalk, requiring windows at street level in buildings, encouraging undulating facades and setbacks, and adopting other design guidelines, communities can make areas more inviting and draw in more pedestrians.

#### **Best Practice: Seattle, Washington and Fort Worth, Texas**

In limiting dead space, it is important to minimize both visible parking and stretches of blank walls. Codes from Seattle and Fort Worth address these different aspects of preventing dead space. Seattle's Land Use Code limits parking that is visible from the main street, creating a set of standards and requirements that differ depending on the typology of the street.<sup>mmm</sup> On class I pedestrian streets, parking is only allowed in the rear of buildings or where it is concealed by other uses. On class II

pedestrian streets, parking is permitted at street level, but it must be screened from view and 30 percent of the parking must be separated from the street by other uses, the facade of which must not create an imposing blank wall.

Fort Worth's Near South Side Development Standards focus on preventing blank stretches of wall.<sup>mm</sup> Fort Worth requires that, for new buildings, 25 percent or more of the portion fronting on public streets or spaces must have transparent windows.

### **Facades**

Human-scale building design involves two axes: horizontal and vertical. Through the past half-century, buildings have become increasingly wide (on a horizontal plane) and front entrances are often minimized or relocated from the street to the parking lot. Pedestrians are less likely to walk by a large, wide building than narrower buildings, because wide buildings generally lack stimulation from frequent changes in architecture, and provide fewer ground-level services and window displays, making pedestrians feel small and out of place. Buildings may also be too tall, blocking direct sunlight from reaching pedestrians. Development restrictions can set limits on shadows. One example is requiring that buildings "step back" from the street before extending upward. Some cities include height bonuses for developers that provide grocery stores and other forms of retail on the ground level, thus increasing destinations and walkability. Evidence suggests that narrower, taller buildings improve walkability more than wider, shorter buildings, but shadow standards should be strictly enforced.

Communities can require narrow buildings with many windows to keep an area visually interesting and define the spaces on the street, or can make large buildings feel human scaled by incentivizing mixed-use on the first floor and design features, such as windows, awnings, and balconies, that visually break up the building. Requiring that building facades use attractive, high quality materials increases the interest and attractiveness for pedestrians as well.



***Minimizing setbacks, providing street walls along corridors, and requiring human-scale building facades all lend to an inviting pedestrian environment.***

### **Best Practice: San Antonio, Texas – Unified Development Code<sup>oo</sup>**

San Antonio, TX's Unified Development Code explicitly emphasizes the need for human scale development, calling for a pattern of windows, doors, and architectural features that are cohesive and aligned with adjacent facades. The code requires that commercial and mixed use facilities visually distinguish between upper and lower floors, and that ground floors contain a high percentage of windows. The code also requires that for buildings exceeding given lengths (between 30 and 100 feet,

depending upon location), street- and river-side facades be divided into traditionally-scaled modules, giving the appearance of separate buildings.

**Best Practice: Salt Lake City, Utah – Zoning Code<sup>PP</sup>**

Salt Lake City’s code does not restrict overall building size, but requires that building façades in developments exceeding 60,000 square feet have articulated exteriors, and suggests approaches such as patterns and sheltering roofs. The code also limits the amount of uninterrupted building length, although the limitation only applies to buildings in excess of the already lengthy 300 feet.

**Street Lighting and Signage**

**Pedestrian-Scale Street Lighting**

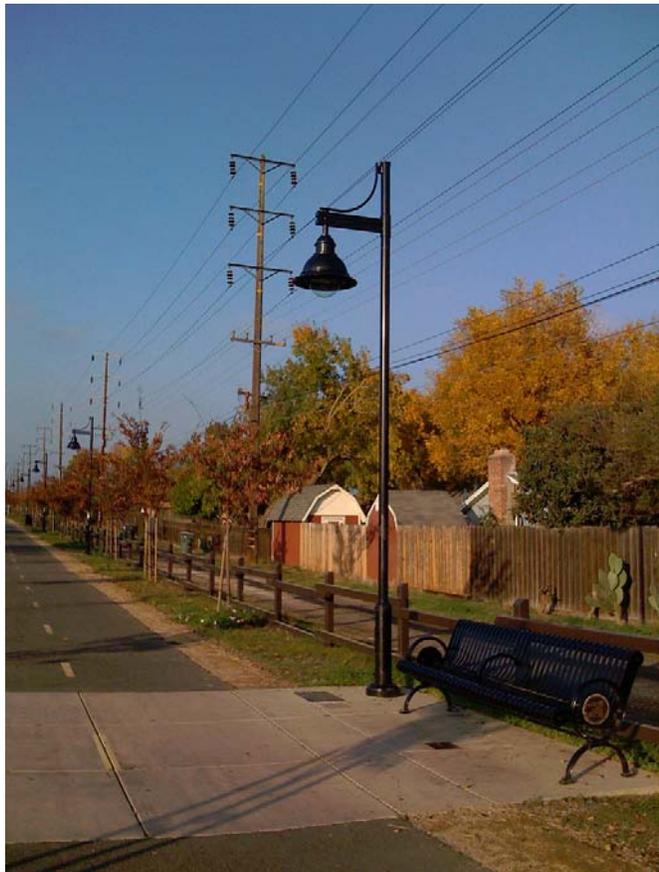
Lighting in pedestrian areas enhances safety, security, and comfort. Appropriately scaled lighting can prioritize pedestrian movement and prevent unwanted lighting for adjacent uses. Lighting can also add to the character of a corridor.

**Best Practice: Nashville, Tennessee – Zoning Code<sup>QQ</sup>**

Nashville’s Zoning Code requires that street lighting be designed and located consistent with pedestrian movements and the neighborhood. Lighting is to be installed such that glare and off-site impacts are avoided. Poles and fixtures must be compatible with the function and design of the feature and abutting uses.

**Best Practice: San Antonio, Texas – Unified Development Code<sup>RR</sup>**

Street lighting in San Antonio must be scaled for pedestrians: lamps in pedestrian ways are not to exceed 15 feet in height above the ground.



***Requiring lighting to be scaled appropriately enhances safety and comfort and can prevent unwanted glare or illumination for adjacent uses.***

**Coherent Small Scale Signage**

Supporting pedestrian friendly environments with small scale signage usually implies that signs are low enough for a bicyclist or pedestrian to notice them. On the contrary, signs are often posted high for cars and located quite a bit before a destination in order to prepare the driver for an upcoming turn. The code examples below from Nashville and San Diego demonstrate two very different approaches to regulating the visual impact of signs.

### **Best Practice: Nashville, Tennessee – Zoning Code<sup>ss</sup>**

Nashville's code provides a simple, discretionary standard for signs in neighborhood landmark districts, providing that a sign must fit a neighborhood's context and character in size and design. This approach is very flexible, but can be challenging for a business owner or community member to determine what might or might not be acceptable.

### **Best Practice: San Diego, California – Zoning Code<sup>tt</sup>**

In contrast, San Diego's code takes a highly detailed and prescriptive approach to signage, restricting the size and number of signs based upon detailed numerical formulas. This approach provides less opportunity to allow a different but appealing sign, but provides more clarity. One interesting aspect of San Diego's code is the requirement that blade (projecting) signs either take the shape of a graphic representation of the product or services offered, or include such an image on the sign. This requirement encourages a certain look to blade signs without creating uniformity or restricting creativity.

## **Landscape Design**

### **Landscaping and Screening**

Landscape elements contribute to the safety, attractiveness, and comfort of the pedestrian (and bicycling) environment: street trees provide shade and a natural buffer from vehicles. Landscaping, fences, and other screens often define public active spaces, such as sidewalks and plazas, obscuring unsightly or dangerous uses. By regulating screening along pedestrian corridors, jurisdictions can ensure a well-scaled pedestrian environment and contribute to walkability of the place.<sup>14</sup>

### **Best Practice: Davis, California – Zoning Code<sup>uu</sup>**

Davis, California's municipal code provides guidance for landscaping in commercial zoning districts. The code states that deciduous trees, vines, and other landscaping provide cooling in the summer, reducing energy needs, and that unshaded walls and paved surfaces in Davis can reach temperatures in excess of 140 degrees Fahrenheit, making walking and bicycling unpleasant and thereby encouraging automobile use. The City requires that landscaping cover at least 10 percent of the site, drought resistant plantings shall be used where feasible, and landscaping shall be reasonably maintained. The code also requires that site landscaping follow the guidelines laid out for particular zones.

### **Best Practice: Pasadena, California – Zoning Code<sup>vv</sup>**

Pasadena has detailed landscaping requirements in their zoning code based on land use, including location requirements, design standards, and details regarding maintenance, tree retention, and street trees. Further, the Pasadena Central District Specific Plan<sup>15</sup>, one of a number of the City's specific area plans, explores the relationship between utilizing land use policies, design standards, and

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<sup>14</sup> Healthy Communities in California's San Joaquin Valley. Toolkit. Local Government Commission, Sacramento, California.

<sup>15</sup> City of Pasadena, Planning & Development Department, Central District Specific Plan (2004) Available at:

<http://ww2.cityofpasadena.net/planning/deptorg/commplng/GenPlan/centdis.asp>

implementation strategies in order to nurture a vibrant downtown. A chapter of the plan is devoted to landscape design guidelines for active, safe, and aesthetically pleasing streets and public spaces. The plan emphasizes the provision of pedestrian-friendly streets with amenities, shade trees, and appropriate signage.



***Landscaping and other screening methods protect pedestrians from traffic on the street, as well as unsightly or dangerous utilities or uses.***

### **Best Practice: Portland, Oregon – Zoning Code<sup>ww</sup>**

By regulating landscaping and screening, the City of Portland intends to promote revegetation in urban areas (using noninvasive species), establish and enhance the visual character of the public realm, address safety and compatibility between land uses by reducing the visual, noise, and lighting impacts of specific development, unify development, and aid in energy conservation through shade and shelter.

The code outlines height, materials, and species guidelines for screening. As an example, low screens (three feet high) are generally located along street frontages, while high screens (six feet high) are used to provide physical separation between uses or lots. High masonry walls (six feet high) are required in special situations where extensive screening is needed in order to minimize visual and noise impacts. In commercial zones, the code specifically requires that garbage and recycling collection cans and areas be screened from the street and any adjacent properties; there is an exemption for trash receptacles for pedestrian use. At-grade mechanical equipment must be screened from the street and any abutting residential zones with the use of walls, fences, or vegetation.

## Utilities

Public services are essential to protect public health, safety, and the welfare of the community and environment. The siting of utility facilities should be planned to minimally impact residents in terms of noise, safety, and obstruction of the public right-of-way. Utilities that must be located in the in the public right-of-way should be sensitive to the design and use of the street and should not impede the flow of pedestrian traffic.

### **Best Practice: Los Angeles, California – Public Works and Property Code<sup>xx</sup>**

For above ground utility or telecommunications facilities (AGFs), the City of Los Angeles requires that installations do not obstruct streetscape views, view corridors existing in or from the public rights-of-way, or view corridors of neighboring lots. The code also sets forth visual standards, requiring that AGFs comply with volume thresholds; align with existing power poles, street light fixtures, street signs and other structures to create an aesthetic and unobstructed alignment; be landscaped immediately surrounding the installation; have similar coloring to the existing surrounding landscape and graffiti mitigation through the use of special paints or surfaces materials; and comply with per block density thresholds. Further, the code includes public safety requirements that regulate the distance between AGFs and property lines (four to six feet depending on street classification) and other distances to allow for unobstructed pedestrian and wheelchair passage.

## Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design (CPTED) theories contend that communities can create a climate of safety through careful design and planning of the physical environment. Using design to create defensible space is central to the theory. Defensible space should allow people to see and be seen at all times. The goal of CPTED is to reduce opportunities for crime to occur. Communities can employ physical design features that discourage crime, while at the same time encouraging legitimate use of the environment. The theory is based on four principles: natural access control, natural surveillance, territoriality, and maintenance.

Communities can require specific mandatory physical guidelines or require a specific process such as CPTED review as part of new development permitting. The latter approach allows more flexibility to review physical details based on context and crime conditions.

### **Best Practice: Tampa, Florida – Zoning Code<sup>yy</sup>**

Tampa outlines specific overlay zones where CPTED principles must be applied to both residential and commercial zones. The code notes specific requirements for fencing, buffers, and landscaping. For example, it requires that all landscaping meet a CPTED standard that requires trees adjacent to surface parking areas be trimmed to maintain a six-foot clear height and hedges and bushes be trimmed to maintain a maximum of two feet in height. The code further requires that all parking structures and parking areas require the approval of a certified CPTED practitioner.

### **Best Practice: Sarasota, Florida – Zoning Code<sup>zz</sup>**

In 1992, the City of Sarasota created a new zoning district and required that all new developments within the district undergo CPTED review. While compliance is recommended and not compulsory, most developers willingly comply. In general, the recommendations are that outside lighting be installed and maintained for building entrances, walkways, and parking lots, and that landscaping

with ground cover and canopy trees be designed to allow visibility, demonstrate ownership, and enhance the pedestrian environment.

**Best Practice: Palmdale, California – Site Plan Review Guidelines<sup>aaa</sup>**

Palmdale requires CPTED principles be followed as part of a set of standards that new development must meet to be approved. As part of site plan review, permitting staff consider four key principles during the CPTED review process: natural surveillance, natural access control, territorial reinforcement, and maintenance.

**Best Practice: Hampton, Virginia – Site Plan Review Committee<sup>bbb</sup>**

Hampton, Virginia provides a site plan review committee made up of representatives from Public Works, the Division of Fire and Rescue, the Police Division, the Planning Department, Codes and Compliance, and any other department that the Director of Public Works deems necessary to review the plan. The review ensures appropriate lighting and landscaping design and seeks to minimize designs that may result in crime or unsafe activities.

## **Public School Design and Location Decisions**

Although cities and counties generally do not have jurisdiction over matters related to schools, school design and location decisions can be vitally important to the health of students, and can also have important effects on the health of neighborhood residents. Local jurisdictions can work collaboratively with schools to encourage design and siting decisions that promote physical activity.

School location affects whether children get physical activity on the way to and from school. Research has shown that distance is the number one reason why children don't walk and bike to school.<sup>16</sup> Walking and biking to school are effective ways of incorporating exercise into children's routines,<sup>17</sup> but the number of children walking and biking to school has fallen dramatically over the last 40 years. One reason is that children are much less likely to live close to their school – in 1969, about 45 percent of children lived within one mile or less from school, while in 2001, only 25 percent of children lived within one mile from school.<sup>18</sup>

School location also affects the health of adults. Schools that are located in more densely populated residential areas, rather than on the outskirts of town, can serve as community centers, with residents able to walk to meetings, to exercise classes, or to emergency centers at schools.

When schools and local jurisdictions collaborate around school siting, schools can be located near other civic uses, such as parks, libraries, or senior centers, improving the size or quality of facilities, encouraging walking field trips, and resulting in other benefits for students and residents.

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<sup>16</sup> Martin S, Lee S and Lowry R. "National Prevalence and Correlates of Walking and Bicycling to School." *American Journal of Preventive Medicine*, 33(2): 98-105, 2007.

<sup>17</sup> Active Living Research, *Walking and Biking to School, Physical Activity and Health Outcomes* (May 2009), at [http://216.92.169.205/files/ALR\\_Brief\\_ActiveTransport.pdf](http://216.92.169.205/files/ALR_Brief_ActiveTransport.pdf).

<sup>18</sup> United States Department of Transportation, *National Travel Survey. Travel to School: the Distance Factor*. 2008. Available at: [www.saferoutespartnership.org/media/file/Travel\\_To\\_School.pdf](http://www.saferoutespartnership.org/media/file/Travel_To_School.pdf).

### **How can a local jurisdiction encourage healthy school siting?**

- Require the dedication of land for schools (or payment of fees in lieu of land) as a condition of approval of development, with the requirement that the resulting school site be located centrally or near concentrated residential population areas, rather than on the outskirts of town;
- Establish a collaborative relationship with school districts in regards to planning;
- Assess existing conditions for walking and bicycling near schools, including speed of vehicle traffic, safety of crossings, and safety of bicycling and walking routes; identify policies and physical improvements such as street closures, increased law enforcement activity, and traffic calming that would make bicycle and pedestrian travel safer; and implement changes;
- Incentivize new mixed income developments near existing or new school sites.

## **Complementary Best Practices**

### **Climate Change Policies and Action Plans**

Recent regulatory initiatives in California including Assembly Bill 32 (AB 32) and Senate Bill 375 (SB 375) have created a mandate to consider project impacts upon greenhouse gas (GHG) emissions to limit the effects of global warming. A key issue related to GHG emissions is that vehicular travel contributes significantly to overall emissions. Connecting the provision of healthy transportation infrastructure to broad climate change goals provides a clear and tangible path that communities and developers can take to reduce emissions by shifting transportation mode share towards non-motorized transportation modes, such as walking and bicycling.

#### **Best Practice: Sonoma County, California – Community Climate Action Plan<sup>ccc</sup>**

In 2008, Sonoma County completed its Community Climate Action Plan. The goals and emission reduction targets set forth in the plan directly support a commitment to healthy modes of transportation, including transit. The proposed Comprehensive Transportation Plan aims to achieve a 13 percent shift from driving to public transit. Sonoma County has made a significant commitment to improving transit services to Marin County in an effort to reduce drive alone trips. Since most transit trips are coupled with a walk and/or bike trip at either end, the commitment to improve transit extends a strong commitment to improving walking and bicycling facilities as well.

#### **Best Practice: Boulder, Colorado – Climate Action Plan and Resolution<sup>ddd</sup>**

The City's 2006 action plan provides clear targets for emissions reductions tied to transportation and greater energy efficiency. Climate policy is connected directly to long range planning and development. The supporting resolution requires ongoing evaluation of their success by requiring that the City Manager provide annual reports about progress on emission reductions. Increased levels of bicycling and walking and mode shift from single occupancy vehicles is a primary mechanism for measuring emission reductions and success of the climate action plan.

## Green Infrastructure

### LEED/Green Point Rated - Neighborhood Development Criteria

LEED for Neighborhood Development (LEED-ND) is a national rating system for neighborhood design that integrates the principles of smart growth, New Urbanism, and green building. The criteria for LEED-ND are designed to recognize projects that successfully protect and enhance the overall health, natural environment, and quality of life in communities (e.g., neighborhood developments where jobs and services are accessible by foot or transit). Incorporating LEED-ND criteria into code can help support or require development of places where residents have the opportunity to be active, have access to open space, and have viable active transportation options as a result of mixed uses and shorter trip lengths.

In California, Build It Green, a non-profit dedicated to improving energy and resource efficiency in residential building has developed another set of standards to evaluate green building. The Green Point ratings system is used by some communities as a standard by which new residential building and remodels should be evaluated.



***Green building practices encourage healthy design through the density, the provision of walking and bicycling facilities and amenities, and the proximity of important destinations.***

#### **Best Practice: Davis, California**

In Davis, CA, participation in the City's energy and resource efficiency evaluation process is mandatory for all new buildings and remodels that fall within the expressed guidelines. Buildings are evaluated based on square footage and must meet certain point thresholds for energy and resource efficiency. Compliance with the thresholds identified in the code is a condition of approval issued by the planning division for a covered project. Residential buildings are evaluated through Build It Green criteria and commercial properties are evaluated through LEED standards. Both rating systems allocate points for buildings that support mixed use development and density in an effort to combine places where people live and work. The energy and resource efficiency evaluation process results in an improved environment for healthy, more active modes of transportation.

#### **Best Practice: San Mateo County, California**

In San Mateo County, approval of building permits is dependent on meeting thresholds from Build It Green or LEED compliance. This applies to both residential and commercial properties and buildings with higher ratings receive expedited permitting.

## Stormwater Management

Stormwater management practices are designed to improve water quality by minimizing the pollutant runoff entering water sources. The best practice approach to stormwater management is known as Low Impact Development (LID). LID emphasizes the conservation and use of on-site natural features to protect water

quality. The most frequently used LID practices include bioretention cells, rain barrels, green roofs, pervious concrete, and bioswales. Stormwater management facilities designed under LID standards provide a number of benefits to the community, including access to better water quality, additional water resources to augment potable supply, pollution reduction, groundwater recharge, and more pedestrian-friendly streetscapes.

**Best Practice: Portland, Oregon – Zoning Code<sup>eee</sup> and Stormwater Management Manual<sup>19</sup>**

The Stormwater Management Manual is a technical document (and part of the Zoning Code) that outlines the City of Portland’s stormwater management requirements. These policies apply to all development and redevelopment projects within the city on both private and public property. The City

of Portland’s approach to stormwater management uses the principals of Low Impact Development to treat stormwater onsite. The manual complements and supports the City’s other standard practices, including the Greenstreets Program and the Watershed Management Plan, and includes a section on LEED stormwater credits. The City of Portland Bureaus of Environmental Services and Transportation are currently working together to improve the bikeway network through neighborhood greenways, low traffic streets with stormwater retention installations that prioritize nonmotorized travel.



***Green streets not only manage stormwater runoff, but they can also create a buffer between pedestrians and auto traffic and add to the character of a street.***

## Access to Healthy Foods

Access to healthy food is a critical prerequisite for health and obesity prevention. By providing convenient access to affordable, healthy, fresh, and culturally appropriate food, a community can promote health for all of its residents.

Just as they play an important role in shaping our ability to be physically active in communities, zoning and development codes create a policy framework that shapes our food environment. Land use policies impact where certain activities and land uses locate within a community, and the relative regulatory ease with which they can be established (e.g., permitting and conditional use requirements). Land use policies can also provide protections to those uses in the face of development pressures.

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<sup>19</sup> Portland (OR) Stormwater Management Manual, 2008. Available at: <http://www.portlandonline.com/bes/index.cfm?c=47952>.

## Farmers' Markets

Farmers' Markets provide consumers the opportunity to maximize their food dollars, by supporting farms that employ sustainable and organic farming practices, grow regional and culturally specialties, minimize energy consumption by transportation and storage, and re-circulate dollars directly back into the local and regional economy.<sup>20</sup> Zoning for farmers' markets can increase access to new markets and protect existing markets by removing regulatory barriers and offering incentives to siting markets,



***By providing convenient access to affordable, healthy, fresh, and culturally appropriate food, a community can promote health for all of its residents.***

optimizing location of markets, and improving low-income access by requiring or incentivizing acceptance of

food stamps (EBT/SNAP) and other federal nutrition assistance programs. Currently, farmers' markets are not a defined use in the Los Angeles County zoning code.

### **Best Practice: Fresno, California**

Before 2009, zoning regulations in the city of Fresno, Calif., prevented farmers' markets from being established because farmers' markets were not a legally defined use in the city's zoning code. The lack of supportive land use policy for farmers' markets in Fresno was particularly ironic: although Fresno County is one of the most productive agriculture areas in the world, its farmers could not sell directly to residents in their own community. Community members worked with the city's planning department to change the zoning code so that Fresno's residents can now benefit from the fresh, local food that farmers' markets bring.<sup>fff</sup>

### **Best Practice: San Francisco, California – Administrative Code<sup>ggg</sup>**

San Francisco has developed a program providing subsidies to low-income residents purchasing food at farmers' markets. Farmers' market vendors are required to accept coupons, vouchers, and EBT cards (Electronic Benefit Transfer cards for food stamps).

## Community Gardens

Community gardens, urban farms, and urban agriculture encompass a broad range of activities that relate to growing food within urban communities. Community Gardens allow residents to grow their own produce and share it with their family and neighborhoods: reducing household food costs; increasing "food literacy;" creating neighborhood green space for recreation, conservation, and beautification; and improving public

<sup>20</sup> Brown C and Miller S. "The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA)." *American Journal of Agricultural Economics*, 90: 1296-1302, 2008.

safety by connecting neighbors and activating underutilized spaces. Community gardens may be divided into plots that individual families cultivate, or they may be managed by a single organization that gardens the entire site. Some gardens primarily grow food for personal consumption, some for donation (to food pantries or senior centers, for example). Note that backyard gardens on private/residential properties are not included in this definition, although growing at home for personal consumption can be an important source of local food. Community gardens are not addressed or defined in the Los Angeles County Zoning Code, which leaves them vulnerable to being closed down as “illegal” uses or to displacement by development that is expressly permitted in the zoning district.

**Best Practice: Seattle, Washington**

The City of Seattle recently completed a comprehensive update to their zoning codes for urban agriculture, including community gardens. Recognizing the importance of supporting residents’ access to healthy, local food, this new ordinance allows “urban farms” and “community gardens” in all zones, with some limitations in industrial zones. Residents can now also sell food grown on their property, and regulations for keeping animals associated with urban agriculture (such as chickens and bees) were streamlined.<sup>hhh</sup>



***Community Gardens create neighborhood green space for recreation, conservation, and beautification, and improve public safety by connecting neighbors and activating underutilized spaces. (Source: PLACEMATTERS)***

**Best Practice: Des Moines, Iowa, Washington D.C., and Hartford, Connecticut**

Vacant land on private and public property can offer a good opportunity for community gardens. Des Moines, Iowa, has a community garden program that allows the establishment of community gardens on city right-of-ways and real property.<sup>iii</sup> A number of cities, including Washington, D.C., and Hartford, Conn., collect and maintain an inventory of public or private vacant land suitable for gardens.<sup>jii</sup>

**Grocery Stores**

Grocery stores are important community assets for public health, quality of life, and economic development. Bringing a grocery store into an underserved neighborhood not only makes fresh produce and other healthy food more accessible, it can provide living-wage jobs, raise the value of surrounding property, and anchor and attract additional businesses to the neighborhood. Zoning and development ordinances can improve access to grocery stores by allowing them to locate in or near residential development (especially through mixed-use zoning) and offering incentives for grocery development in targeted areas.

### **Best Practice: New York City, New York**

In New York City, public health advocates were concerned about studies that showed high rates of diet-related chronic disease in neighborhoods where healthy food stores were few and far between. The findings from these studies prompted the City to launch a new initiative in 2009 called FRESH (“Food Retail Expansion to Support Health”). The purpose of the FRESH initiative is to encourage the development of full-service grocery stores offering a range of healthy food items in underserved neighborhoods. In addition to financial incentives, FRESH creates special zoning incentives for qualifying grocery stores, including reductions in required parking, density bonuses (additional floor area) in mixed residential and commercial buildings, and larger as-of-right stores in some districts.<sup>kkk</sup>

### **Best Practice: Richmond, California**

Richmond included a section on healthy food retail in the Community Health and Wellness Element part of their General Plan. The stated goal is ensuring that all Richmond residents have access to affordable and nutritious food. The associated policy was written to “ensure that more than 75 percent of the households in the city live within a half-mile of full-service grocery store, fresh produce market, an ethnic market, or a convenience store that stocks fresh produce.”

## **Fast Food**

In many communities, opportunities to buy unhealthy food outnumber healthy food opportunities many times over. For example, across Los Angeles County, there are 4.85 times as many fast food outlets and convenience stores as there are grocery stores, farmers’ markets, and produce stores.<sup>21</sup> While early research on the health impacts of the food environment focused on so-called “food deserts” – neighborhoods or communities where healthy food outlets like grocery stores are non-existent or rare<sup>22</sup> – current studies are finding that “food balance” may be a better model. Food balance studies look at not only access to healthy food outlets in a community but also access to unhealthy outlets, and especially the relative ease of access between these two.<sup>23</sup> In other words, it matters not just whether you have a grocery store or farmers’ market in your neighborhood, but also whether you have many more fast food, convenience, and liquor stores relative to each healthy food outlet.

The impact of fast food access on children, especially, may be an important consideration when drafting zoning ordinances. A recent study found that students with fast food restaurants near (within a half-mile of) their schools (1) consumed fewer servings of fruits and vegetables, (2) consumed more servings of soda, and (3) were more likely to be overweight or obese than were youths whose schools were not near fast food restaurants.<sup>24</sup>

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<sup>21</sup> California Center for Public Health Advocacy, *Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes*. April 2008. Available at: [www.publichealthadvocacy.org/designedfordisease.html](http://www.publichealthadvocacy.org/designedfordisease.html).

<sup>22</sup> Shaffer A. *The Persistence of L.A.’s Grocery Gap: The Need for a New Food Policy and Approach to Market Development*. Center for Food and Justice. May 2002. Available at: [http://departments.oxy.edu/uepi/publications/the\\_persistence\\_of.htm](http://departments.oxy.edu/uepi/publications/the_persistence_of.htm).

<sup>23</sup> California Center for Public Health Advocacy. *Searching for Healthy Food: The Food Landscape in California Cities and Counties*. January 2007. Available at: [www.publichealthadvocacy.org/RFEL/expanded%20methods.pdf](http://www.publichealthadvocacy.org/RFEL/expanded%20methods.pdf).

<sup>24</sup> Davis B and Carpenter C. “Proximity of Fast-Food Restaurants to Schools and Adolescent Obesity.” *American Journal of Public Health*, 99(3): 505-510, 2009.

Fast food outlets can be restricted through “formula” (chain) restaurant or drive-through bans or restrictions. These restrictions may be applied to an entire jurisdiction or just within specific geographic areas, such as close to a school.

**Best Practice: Los Angeles, California**

While dozens of communities across the country have used zoning ordinances to regulate the location and/or density of fast food outlets, the recently-passed ordinance prohibiting new stand-alone fast food restaurants in South Los Angeles represents an important example of a community using its zoning powers to promote public health. Unlike many of the fast food zoning regulations that had been adopted previously, the South Los Angeles ordinance explicitly acknowledged the negative social, economic, and environmental effects of the proliferation and concentration of these businesses. The ordinance restricts new fast food outlets from opening within a half-mile of an existing fast food retailer, although it provides exemptions for fast food outlets that are integrated into mixed-use or joint-tenant commercial centers.<sup>III</sup>

**Best Practice: Calistoga, California – Municipal Code<sup>mmmm</sup> and Concord, Massachusetts – Zoning By-laws<sup>nnn</sup>**

Many local governments already limit fast food restaurants to commercial or other nonresidential districts. Some communities further restrict “formula” restaurants (which include chain fast food restaurants). For example, the community of Calistoga, Calif., prohibits all formula restaurants, and Concord, Mass., bans all fast food and drive-through restaurants.

# Additional Resources

## Transportation Design

- Urban Street Design Guidelines, Charlotte, NC: <http://www.charmeck.org/city/charlotte/Transportation/PlansProjects/Pages/Urban%20Street%20Design%20Guidelines.aspx>
- Design Guidelines for Active Michigan Communities (particularly Chapter 7: Steps for Creating an Active Living Community): <http://mihealthtools.org/communities/default.asp?tab=designguidelines#printsave>
- Design For Health: <http://www.designforhealth.net>

## Complete Streets

- Planning Complete Streets for an Aging America: <http://assets.aarp.org/rgcenter/ppi/liv-com/2009-12-streets.pdf>
- Barbara McCann and Suzanne Rynne. *Complete Streets: Best Policy and Implementation Practices*. American Planning Association, Planning Advisory Service.

## Land Use

- How to Create and Implement Healthy General Plans Toolkit (Public Health Law & Policy): [http://www.phlpnet.org/healthy-planning/create\\_implement\\_gp](http://www.phlpnet.org/healthy-planning/create_implement_gp)
- Healthy Planning Policies: A Compendium from California General Plans (Public Health Law & Policy): <http://www.phlpnet.org/healthy-planning/products/healthy-planning-policies>
- Parolek, Daniel G., Karen Parolek, and Paul C. Crawford. *Form Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers*. Hoboken, N.J.: Wiley, 2008.
- Advancing Policies to Support Healthy Eating and Active Living: Action Strategies Toolkit (Leadership for Healthy Communities): <http://www.rwjf.org/childhoodobesity/product.jsp?id=42514>

## Parks & Civic Spaces

- What is a Joint Use Agreement? (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/what-joint-use-agreement>
- Checklist for Developing a Joint Use Agreement (JUA) (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/checklist-developing-joint-use-agreements>
- Opening the School Grounds to the Community After Hours: A Toolkit for Increasing Activity Through Joint Use Agreements (Public Health Law & Policy): [http://www.phlpnet.org/healthy-planning/products/joint\\_use\\_toolkit](http://www.phlpnet.org/healthy-planning/products/joint_use_toolkit)

## Development Standards & Design

- Complete Streets Fact Sheet (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/what-are-complete-streets-fact-sheet>
- Model Comprehensive Plan Language on Complete Streets (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/model-comprehensive-plan-language-complete-streets>
- Model Complete Streets Laws and Resolutions (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/model-complete-streets-laws-and-resolutions>

- Understanding the Relationship Between Public Health and the Built Environment: Prepared for LEED-ND Core Committee, Congress For The New Urbanism (Design, Community & Environment): <http://www.usgbc.org/ShowFile.aspx?DocumentID=1736>

### **Access to Healthy Foods**

- Establishing Protections for Community Gardens: A Fact Sheet for Advocates (Public Health Law & Policy): [http://www.nplanonline.org/sites/phlpnet.org/files/nplan/CommunityGarden\\_FactSheet\\_FINAL\\_091021.pdf](http://www.nplanonline.org/sites/phlpnet.org/files/nplan/CommunityGarden_FactSheet_FINAL_091021.pdf)
- Establishing Land Use Protections for Community Gardens Model Policy Packet (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/establishing-land-use-protections-community-gardens>
- Establishing Land Use Protections for Farmers' Market Policy Packet (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/establishing-land-use-protections-farmers-markets>
- Getting to Grocery: Tools for Attracting Healthy Food Retail to Underserved Neighborhoods (Public Health Law & Policy): <http://www.phlpnet.org/healthy-planning/products/getting-to-grocery>
- Ashe, M., Jernigan, D., Kline, R., Galaz, R. Land Use Planning and the Control of Alcohol, Tobacco, Firearms, and Fast Food Restaurants. *American Journal of Public Health*, September 2003, Vol 93, No. 9: <http://ajph.aphapublications.org/cgi/reprint/93/9/1404>
- Model Healthy Food Zone Ordinance (Public Health Law & Policy): <http://www.nplanonline.org/nplan/products/model-healthy-food-zone-ordinance>
- The City Planner's Guide to the Obesity Epidemic: Zoning and Fast Food (the Centers for Law & the Public's Health): <http://www.publichealthlaw.net/Zoning%20City%20Planners%20Guide.pdf>

## Endnotes: Best Practices Codes and Policies

<sup>a</sup> Davis, Calif., Municipal Code § 35.02.0. Available at:

<http://cityofdavis.org/cmo/citycode/printsection.cfm?chapter=35&section=02>.

### SIDEWALK, DRIVEWAY, CURB, ETC., CONSTRUCTION

#### 35.02.010 Required when building constructed (2)

Any person who constructs or causes to be constructed any building or dwelling in the city shall construct curbs, gutters, sidewalks and streets in accordance with the city specifications along all street frontage adjoining the property upon which such building or dwelling is constructed, unless adequate curbs, gutters, sidewalks or streets already exist; provided, that in areas not subdivided or parceled into lots of one-half acre or less, such curbs, gutters, sidewalks and streets already exist shall be determined in each instance by the public works department, and an endorsement to that effect shall be made upon each building permit at the time it is issued.

The building inspector shall deny final approval and acceptance, and shall refuse to allow final public utility connections, to any building or dwelling unless such curbs, gutters, sidewalks and streets exist, are constructed or unless money or a bond to guarantee their construction is deposited with the city in a sum equal to the estimated cost of the construction of the improvements as determined by the public works department. (Code 1964, § 5-5.103.)

#### 35.02.040 Driveways--Limitation on width and number. (5)

No driveway across public sidewalks, etc., shall exceed twelve feet in width and only one such driveway shall be permitted for any one parcel of land; except, that such width limit and the limitation on the number of driveways may be increased upon the recommendation of the public works director and approval by the city manager. (Code 1964, § 5-5.203.)

#### 35.02.050 Same--Location. (6)

Driveways shall not be constructed within four feet of any street crosswalk. (Code 1964, § 5-5.204.)

#### 35.02.060 Same--Distance between. (7)

Where two or more adjoining driveways are provided on the same property, there shall be maintained an island between the driveways of at least twenty-four feet measured along the outer or street edge of the sidewalk between the driveways. (Code 1964, § 5-5.205.)

#### 35.02.070 Same--Apron. (8)

No driveway apron shall extend out into the street further than the face of the curb and under no circumstances shall such driveway apron obstruction or extension extend into the gutter area. (Code 1964, § 5-5.206.)

<sup>b</sup> Davis, Calif., Municipal Code § 35.05.0. Available at:

<http://cityofdavis.org/cmo/citycode/printsection.cfm?chapter=35&section=05>.

### STREET LIGHTING

#### 35.05.010 Declaration of policy. (2)

The city council hereby declares that the provision of street lighting is essential for provision of general traffic safety and for the security and safety of persons and property within the city. (Ord. No. 953 § 1; Ord. No. 966, § 1.)

<sup>c</sup> Boulder, Colo., Design and Construction Standards, Chapter 2: Transportation Design. Available at:

[http://www.bouldercolorado.gov/files/PDS/codes/dcs/new\\_dcs/2009ch02.pdf](http://www.bouldercolorado.gov/files/PDS/codes/dcs/new_dcs/2009ch02.pdf).

<sup>d</sup> Portland, Ore., Code § 17.28.020 and 17.28.035. Available at: <http://www.portlandonline.com/auditor/index.cfm?c=28857>.

### Responsibility for Sidewalks and Curbs.

A. The owner(s) of land abutting any street in the City shall be responsible for constructing, reconstructing, maintaining and repairing the sidewalks, curbs, driveways and parking strips abutting or immediately adjacent to said land, except as provided in Subsections B. and C. Said property owner(s) shall be liable for any and all damages to any person who is injured or otherwise suffers damage resulting from the defective condition of any sidewalk, curb, driveway or parking strip adjacent to said land, or by reason of the property owner's failure to keep such sidewalk, curb, driveway or parking strip in safe condition and good repair. Said property owner(s) shall be liable to the City of Portland for any amounts which may be paid or incurred by the City by reason of all claims, judgment or settlement, and for all reasonable costs of defense, including investigation costs and Attorney fees, by reason of said property owners' failure to satisfy the obligations imposed by the Charter and Code of the City of Portland to maintain, construct, and repair such sidewalks, curbs, driveways and/or parking strips.

B. Curbs shall be maintained by the City, except when in combination with the sidewalk and when they have been willfully damaged or damaged by tree roots. Intersection corners and curbs adjacent thereto may be installed by the City when sidewalks and curbs are constructed up to the intersection on the same side of the street.

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C. Green street or other public stormwater management facilities located within the right of way shall be modified or repaired only by the City or under an appropriate permit from the Bureau of Environmental Services.

D. The City Engineer shall maintain general construction and maintenance specifications for sidewalks, curbs, driveways and/or parking strips. The City Engineer shall use the specifications to determine compliance with this Chapter of Code. The City Engineer shall provide copies of the specification to any person upon request, and make the specifications available for public inspection during normal office hours.

Curb and Intersection Corner Ramps.

A. All newly constructed or reconstructed sidewalk intersection corners where determined feasible by the City Engineer shall have included, either within the corner or within the curb area immediately adjacent thereto, ramps allowing access to the sidewalk and street by elderly and physically disabled persons.

B. The ramps referred to in Subsection (a) shall be constructed in a good and substantial manner and in accordance with the plans and specifications established by the City Engineer. The particular plan to be used at a given intersection corner shall be appropriate to the location as determined by the City Engineer.

<sup>c</sup> Portland, Ore., Code § 33.272.010. Available at <http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53322>.

#### PUBLIC RECREATIONAL TRAILS

##### Purpose

The public recreational trail requirements are intended to:

- Increase recreational opportunities within the City of Portland and connect these recreational opportunities with a regional recreational trail system;
- Increase public access along the Willamette River and to other significant natural resource areas;
- Provide emergency vehicle access;
- Provide access to increase public safety;
- Assist in flood protection and control;
- Assist in shoreline anchoring;
- Support alternative modes of transportation;
- Provide connections to other transportation systems;
- Implement the City's Comprehensive Plan policies regarding public recreational trails;
- Help create a pleasant, aesthetically pleasing urban environment; and
- Provide consistent standards for trail development.

<sup>f</sup> Eugene, Ore., Land Use Code § 9.6730. Available at: <http://www.eugene-or.gov/portal/server.pt?open=512&objID=269&PageID=1790&cached=true&mode=2>.

##### Pedestrian Circulation On-Site.

(1) Purpose of Pedestrian Circulation On-Site. These standards are intended to provide safe and efficient circulation for pedestrians within all developments.

(2) Applicability of Standards. As more specifically provided in this section, the standards in this section apply to any development that creates a new building entrance, but not to a building alteration or change in use.

(a) In any zone, except I-2 and I-3, on-site pedestrian paths shall be constructed in the following cases for institutional, office, commercial and industrial development:

1. Between all new building entrances and all streets adjacent to the development site. On-site pedestrian paths shall be designed and constructed to provide a direct connection to existing public right-of-way and public accessways.

2. To connect any new building entrances on a development site to all other new and existing building entrances on the same development site, except entrances used primarily for loading and unloading freight.

3. Along the exterior walls of new buildings greater than 100 feet in length when the wall of the building is located next to a street, parking lot or when a public entrance or entrances are located on the edge of the building, except in the following cases:

a. When the edge of a building is within 20 feet of a public sidewalk and the building entrance is connected to the public sidewalk by an on-site pedestrian facility, no on-site pedestrian facility on the edge of the building adjacent to the sidewalk is required.

b. When the edge of the building is bordered by a perimeter of landscaping which does not exceed 30 feet in width, and an on-site pedestrian facility is constructed at the edge of the landscaping, no on-site pedestrian facility immediately adjacent to the landscaped building edge is required.

4. To connect institutional, office, commercial and industrial uses on the development site to adjacent existing or planned institutional, office, commercial or industrial uses, and to existing or planned transit stops, schools, or

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neighborhood parks where the addition of on-site pedestrian paths would reduce walking or cycling distance between the uses by 200 feet and by at least 50 percent over other available pedestrian routes.

5. Along any development site, an on-site pedestrian facility connecting the street to the main building(s) shall be provided for every 300 feet of street frontage or for every 8 rows of vehicle parking, or for whichever standard requires the most on-site pedestrian paths.

(b) In industrial developments on I-1 zoned property, on-site pedestrian paths shall be constructed in the following cases:

1. Between the main building entrance and all streets adjacent to the development site. On-site pedestrian paths shall be designed and constructed to provide a direct connection to existing public right-of-way and public accessways.

2. To connect the main building entrance on the development site to adjacent existing or planned office, commercial or industrial uses, and to existing or planned transit stops where the addition of the on-site pedestrian facility would reduce walking or cycling distance between the uses by 200 feet and by at least 50 percent over other available pedestrian routes.

(c) In all zones, on-site pedestrian paths shall be constructed within new multiple-family residential developments with 3 or more units to insure that access is provided:

1. From every unit to all other units within the residential development.

2. From every unit to all laundry, recreational and other community facilities in the residential development.

3. From every building located within 40 feet of a public or private street to the street right-of-way line.

(3) Design of On-Site Pedestrian Facilities. All on-site pedestrian paths provided for the purposes of complying with this land use code shall conform with the following standards:

(a) On-site pedestrian paths shall provide direct access from public ways to building entrances.

(b) On-site pedestrian paths shall be constructed of concrete, a comparable hard surface material, or any properly designed pervious surface that complies with the Americans with Disabilities Act.

(c) On-site pedestrian paths shall be raised to standard curb height when adjacent to public and private streets or driveways.

(d) On-site pedestrian paths intersected by driving aisles shall be marked with striping or constructed with a contrasting paving material to indicate a pedestrian crossing area.

(e) Pedestrian scale lighting in conformance with the standards in EC 9.6725 Outdoor Lighting Standards shall be provided along pedestrian facilities.

(4) Adjustment. These standards may be adjusted if consistent with the criteria of EC 9.8030(22).

<sup>g</sup> Eugene, Ore., Land Use Code § 9.6810. Available at: <http://www.eugene-or.gov/portal/server.pt?open=512&objID=269&PageID=1790&cached=true&mode=2>.

Block Length. Block length for local streets shall not exceed 600 feet, unless an exception is granted based on one or more of the following:

(1) Physical conditions preclude a block length 600 feet or less. Such conditions may include, but are not limited to, topography or the existence of natural resource areas such as wetlands, ponds, streams, channels, rivers, lakes or upland wildlife habitat area, or a resource on the National Wetland Inventory or under protection by state or federal law.

(2) Buildings or other existing development on adjacent lands, including previously subdivided but vacant lots or parcels, physically preclude a block length 600 feet or less, considering the potential for redevelopment.

(3) An existing public street or streets terminating at the boundary of the development site have a block length exceeding 600 feet, or are situated such that the extension of the street(s) into the development site would create a block length exceeding 600 feet. In such cases, the block length shall be as close to 600 feet as practicable.

(4) As part of a Type II or Type III process, the developer demonstrates that a strict application of the 600-foot requirement would result in a street network that is no more beneficial to vehicular, pedestrian or bicycle traffic than the proposed street network and that the proposed street network will accommodate necessary emergency access. Special block requirements related to multiple-family developments are found in section (10) of EC 9.5500 Multiple-Family Standards.

<sup>h</sup> Eugene, Ore., Land Use Code § 9.6815. Available at: <http://www.eugene-or.gov/portal/server.pt?open=512&objID=269&PageID=1790&cached=true&mode=2>.

Connectivity for Streets.

(1) Purpose and Intent. The street connectivity standards of EC 9.6815

(2) Street Connectivity Standards are established to ensure that all of the following are met:

(a) Streets are designed to efficiently and safely accommodate emergency fire and medical service vehicles.

(b) The layout of a street system does not create excessive travel lengths.

(c) The function of a local street is readily apparent to the user through its appearance and design in order to reduce non-local traffic on local residential streets.

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- (d) Streets are interconnected to reduce travel distance, promote the use of alternative modes, provide for efficient provision of utility and emergency services, and provide for more even dispersal of traffic.
- (e) New streets are designed to meet the needs of pedestrians and cyclists and encourage walking and bicycling as transportation modes.
- (f) The street circulation pattern provides connections to and from activity centers such as schools, commercial areas, parks, employment centers, and other major attractors.
- (g) Street design is responsive to topography and other natural features and avoids or minimizes impacts to water-related resources and wildlife corridors.
- (h) Local circulation systems and land development patterns do not detract from the efficiency of adjacent collector streets or arterial streets which are designed to accommodate heavy traffic.
- (i) Streets identified as future transit routes should be designed to safely and efficiently accommodate transit vehicles, thus encouraging the use of public transit as a transportation mode.
- (j) Where appropriate, the street system and its infrastructure should be utilized as an opportunity to convey and treat storm water runoff.
- (2) Street Connectivity Standards.
- (a) All streets and alleys shall be public unless the developer demonstrates that a public street or alley is not necessary for compliance with this land use code or the street connectivity standards of subparagraphs (b) through (f) of this subsection.
- (b) The proposed development shall include street connections in the direction of all existing or planned streets within 1/4 mile of the development site. The proposed development shall also include street connections to any streets that abut, are adjacent to, or terminate at the development site.
- (c) The proposed development shall include streets that extend to undeveloped or partially developed land that is adjacent to the development site or that is separated from the development site by a drainage channel, transmission easement, survey gap, or similar property condition. The streets shall be in locations that will enable adjoining properties to connect to the proposed development's street system.
- (d) Secondary access for fire and emergency medical vehicles consistent with EC 9.6870 is required.
- (e) Except for applications proposing needed housing, all applicants shall show that the proposed street alignment shall minimize excavation and embankment and avoid impacts to natural resources, including water-related features.
- (f) In cases where a required street connection would result in the extension of an existing street that is not improved to city standards and the street has an inadequate driving surface, the developer shall construct a temporary barrier at the entrance to the unimproved street section with provision for bicycle, pedestrian, and emergency vehicle access. The barrier shall be removed by the city at the time the existing street is improved to city standards or to an acceptable standard adopted by the public works director. In making a determination of an inadequate driving surface, the public works director shall consider the street rating according to Eugene's Paving Management System and the anticipated traffic volume.
- (g) In the context of a Type II or Type III land use decision, the city shall grant an exception to the standards in subsections (2)(b), (c) or (d) if the applicant demonstrates that any proposed exceptions are consistent with either subsection 1. or 2. below:
1. The applicant has provided to the city, at his or her expense, a local street connection study that demonstrates: a. That the proposed street system meets the intent of street connectivity provisions of this land use code as expressed in EC 9.6815(1); and b. How undeveloped or partially developed properties within a quarter mile can be adequately served by alternative street layouts.
2. The applicant demonstrates that a connection cannot be made because of the existence of one or more of the following conditions: a. Physical conditions preclude development of the connecting street. Such conditions may include, but are not limited to, topography or likely impact to natural resource areas such as wetlands, ponds, streams, channels, rivers, lakes or upland wildlife habitat area, or a resource on the National Wetland Inventory or under protection by state or federal law. b. Buildings or other existing development on adjacent lands, including previously subdivided but vacant lots or parcels, physically preclude a connection now or in the future, considering the potential for redevelopment.

<sup>1</sup>King County, Wash., Zoning Code § 21A.18.100. Available at: <http://your.kingcounty.gov/mkcc/clerk/code/28 Title 21A18 21A22.pdf>.

Pedestrian and bicycle circulation and access.

A. Non residential uses. All permitted nonresidential uses shall provide pedestrian and bicycle access within and onto the site. Access points onto the site shall be provided (a) approximately every 800 to 1,000 feet along existing and proposed perimeter sidewalks and walkways, and (b) at all arrival points to the site, including abutting street intersections, crosswalks, and transit stops. In addition, access points to and from adjacent lots shall be coordinated to provide circulation patterns between developments.

B. Residential uses.

1. All permitted residential uses of five or more dwelling units shall provide pedestrian and bicycle access within and onto the site. Access points onto the site shall be provided (a) approximately every 800 to 1,000 feet along existing and

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proposed perimeter sidewalks and walkways, and (b) at all arrival points to the site, including abutting street intersections, crosswalks, and transit and school bus stops. In addition, access points to and from adjacent lots shall be coordinated to provide circulation patterns between sites.

2. Residential uses of five or more dwelling units shall provide for non-motorized circulation between cul-de-sacs or groups of buildings to allow pedestrian and bicycle access within and through the development to adjacent activity centers, parks, common tracts, dedicated open space intended for active recreation, schools or other public facilities, transit and school bus stops, and public streets.

3. Access shall only be required to school bus stops that are within or adjacent to a proposed residential use of five or more dwelling units and that are identified by the affected school district in response to a Notice of Application. In order to allow school districts to identify school bus stops, the department shall send a Notice of Application to affected school districts on all applications for residential uses of five or more dwelling units.

C. Walkways shall form an on-site circulation system that minimizes the conflict between pedestrians and traffic at all points of pedestrian access to on-site parking and building entrances. Walkways shall be provided when the pedestrian access point onto the site, or any parking space, is more than 75 feet from the building entrance or principal on-site destination and as follows:

1. All developments which contain more than one building shall provide walkways between the principal entrances of the buildings;

2. 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; and

3. Walkways across parking areas shall be located as follows: a. Walkways running parallel to the parking rows shall be provided for every six rows. Rows without walkways shall be landscaped or contain barriers or other means to encourage pedestrians to use the walkways; and b. Walkways running perpendicular to the parking rows shall be no further than twenty parking spaces. Landscaping, barriers or other means shall be provided between the parking rows to encourage pedestrians to use the walkways;

D. Pedestrian and bicycle access and walkways shall meet the following minimum design standards:

1. Access and walkways shall be well lit and physically separated from driveways and parking spaces by landscaping, berms, barriers, grade separation or other means to protect pedestrians from vehicular traffic;

2. Access and walkways shall be a minimum of 48 inches of unobstructed width and meet the surfacing standards of the King County Road Standards for walkways or sidewalks;

3. The minimum standard for walkways required to be accessible for persons with disabilities shall be designed and constructed to comply with the current State Building Code regulations for barrier-free accessibility;

4. A crosswalk shall be required when a walkway crosses a driveway or a paved area accessible to vehicles; and

E. Blocks in excess of 660 feet shall be provided with a crosswalk at the approximate midpoint of the block.

F. The director may waive or modify the requirements of this section when:

1. Existing or proposed improvements would create an unsafe condition or security concern;

2. There are topographical constraints, or existing or required structures effectively block access;

3. The site is in a rural area outside of or not contiguous to an activity center, park, common tract, dedicated open space, school, transit stop or other public facility;

4. The land use would not generate the need for pedestrian or bicycle access; or

5. the public is not allowed access to the subject land use. The director's waiver may not be used to modify or waive the requirements of K.C.C. 21A.18.100 relating to sidewalks and safe walking conditions for students.

G. The provisions of this section shall not apply on school district property.

<sup>j</sup> Portland, Ore., Zoning Code § 33.130.240. Available at: <http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53297>.

#### Pedestrian Standards

A. Purpose. The pedestrian standards encourage a safe, attractive, and usable pedestrian circulation system in all developments. They ensure a direct pedestrian connection between abutting streets and buildings on the site, and between buildings and other activities within the site. In addition, they provide for connections between adjacent sites, where feasible.

B. The standards. The standards of this Section apply to all development except houses, attached houses, and duplexes. An on-site pedestrian circulation system must be provided. The system must meet all standards of this Subsection.

1. Connections. Pedestrian connections are required as specified below:

a. Connection between streets and entrances.

(1) Sites with one street frontage. There must be a straight line connection between one main entrance of each building on the site and the adjacent street. The straight line connection may not be more than 20 feet longer or 120 percent of the straight line distance, whichever is less. Sites where all of the floor area is in Household Living uses are only required to provide a straight line connection to one main entrance on the site.

(2) Sites with more than one street frontage. Where the site has more than one street frontage, the following must be met:

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The standard of B.1.a(1) must be met to connect the main entrance of each building on the site to the closest sidewalk or roadway if there are no sidewalks. Sites where all of the floor area is in Household Living uses are only required to provide a straight line connection to one main entrance on the site;

An additional connection, which does not have to be a straight line connection, is required between each of the other streets and a pedestrian entrance. However, if at least 50 percent of a street facing façade is within 10 feet of the street, no connection is required to that street.

b. Internal connections. The system must connect all main entrances on the site, and provide connections to other areas of the site, such as parking areas, bicycle parking, recreational areas, common outdoor areas, and any pedestrian amenities.

## 2. Materials.

a. The circulation system must be hard-surfaced, and be at least 6 feet wide.

b. Where the system crosses driveways, parking areas, and loading areas, the system must be clearly identifiable, through the use of elevation changes, speed bumps, a different paving material, or other similar method. Striping does not meet this requirement. Elevation changes and speed bumps must be at least 4 inches high.

c. Where the system is parallel and adjacent to an auto travel lane, the system must be a raised path or be separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised path is used it must be at least 4 inches high and the ends of the raised portions must be equipped with curb ramps. Bollard spacing must be no further apart than 5 feet on center.

3. Lighting. The on-site pedestrian circulation system must be lighted to a level where the system can be used at night by the employees, residents, and customers.

4. Area between a building and a street lot line. The land between a building and a street lot line must be landscaped to at least the L1 level and/or hardsurfaced for use by pedestrians. This area may be counted towards any minimum landscaped area requirements. Vehicle areas and exterior display, storage, and work activities, if allowed, are exempt from this standard. Bicycle parking may be located in the area between a building and a street lot line when the area is hard-surfaced.

<sup>k</sup> Portland, Ore., Zoning Code §:33.266.115. Available at: <http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53320>.

## Maximum Allowed Parking Spaces

A. Purpose. Limiting the number of spaces allowed promotes efficient use of land, enhances urban form, encourages use of alternative modes of transportation, provides for better pedestrian movement, and protects air and water quality. The maximum ratios in this section vary with the use the parking is accessory to and with the location of the use. These maximums will accommodate most auto trips to a site based on typical peak parking demand for each use. Areas that are zoned for more intense development or are easily reached by alternative modes of transportation have lower maximums than areas where less intense development is anticipated or where transit service is less frequent. In particular, higher maximums are appropriate in areas that are more than a 1/4 mile walk from a frequently served bus stop or more than a 1/2 mile walk from a frequently served Transit Station.

B. Maximum number of parking spaces allowed. Regulations in a plan district or overlay zone may supersede the regulations in this subsection.

1. Surface parking. Where more than 25 percent of the parking accessory to a use is on surface parking lots, both the structured and surface parking are regulated as follows. Parking accessory to a use includes accessory parking that is on- and off-site:

a. Generally. The maximum number of parking spaces allowed is stated in Tables 266-1 and 266-2, except as specified in subparagraph B.1.b, below;

b. Exception for sites not well served by transit. For sites located more than 1/4 mile from a bus stop with 20-minute peak-hour service and more than 1/2 mile from a Transit Station with 20-minute peak-hour service, the maximum number of parking spaces allowed is 125 percent of the amount stated in Tables 266-1 and 266-2. Applicants requesting this exception must provide a map identifying the site and all bus stops and Transit Stations within 1/2 mile of the site and TriMet schedules for all transit routes within 1/2 mile of the site.

2. Structured parking. Where 75 percent or more of the parking accessory to a use is in structured parking, both the structured and surface parking are regulated as follows. Parking accessory to a use includes accessory parking that is on- and off-site:

a. Generally. There is no maximum number of parking spaces, except as provided in subparagraph B.2.b, below;

b. Parking accessory to Medical Centers and Colleges. The maximum parking allowed that is accessory to Medical Centers and Colleges is stated in Tables 266-1 and 266-2.

3. Exception in the EG and I zones. In the EG and I zones, there is no maximum number of accessory parking spaces for either structured or surface parking where both B.3.a and b are met, and either B.3.c or d is met:

a. The site is at least eight acres in area;

b. The site is located more than 1/2 mile from a transit stop or station with 20-minute peak-hour light rail or streetcar service; and

c. At least 700 of the accessory parking spaces are in a structure; or

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d. The structured parking is in a structure with at least three floors, and parking is on at least three floors of the structure.

<sup>1</sup> Portland, Ore., Zoning Code § 33.266.110. Available at: <http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53320>.

#### Minimum Required Parking Spaces

Purpose. The purpose of required parking spaces is to provide enough on-site parking to accommodate the majority of traffic generated by the range of uses which might locate at the site over time. Sites that are located in close proximity to transit, have good street connectivity, and good pedestrian facilities may need little or no off-street parking. Transit-supportive plazas and bicycle parking may be substituted for some required parking on a site to encourage transit use and bicycling by employees and visitors to the site. The required parking numbers correspond to broad use categories, not specific uses, in response to this long term emphasis. Provision of carpool parking, and locating it close to the building entrance, will encourage carpool use.

#### B. Minimum number of parking spaces required.

1. The minimum number of parking spaces for all zones is stated in Table 266-1. Table 266-2 states the required number of spaces for use categories. The standards of Tables 266-1 and 266-2 apply unless specifically superseded by other portions of the City Code.

2. Joint use parking. Joint use of required parking spaces may occur where two or more uses on the same or separate sites are able to share the same parking spaces because their parking demands occur at different times. Joint use of required nonresidential parking spaces is allowed if the following documentation is submitted in writing to BDS as part of a building or zoning permit application or land use review:

a. The names and addresses of the uses and of the owners or tenants that are sharing the parking;

b. The location and number of parking spaces that are being shared;

c. An analysis showing that the peak parking times of the uses occur at different times and that the parking area will be large enough for the anticipated demands of both uses; and

d. A legal instrument such as an easement or deed restriction that guarantees access to the parking for both uses.

3. Exceptions for sites well served by transit. There is no minimum parking requirement for sites located less than 500 feet from a transit street with 20- minute peak hour service. Applicants requesting this exception must provide a map identifying the site and TriMet schedules for all transit routes within 500 feet of the site.

4. Bicycle parking may substitute for up to 25 percent of required parking. For every five non-required bicycle parking spaces that meet the short or long-term bicycle parking standards, the motor vehicle parking requirement is reduced by one space. Existing parking may be converted to take advantage of this provision.

5. Substitution of transit-supportive plazas for required parking. Sites where at least 20 parking spaces are required, and where at least one street lot line abuts a transit street may substitute transit-supportive plazas for required parking, as follows. Existing parking areas may be converted to take advantage of these provisions. Adjustments to the regulations of this paragraph are prohibited.

a. Transit-supportive plazas may be substituted for up to 10 percent of the required parking spaces on the site;

b. The plaza must be adjacent to and visible from the transit street. If there is a bus stop along the site's frontage, the plaza must be adjacent to the bus stop;

c. The plaza must be at least 300 square feet in area and be shaped so that a 10'x10' square will fit entirely in the plaza; and

d. The plaza must include all of the following elements:

(1) A plaza open to the public. The owner must record a public access easement that allows public access to the plaza;

(2) A bench or other sitting area with at least 5 linear feet of seating;

(3) A shelter or other weather protection. The shelter must cover at least 20 square feet. If the plaza is adjacent to the bus stop, TriMet must approve the shelter; and

(4) Landscaping. At least 10 percent, but not more than 25 percent of the transit-supportive plaza must be landscaped to the LI standard of Chapter 33.248, Landscaping and Screening. This landscaping is in addition to any other landscaping or screening required for parking areas by the Zoning Code.

6. Motorcycle parking may substitute for up to 5 spaces or 5 percent of required automobile parking, whichever is less. For every 4 motorcycle parking spaces provided, the automobile parking requirement is reduced by one space. Each motorcycle space must be at least 4 feet wide and 8 feet deep. Existing parking may be converted to take advantage of this provision.

<sup>m</sup> King County, Wash., Zoning Code § 21A.18.040 and § 21A.18.090. Available at: [http://your.kingcounty.gov/mkcc/clerk/code/28 Title 21A18 21A22.pdf](http://your.kingcounty.gov/mkcc/clerk/code/28_Title_21A18_21A22.pdf).

#### Shared parking requirements.

The amount of off-street parking required by K.C.C. 21A.18.030 may be reduced by an amount determined by the director when shared parking facilities for two or more uses are proposed, provided:

A. The total parking area exceeds 5,000 square feet;

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- B. The parking facilities are designed and developed as a single on-site common parking facility, or as a system of on-site and off-site facilities, if all facilities are connected with improved pedestrian facilities and no building or use involved is more than eight hundred feet from the most remote shared facility;
  - C. The amount of the reduction shall not exceed ten percent for each use, unless:
    - 1. The normal hours of operation for each use are separated by at least one hour; or
    - 2. A parking demand study is prepared by a professional traffic engineer and submitted by the applicant documenting that the hours of actual parking demand for the proposed uses will not conflict and those uses will be served by adequate parking if shared parking reductions are authorized;
    - 3. The director will determine the amount of reduction subject to paragraph D of this section.
  - D. The total number of parking spaces in the common parking facility is not less than the minimum required spaces for any single use;
  - E. A covenant or other contract for shared parking between the cooperating property owners is approved by the director. This covenant or contract must be recorded with the records and licensing services division as a deed restriction on both properties and cannot be modified or revoked without the consent of the director; and
  - F. If any requirements for shared parking are violated, the affected property owners must provide a remedy satisfactory to the director or provide the full amount of required off-street parking for each use, in accordance with the requirements of this chapter, unless a satisfactory alternative remedy is approved by the director.

Transit and rideshare provisions.

- A. All land uses listed in K.C.C. 21A.08.060A (Government/Business Services), and in K.C.C. 21A.08.080A (Manufacturing), hospitals, high schools, vocational schools, universities and specialized instruction schools shall be required to reserve one parking space of every 20 required spaces for rideshare parking as follows:
  - 1. The parking spaces shall be located closer to the primary employee entrance than any other employee parking except disabled;
  - 2. Reserved areas shall have markings and signs indicating that the space is reserved; and
  - 3. Parking in reserved areas shall be limited to vanpools and carpools established through ride share programs by public agencies and to vehicles meeting minimum rideshare qualifications set by the employer;
- B. The director may reduce the number of required off-street parking spaces when one or more scheduled transit routes provide service within 660 feet of the site. The amount of reduction shall be based on the number of scheduled transit runs between 7:00 - 9:00AM and 4:00 - 6:00PM each business day up to a maximum reduction as follows:
  - 1. Four percent for each run serving land uses in K.C.C. 21A.08.060A (Government/Business Services) and K.C.C. 21A.08.080A (Manufacturing) up to a maximum of forty percent; and
  - 2. Two percent for each run serving land uses in K.C.C. 21A.08.040A (Recreation/Culture), 21A.08.050A (General Services) and 21A.08.060A (Retail/Wholesale) up to a maximum of twenty percent; and
- C. All uses which are located on an existing transit route and are required under the computation for required off-street parking spaces in K.C.C. 21A.18.030A to provide more than 200 parking spaces may be required to provide transit shelters, bus turnout lanes or other transit improvements as a condition of permit approval. Uses which reduce required parking under subsection B of this section shall provide transit shelters if transit routes adjoin the site.

<sup>n</sup> Charlotte, N.C., Zoning Code. Available at: <http://www.charmeck.org/Planning/Rezoning/2010/067-074/2010-073%20Approved%20Text%20Amendment.pdf>.

<sup>o</sup> Eugene, Ore., Land Use Code § 9.6100 and § 9.6105. Available at: <http://www.eugene-or.gov/portal/server.pt?open=512&objID=269&PageID=1790&cached=true&mode=2>.

Purpose of Bicycle Parking Standards.

Sections 9.6100 through 9.6110 set forth requirements for off-street bicycle parking areas based on the use and location of the property. Bicycle parking standards are intended to provide safe, convenient, and attractive areas for the circulation and parking of bicycles that encourage the use of alternative modes of transportation. Long-term bicycle parking space requirements are intended to accommodate employees, students, residents, commuters, and other persons who expect to leave their bicycle parked for more than 2 hours. Short term bicycle parking spaces accommodate visitors, customers, messengers, and other persons expected to depart within approximately 2 hours. Bicycle Parking Standards.

- (1) Exemptions from Bicycle Parking Standards. The following are exempt from the bicycle parking standards of this section:
- (a) Site improvements that do not include bicycle parking improvements.
  - (b) Building alterations.
  - (c) Drive-through only establishments.
  - (d) Temporary activities as defined in EC 9.5800 Temporary Activity Special Development Standards.
  - (e) Bicycle parking at Autzen Stadium Complex (see EC 9.6105(5) Autzen Stadium Complex Bicycle Parking Standards).

(2) Bicycle Parking Space Standards.

(a) A minimum of 4 bicycle parking spaces shall be provided at each development site.

(b) A bicycle parking space required by this land use code shall be at least 6 feet long and 2 feet wide with an overhead clearance of at least 7 feet, and with a 5 foot access aisle. This minimum required width for a bicycle parking space may be reduced to 18" if designed using a hoop rack according to Figure 9.6105(2) Bicycle Parking Standards. Bicycles may be tipped vertically for storage, but not hung above the floor. Bicycle parking shall be provided at ground level unless an elevator is easily accessible to an approved bicycle storage area.

(c) All required long term bicycle parking spaces shall be sheltered from precipitation. Shelters for short term bicycle parking shall be provided in the amounts shown in Table 9.6105(2)(c) Required Sheltered Bicycle Parking Spaces.

Short Term Bicycle Parking Requirement	Percentage of Sheltered Spaces
5 or fewer	No shelter required
6 to 10	100% of spaces sheltered
11 to 29	50% of spaces sheltered
30 or more	25% of spaces sheltered

(d) Direct access from the bicycle parking area to the public right-of-way shall be provided with access ramps, if necessary, and pedestrian access from the bicycle parking area to the building entrance.

(3) Bicycle Parking Location and Security.

(a) Long term bicycle parking required in association with a commercial, industrial, or institutional use shall be provided in a well-lighted, secure location within a convenient distance of a main entrance. A secure location is defined as one in which the bicycle parking is:

1. A bicycle locker,
2. A lockable bicycle enclosure,
3. Provided within a lockable room, or
4. Clearly visible from, and within 30 feet of the employee's work station.

Bicycle parking provided in outdoor locations shall not be farther than the closest automobile parking space (except disabled parking). Long term bicycle parking required in association with a multiple-family residential use shall be provided in a well-lighted, secure ground level location within a convenient distance of an entrance to the residential unit. A secure location is defined as one in which the bicycle parking is provided outside the residential unit within a garage, a lockable room, a lockable bicycle enclosure, or a bicycle locker.

(b) Short term bicycle parking shall consist of a securely fixed structure that supports the bicycle frame in a stable position without damage to wheels, frame, or components and that allows the frame and both wheels to be locked to the rack by the bicyclist's own locking device. The required spaces for each use category are listed in EC 9.6105(4) Minimum Required Bicycle Parking Spaces. Short term bicycle parking shall be provided within a convenient distance of, and clearly visible from the main entrance to the building as determined by the city, but it shall not be farther than the closest automobile parking space (except disabled parking).

(4) Minimum Required Bicycle Parking Spaces. The minimum required number of bicycle parking spaces shall be calculated according to Table 9.6105(4) Minimum Required Bicycle Parking Spaces.

Uses	Required Bicycle Parking (Minimum 4 bicycle spaces required unless -0- is indicated.)	Type and % of Bicycle Parking
<b>Accessory Uses</b>		
All Uses in this category	-0-	NA
<b>Agricultural, Resource Production and Extraction</b>		
All Uses in this category	1 per each 600 square feet of floor area.	100% short term
<b>Eating and Drinking Establishments</b>		
All Uses in this category	1 per each 600 square feet of floor area.	25% long term 75% short term
<b>Education, Cultural, Religious, Social and Fraternal</b>		
Artist Gallery/Studio	1 per each 500 square feet of floor area.	25% long term 75% short term
Ballet, Dance, Martial Arts, and Gymnastic School/Academy/Studio	1 per each 400 square feet of floor area.	25% long term 75% short term

Church, Synagogue, and Temple, including associated residential structures for religious personnel	1 per 20 fixed seats or 40 feet of bench length or every 200 square feet in main auditorium where no permanent seats or benches are maintained (sanctuary or place of worship).	100% short term
Club and Lodge of State or National Organization	1 per 20 fixed seats or 40 feet of bench length or every 200 square feet where no permanent seats or benches are maintained in main auditorium.	100% short term
Library	1 per each 500 square feet of floor area.	25% long term 75% short term
Museum	1 per each 500 square feet of floor area.	25% long term 75% short term
School, Business or Specialized Educational Training (excludes driving instruction)	1 per 5 full-time students.	25% long term 75% short term
School, Driving (including use of motor vehicles)	1 per each 3000 square feet of floor area.	25% long term 75% short term
School, Public or Private (Elementary through High School)	1 per 8 students.	25% long term 75% short term
University or College	1 per 5 full-time students.	25% long term 75% short term
<b>Entertainment and Recreation</b>		
Amusement Center (Arcade, pool tables, etc.)	1 per each 400 square feet of floor area.	25% long term 75% short term
Arena (Both indoors and outdoors)	1 per 20 seats.	25% long term 75% short term
<b>Athletic Facilities and Sports Clubs</b>		
-- Playing Court	1 per 5 courts.	25% long term 75% short term
-- Viewing Area	1 per each 280 square feet of floor area.	25% long term 75% short term
-- Locker Room, Sauna, Whirlpool, Weight Room, or Gymnasium	1 per each 750 square feet of floor area.	25% long term 75% short term
-- Lounge or Snack Bar Area	1 per each 600 square feet of floor area.	25% long term 75% short term
-- Pro Shops or Sales Area	1 per each 3000 square feet of floor area.	25% long term 75% short term
-- Swimming Pool	1 per each 2000 square feet of floor area.	25% long term 75% short term
Athletic Field, Outdoor	4 per each athletic field	100% short term
Bowling Alley	1 per each lane.	25% long term 75% short term
Equestrian Academy and Stable	-0-	NA
Equestrian Trail	-0-	NA
Golf Course, Miniature Indoor	1 per each 400 square feet of floor area.	25% long term 75% short term
Golf Course, Miniature Outdoor	1 per each 400 square feet of floor area.	25% long term 75% short term
Golf Course, with or without country club	-0-	NA
Golf Driving Range	1 per each 400 square feet of floor area.	25% long term 75% short term
Park and Playground	4 per park or playground	100% short term
Race Track, including drag strip and go-cart track	1 per 20 seats.	25% long term 75% short term
Theater, Live Entertainment	1 per 20 seats.	25% long term 75% short term
Theater, Motion Picture	1 per 20 seats.	25% long term 75% short term
<b>Financial Services</b>		
Automated Teller Machine (ATM)	-0-	NA

Bank, Savings and Loan Office, Credit Union	1 per each 3000 square feet of floor area.	25% long term 75% short term
<b>Government</b>		
Government Services, not specifically listed in this or any other uses and permits table	1 per each 3000 square feet of floor area.	25% long term 75% short term
<b>Information Technology Services</b>		
All Uses in this category	1 per each 2750 square feet of floor area	25% long term 75% short term
<b>Lodging</b>		
Bed and Breakfast Facility	1 per 10 guest bedrooms.	100% long term
Homeless Shelter in Existence as of January 1, 1984	1 per 20 beds.	75% long term 25% short term
Homeless Shelter not in existence as of January 1, 1984	1 per 20 beds.	75% long term 25% short term
Hotel, Motel, and similar business providing overnight accommodations	1 per 10 guest bedrooms.	75% long term 25% short term
Recreational Vehicle Park, may include tent sites (See EC 9.5600)	-0-	NA
<b>Manufacturing</b>		
All uses in this category excluding storage uses	1 per each 3000 square feet of floor area.	75% long term 25% short term
Storage	-0-	NA
<b>Medical, Health, and Correctional Services</b>		
Blood Bank	1 per each 3000 square feet of floor area.	100% short term
Correctional Facility, excluding Residential Treatment Center	1 per 20 beds.	75% long term 25% short term
Hospital, Clinic, or other Medical Health Treatment Facility (including mental health) in excess of 10,000 square feet of floor area	1 per each 3000 square feet of floor area.	75% long term 25% short term
Hospital, Clinic or other Medical Health Treatment Facility (including mental health) 10,000 square feet or less of floor area	1 per each 3000 square feet of floor area.	75% long term 25% short term
Laboratory--Medical, Dental, X-Ray	1 per each 3000 square feet of floor area.	25% long term 75% short term
Meal Service, Non-Profit	1 per each 3000 square feet of floor area.	25% long term 75% short term
Nursing Home	1 per 15 beds.	75% long term 25% short term
Plasma Center, must be at least 800 feet between Plasma Centers	1 per 15 beds.	75% long term 25% short term
Residential Treatment Center	1 per 15 beds.	75% long term 25% short term
<b>Motor Vehicle Related Uses</b>		
Car Wash	-0-	NA
Motor Vehicle Sales/Rental/Service, excluding motorcycles, recreational vehicles and heavy trucks	1 per each 6000 square feet of floor area.	100% short term
Motorcycle Sales/Rental/Service	1 per each 6000 square feet of floor area.	100% short term
Parking Area not directly related to a primary use on the same development site	-0-	NA
Parts Store	1 per each 3000 square feet of floor area.	100% short term
Recreational Vehicles and Heavy Truck, Sales/Rental/Service	1 per each 4000 square feet of floor area.	100% short term
Repair, includes paint and body shop	1 per each 6000 square feet of floor area.	100% short term
Service Station, includes quick servicing	1 per each 6000 square feet of floor area.	100% short term
Structured Parking, up to two levels not directly related to a primary use on the same development site	10% of auto spaces.	100% long term

Structured Parking, three or more levels not directly related to a primary use on the same development site	10% of auto spaces.	100% long term
Tires, Sales/Service	1 per each 6000 square feet of floor area.	100% short term
Transit Park and Ride, Major or Minor, only when shared parking arrangement with other permitted use	-0-	NA
Transit Park and Ride, Major or Minor	10% of auto spaces.	25% long term 75% short term
Transit Station, Major or Minor	-0-	NA
<b>Office Uses</b>		
All Uses in this category	1 per each 3000 square feet of floor area.	25% long term 75% short term
<b>Personal Services</b>		
All Personal Services Uses, except Barber, Beauty, Nail, Tanning Shop and Laundromat	1 per each 3000 square feet of floor area.	25% long term 75% short term
Barber, Beauty, Nail, Tanning Shop	1 per each 2000 square feet of floor area	25% long term 75% short term
Laundromat, Self-Service	1 per each 2000 square feet of floor area	25% long term 75% short term
<b>Residential</b>		
One-Family Dwelling	-0-	NA
Secondary Dwelling (Either attached or detached from primary one-family dwelling on same lot)	-0-	NA
Rowhouse (One-Family on own lot attached to adjacent residence on separate lot with garage or carport access to the rear of the lot)	-0-	NA
Duplex (Two-Family attached on same lot)	-0-	NA
Triplex (Three-Family attached on same lot)	1 per dwelling.	100 % long term
Four-Plexes (Four-Family attached on same lot)	1 per dwelling.	100 % long term
Multiple Family (3 or more dwellings on same lot)	1 per dwelling.	100% long term
Manufactured Home Park	-0-	NA
Controlled Income and Rent Housing where density is above that usually permitted in the zoning yet not to exceed 150%	1 per dwelling.	100% long term
<b>Assisted Care &amp; Day Care</b>		
-- Assisted Care (5 or fewer people living in facility and 3 or fewer outside employees on site at any one time)	-0-	NA
-- Assisted Care (6 or more people living in facility)	1 per 10 employees	100% long term
-- Day Care (3 - 12 people served)	-0-	NA
-- Day Care (13 or more people served)	1 per 10 employees	100% long term
<b>Rooms for Rent</b>		
-- Boarding and Rooming House	1 per guest room.	100% long term
-- Campus Living Organizations, including Fraternities and Sororities	1 for each 2 occupants for which sleeping facilities are provided.	100% long term
-- Single Room Occupancy	1 per dwelling (4 single rooms are equal to 1 dwelling).	100% long term
-- University and College Dormitories	1 for each 2 occupants for which sleeping facilities are provided.	100% long term
<b>Trade (Retail and Wholesale)</b>		
Agricultural Machinery Rental/Sales/Service	1 per each 4000 square feet of floor area.	25% long term 75% short term
Appliance Sales/Service	1 per each 6000 square feet of floor area.	25% long term 75% short term
Boat and Watercraft Sales/Service	1 per each 6000 square feet of floor area.	25% long term 75% short term
Building Materials and Supplies	1 per each 6000 square feet of floor area.	25% long term 75% short term

Convenience Store	1 per each 3000 square feet of floor area.	25% long term 75% short term
Equipment, Light, Rental/Sales/Service	1 per each 4000 square feet of floor area.	25% long term 75% short term
Equipment, Heavy, Rental/Sales/Service- includes truck and tractor sales	1 per each 4000 square feet of floor area.	25% long term 75% short term
Furniture and Home Furnishing Store	1 per each 6000 square feet of floor area.	25% long term 75% short term
Garden Supply/Nursery	1 per each 6000 square feet of floor area.	25% long term 75% short term
Garden Supply/Nursery, including feed and seed store	1 per each 6000 square feet of floor area.	25% long term 75% short term
General Merchandise (includes supermarket and department store)	1 per each 3000 square feet of floor area.	25% long term 75% short term
Hardware/Home Improvement Store	1 per each 6000 square feet of floor area.	25% long term 75% short term
Healthcare Equipment and Supplies	1 per each 3000 square feet of floor area.	25% long term 75% short term
Liquor Store	1 per each 3000 square feet of floor area.	25% long term 75% short term
Manufactured Dwelling Sales/Service/Repair	1 per each 3000 square feet of floor area.	25% long term 75% short term
Office Equipment and Supplies	1 per each 3000 square feet of floor area.	25% long term 75% short term
Plumbing Supplies and Services	1 per each 6000 square feet of floor area.	25% long term 75% short term
Regional Distribution Center	1 per each 6000 square feet of floor area.	25% long term 75% short term
Retail Trade when secondary, directly related, and limited to products manufactured, repaired, or assembled on the development site	1 per each 3000 square feet of floor area.	25% long term 75% short term
Storage Facility, Household/Consumer Goods	-0-	NA
Storage Facility, Household/Consumer Goods, enclosed	-0-	NA
Shopping center with at least 2 or more businesses and at least 50,000 square feet of gross floor area	1 per each 3000 square feet of floor area.	25% long term 75% short term
Specialty Store (An example includes a gift store)	1 per each 3000 square feet of floor area.	25% long term 75% short term
Storage Facility	-0-	NA
Wholesale Trade	-0-	NA
<b>Utilities and Communication</b>		
All Uses in Utilities and Communication Category, except for Broadcasting Studios	-0-	NA
Broadcasting Studio, Commercial and Public Education	1 per each 3000 square feet of floor area.	25% long term 75% short term
<b>Other Commercial Services</b>		
Building Maintenance Service	1 per each 3000 square feet of floor area.	100% short term
Catering Service	1 per each 3000 square feet of floor area.	25% long term 75% short term
Cemetery, includes crematoria, columbaria, and mausoleums	-0-	NA
Collection Center, Collection of Used Goods (See EC 9.5150)	-0-	NA
Garbage Dump, sanitary landfill	-0-	NA
Helipoint and Helistop	-0-	NA
Home Occupation (See EC 9.5350)	-0-	NA
Kennel	-0-	NA
Model Home Sales Office	-0-	NA
Mortuary	1 per each 280 square feet in main auditorium.	100 % short term
Photographers' Studio	1 per each 3000 square feet of floor area.	100 % short term

Picture Framing and Glazing	1 per each 3000 square feet of floor area.	100 % short term
Printing, Blueprinting, Duplicating	1 per each 3000 square feet of floor area.	25% long term 75% short term
Publishing Service	1 per each 3000 square feet of floor area.	25% long term 75% short term
Temporary Activity (See EC 9.5800)	-0-	NA
Train Station	1 per each 3000 square feet of floor area.	75% long term 25% short term
Upholstery Shop	1 per each 3000 square feet of floor area.	100% short term
Veterinarian Service	1 per each 6000 square feet of floor area	100% short term
Wildlife Care Center	1 per each 6000 square feet of floor area	100% short term

<sup>p</sup> Boulder, Colo., Code § 9-9-6. Available at: [http://www.colocode.com/boulder2/chapter9-9.htm#section9\\_9\\_6](http://www.colocode.com/boulder2/chapter9-9.htm#section9_9_6).

Bicycle Parking:

- (1) Required Bicycle Spaces: Bicycle parking spaces must be provided as required by tables 9-1 and 9-3 of this section.
- (2) Bicycle Facilities: Both bicycle lockers and racks, shall:
  - (A) Provide for storage and locking of bicycles, either in lockers or medium-security racks or equivalent installation in which both the bicycle frame and the wheels may be locked by the user.
  - (B) Be designed so as not to cause damage to the bicycle.
  - (C) Facilitate easy locking without interference from or to adjacent bicycles.
  - (D) Consist of racks or lockers anchored so that they cannot be easily removed and of solid construction, resistant to rust, corrosion, hammers, and saws.
  - (E) Be consistent with their environment in color and design and be incorporated whenever possible into building or street furniture design.
  - (F) Be located in convenient, highly visible, active, well-lighted areas but shall not interfere with pedestrian movements.
- (3) Short Term Bicycle Parking: Short term bicycle parking is intended to offer a convenient and accessible area to park bicycles for customers and other visitors. Short term bicycle parking shall be located:
  - (A) On the public access level;
  - (B) Within fifty feet of the main building entrances; and
  - (C) Outside the building.
- (4) Long Term Bicycle Parking: Long-term bicycle parking offers a secure and weather protected place to park bicycles for employees, residents, commuters and other visitors who generally stay at a site for several hours. Long term bicycle parking shall meet the following standards:
  - (A) Long term bicycle parking is required to be covered and shall include use of one of the following:
    - (i) A locked room;
    - (ii) An area enclosed by a fence with a locked gate;
    - (iii) An area within view of an attendant or security guard or monitored by a security camera; or
    - (iv) An area visible from employee work areas.
  - (B) The bicycle parking area shall be located on-site or in an area within three hundred feet of the building it serves.
  - (C) Adequate lighting shall be provided for the bicycle parking area and the route to the building entrance.
  - (D) The bicycle parking area shall include adequate clearance around racks or lockers to give cyclists room to maneuver, and to prevent conflicts with pedestrians or parked cars.
  - (E) If the bicycle parking is provided in an auto parking garage, the bicycle parking spaces shall be clearly marked as such and shall be separated from auto parking.
- (5) Bicycle Rental Stations. Bicycle rental stations that have permission to locate on public property or private property shall post signs with the following information:
  - (A) Location of the station on a map of the area;
  - (B) Name of station if applicable;
  - (C) Traffic law information that the city manager may require, including information about areas where riding bicycles on sidewalks is permitted or prohibited; and
  - (D) Sponsor identification or logo, if applicable, that meets the requirements of subsection 8-6-11(b), B.R.C. 1981. The sign permitting requirements in section 9-9-21, "Signs," B.R.C. 1981 do not apply to any such sponsor identification or logo.

<sup>q</sup> Santa Cruz, Calif., Zoning Code § 24.12.250. Available at: <http://www.codepublishing.com/CA/SantaCruz/>.

Bike Parking Requirements.

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1. [General.] Bicycle parking facilities shall be provided for any new building, addition or enlargement of an existing building, or for any change in the occupancy of any new building that results in the need for additional auto parking facilities consistent with the parking variations allowed by section 24.12.290(6) of this part. This component was significant because many ordinances only apply to new buildings which means that even the best requirements can take decades to have a positive effect. Santa Cruz decided that good bike parking was a priority and that 2050 was not soon enough.
  2. Bike Spaces Required. Bicycle parking facilities shall be provided in accordance with the following schedule, with fractional requirements for bike parking over .5 to be rounded up: [Requirements from 10% to 35% of car parking (based on use).]
  3. Type of bicycle parking required. Each bicycle parking space shall be no less than six feet long by two feet wide (6'X2') and shall have a bicycle rack system in compliance with the bike rack classifications listed in item 4 as follows: Fractional amounts of the type of parking facilities may be shifted as desired.
    - a. Office, Industrial (Commercial) Financial -- 60% Class 1 / 40% Class 2
    - b. Retail, Service (Commercial) -- 20% Class 1 / 80% Class 2
    - c. Multi-Family Residential (3 or more units) -- 100% Class 1 (Garages or secure accessible indoor areas count)
    - d. Public or Commercial Recreation -- 10% Class 1 / 90% Class 2
    - e. Schools -- 100% Class 2, Secured, Covered
    - f. Park and Ride Lots -- 80% Class 1 / 20% Class 2
    - g. Transit Center -- 100% Class 2, Secured, Covered
  4. Classification of Facilities
    - a. Class 1 bicycle facility means a locker, individually locked enclosure or supervised area within a building providing protection for each bicycles therein from theft, vandalism and weather.
    - b. Class 2 bicycle facility means a stand or other device constructed so as to enable the user to secure by locking the frame and one wheel of each bicycle parked therein. Racks must be easily usable with both U-locks and cable locks. Racks should support the bikes in a stable upright position so that a bike, if bumped, will not fall or roll down. Racks that support a bike primarily by a wheel, such as standard 'wire racks' are damaging to wheels and thus are not acceptable. (See Bikes Are Good Business Design guidelines).
  5. Location and Design of Facilities
    - a. Bicycle parking should be located in close proximity to the buildings entrance and clustered in lots not to exceed 16 spaces each.
    - b. Bicycle parking facilities shall support bicycles in a stable position without damage to wheels, frame or other components.
    - c. Bicycle parking facilities should be located in highly visible well-lighted areas to minimize theft and vandalism.
    - d. Bicycle parking facilities shall be securely anchored to the lot surface so they cannot be easily removed and shall be of sufficient strength to resist vandalism and theft.
    - e. Bicycle parking facilities shall not impede pedestrian or vehicular circulation, and should be harmonious with their environment both in color and design. Parking facilities should be incorporated whenever possible into building design or street furniture.
    - f. Racks must not be placed close enough to a wall or other obstruction so as to make use difficult. There must be sufficient space (at least 24 inches) beside each parked bike that allows access. This access may be shared by adjacent bicycles. An aisle or other space shall be provided to bicycles to enter and leave the facility. This aisle shall have a width of at least six (6) feet to the front or rear of a bike parked in the facility.
    - g. Paving is not required, but the outside ground surface shall be finished or planted in a way that avoids mud and dust.
    - h. Bike parking facilities within auto parking areas shall be separated by a physical barrier to protect bicycles from damage by cars, such as curbs, wheel stops, poles or other similar features.
  6. Variations to Requirements
    - a. Substitution of car parking with bike parking. New and pre-existing developments may convert up to 10% of their auto spaces to unrequired additional bike parking, as long as the spaces are conveniently located near an entrance. Converted parking spaces must yield at least 6 bike parking spaces per auto space.

This section allows a business that wants more space for their business to obtain it by converting a part of their auto parking to additional bike parking. It also allows businesses that do not have any room for bike racks to create room (and have space left over). The most significant part of this item is that it provides a motivation for current businesses to install bicycle parking even though they are not required to install any.
    - b. Where the provision of bike parking is physically not feasible the requirements may be waived or reduced to a feasible level by the Zoning Administrator.

<sup>r</sup>Seattle, Wash., Complete Streets Ordinance. Council Bill Number: 115861 Ordinance Number: 122386. Available at: <http://clerk.ci.seattle.wa.us/-scripts/nph-brs.exe?d=CBOR&sl=115861.cbn.&Sect6=HITOFF&l=20&p=1&u=-/public/cbor2.htm&tr=1&f=G>.

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BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. SDOT will plan for, design and construct all new City transportation improvement projects to provide appropriate accommodation for pedestrians, bicyclists, transit riders, and persons of all abilities, while promoting safe operation for all users, as provided for below.

Section 2. SDOT will incorporate Complete Streets principles into: the Department's Transportation Strategic Plan; Seattle Transit Plan; Pedestrian and Bicycle Master Plans; Intelligent Transportation System Strategic Plan; and other SDOT plans, manuals, rules, regulations and programs as appropriate.

Section 3. Because freight is important to the basic economy of the City and has unique right-of-way needs to support that role, freight will be the major priority on streets classified as Major Truck Streets. Complete Street improvements that are consistent with freight mobility but also support other modes may be considered on these streets.

Section 4. Except in unusual or extraordinary circumstances,

Complete Streets principles will not apply:

- \* to repairs made pursuant to the Pavement Opening and Restoration Rule (SDOT Director's Rule 2004-02);
- \* to ordinary maintenance activities designed to keep assets in serviceable condition (e.g., mowing, cleaning, sweeping, spot repair and surface treatments such as chip seal, or interim measures on detour or haul routes);
- \* where the Director of Transportation issues a documented exception concluding that application of Complete Street principles is unnecessary or inappropriate because it would be contrary to public safety; or
- \* where other available means or factors indicate an absence of need, including future need.

Section 5. Complete Streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time. It is the Mayor's and Council's intent that all sources of transportation funding be drawn upon to implement Complete Streets. The City believes that maximum financial flexibility is important to implement Complete Streets principles.

<sup>s</sup>San Francisco, Calif., Transit First Policy, Section 8A.115. Available at:

<http://library.municode.com/index.aspx?clientId=14130&stateId=5&stateName=California>.

The following principles shall constitute the City and County's transit-first policy and shall be incorporated into the General Plan of the City and County. All officers, boards, commissions, and departments shall implement these principles in conducting the City and County's affairs:

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.
  2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.
  3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce traffic and improve public health and safety.
  4. Transit priority improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve pedestrian safety.
  5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot.
  6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking.
  7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation.
  8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.
  9. The ability of the City and County to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.
  10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway.
- (b) The City may not require or permit off-street parking spaces for any privately-owned structure or use in excess of the number that City law would have allowed for the structure or use on July 1, 2007 unless the additional spaces are

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approved by a four-fifths vote of the Board of Supervisors. The Board of Supervisors may reduce the maximum parking required or permitted by this section.

<sup>t</sup> Louisville-Jefferson County, Ky., Metro Complete Streets Resolution. Available at: [http://services.louisvilleky.gov/media/complete\\_streets/complete\\_streets\\_ordinance.pdf](http://services.louisvilleky.gov/media/complete_streets/complete_streets_ordinance.pdf).

Louisville- Jefferson County, Ky., Metro Complete Streets Manual. Available at: <http://www.louisvilleky.gov/BikeLouisville/Complete+Streets/>.

<sup>u</sup> Redmond, Wash., Complete the Streets Ordinance, Section 12.06.10. Available at: <http://www.redmond.gov/cms/one.aspx?portalId=169&pageId=2877>.

<sup>v</sup> Albuquerque, N.M., Code § 14-16-3-22(B)(1)(i)(1) (2009).

Block Size. Block perimeter for new development shall not exceed a maximum of 1600 feet. No block shall exceed 400 feet in length measured from center of R.O.W [Right of Way]. Block lengths longer than 300 feet shall be provided with mid-block access points. If a block size in a developed area exceeds these standards, mid-block pedestrian access points shall be included in any redevelopment projects such that block lengths do not exceed 400 feet. The Planning Director may modify block size standards based on limitations of existing conditions.

<sup>w</sup> Sarasota, Fla., Form Based Code. Available at: [www.scgov.net/planninganddevelopment/planningservices/FormbasedCodes.asp](http://www.scgov.net/planninganddevelopment/planningservices/FormbasedCodes.asp).

<sup>x</sup> St. Lucie County, Fla., Land Dev. Code ch. 3, § 3.01.03.EE.2.e(1) (2009).

Each neighborhood must contain a mixture of lot types to provide a variety of uses and diverse housing options within the neighborhood. Differing lot types may be placed back-to-back on a single block to provide harmonious transitions between lot types. Lot types should be selected to provide buildings of like scale and massing on opposite sides of streets. Each neighborhood must contain at least one Mixed-Use or Retail Building Lot. Each neighborhood must contain at least three Civic Building Lots; one civic building must be constructed within two years after development commences.

<sup>y</sup> Portland, Ore., Zoning Code § 33.130.030(A) (2009).

The zone encourages the provision of small scale retail and service uses for nearby residential areas. Some uses which are not retail or service in nature are also allowed so a variety of uses may locate in existing buildings. Uses are restricted in size to promote a local orientation and to limit adverse impacts on nearby residential areas. Development is intended to be pedestrian-oriented and compatible with the scale of surrounding residential areas. Parking areas are restricted, since their appearance is generally out of character with the surrounding residential development and the desired orientation of the uses.

<sup>z</sup> San Diego, Calif., Municipal Code § 132.1109(a) (2009).

Street Pattern. The layout of the street system shall be in a grid pattern or modified grid pattern, emphasizing interconnected streets and the ability to reach local destinations without crossing major streets or primary arterials. It is desirable to have streets with block faces of 400 feet in length or less. The use of alleys is encouraged. Where possible, streets should frame vistas of the mixed-use core, public buildings, parks, and natural features.

<sup>aa</sup> St. Lucie County, Fla., Land Dev. Code ch. 3, § 3.01.03.EE.2.k(2) (2009).

Each neighborhood must provide an interconnected network of streets, alleys or lanes, and other public passageways. (i.) Neighborhood streets must be designed to encourage pedestrian and bicycle travel by providing short routes to connect residential uses with nearby commercial services, schools, parks, and other neighborhood facilities within the same or adjoining Towns or Villages. Sidewalks and rows of street trees must be provided on both sides of all neighborhood streets. (iii.) Neighborhood streets do not have to form an orthogonal grid and are not required to intersect at ninety-degree angles. These streets may be curved or bent but must connect to other streets. (vii.) A continuous network of rear and side alleys and/or lanes is desirable to serve as the primary means of vehicular ingress to individual lots.

<sup>bb</sup> Seattle, Wash., Municipal Code § 23.48.019(A) (2009).

Street-level uses. One or more of the uses listed in subsection A are required at street level on all lots abutting streets designated as Class 1 Pedestrian Streets shown on Map B, located at the end of this Chapter. ... A. The following uses

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qualify as required street level uses: 1. General sales and service uses; 2. Eating and drinking establishments; 3. Entertainment uses; 4. Public libraries; and 5. Public parks.

<sup>cc</sup> San Francisco, Calif., Plan. Code § 154.4 (2009).

SEC. 145.4 REQUIRED GROUND FLOOR COMMERCIAL USES (a) Purpose: To support active, pedestrian-oriented commercial uses on important commercial streets. (b) Applicability. [Sets forth streets to which requirement applies] (c) Definitions. "Active commercial uses" shall include those uses specifically identified below in Table 145.4 [including amusement game arcade, animal hospital, automobile sale or rental (with qualifications), bar, business goods and equipment sales and repair service, eating and drinking use, entertainment, tourist-oriented gift store, institutions, jewelry store, neighborhood serving business, non-auto vehicle sales or rental (see qualification, above), public use (with qualifications), restaurant, retail sales and service, financial service, medical service, personal service, take-out food, trade shop, walk-up facility], and: (1) Shall not include uses oriented to motor vehicles except for automobile sale or rental where curb-cuts, garage doors, or loading access are not utilized or proposed, and such sales or rental activity is entirely within an enclosed building and does not encroach on surrounding sidewalks or open spaces; (2) Shall include public uses except for utility installations; and (3) Shall not include residential care uses as defined in Sections 790.50, 790.51, and 890.50. [...] (d) Controls. (1) Active commercial uses which are permitted by the specific district in which they are located are required on the ground floor of all street frontages listed in Subsection (b) above.

<sup>dd</sup> Denver, Colo., Downtown Core and Downtown Theater District Zoning Code 8.3.1.3 (2010).

<sup>ee</sup> Montgomery, Ala., Code app. C, art. VI, § 10.14.2 (2007).

(a.) Each Pedestrian Shed shall assign at least 5% of its urbanized area to Civic Space. (c.) Each Pedestrian Shed shall contain at least one main Civic Space. The main Civic Space shall be within 800 feet of the geographic center of each Pedestrian Shed, unless topographic conditions, existing Thoroughfare alignments, or other circumstances require otherwise. (d.) Within 1000 feet of every lot in residential use, a Civic Space designed and equipped as a playground shall be provided. (e.) Each Civic Space shall have a minimum of 50% of its perimeter enfronting a Thoroughfare.

<sup>ff</sup> Cambridge, Mass., Zoning Ord. § 15.41 (2009) (Mun. Code § 17.04.010).

15.41 Public Open Space Requirement. As an incentive for the maximum allowable density as provided in Subsection 15.32.1 there is a requirement that a minimum amount of one hundred thousand (100,000) square feet within the District be permanently reserved or designated (without reference to location) as publicly beneficial open space accessible at ground level as set forth in Section 15.32.5. No development shall be allowed which would permanently reduce publicly beneficial open space in the District below one hundred thousand (100,000) square feet. A minimum of fifty thousand (50,000) square feet of contiguous publicly beneficial open space shall be located west of Sidney Street. The initial location of the required publicly beneficial open space shall be guaranteed through one or more of the following: 15.41.1 Dedication to and acceptance by the City of Cambridge or other public entity.

<sup>gg</sup> San Francisco, Calif., General Plan, Urban Design Element: Neighborhood Environment: Health and Safety Policy 4.10. Available at: [www.sf-planning.org/ftp/general\\_plan/15\\_Urban\\_Design.htm](http://www.sf-planning.org/ftp/general_plan/15_Urban_Design.htm).

<sup>hh</sup> Riverside, Calif., General Plan, Healthy Communities Element: Schools, Recreational Centers and Child Day Care Centers Policy 13.1. Available at: [www.tlma.co.riverside.ca.us/genplan/content/gp/chapter04.html](http://www.tlma.co.riverside.ca.us/genplan/content/gp/chapter04.html).

<sup>ii</sup> Louisville, Ky., Land Dev. Code § 5.5.1 (A)(1) (2009). Available at: <http://www.louisvilleldc.org/genpage/toc.asp>.

Building Location and Orientation (a.) Principal building entrances shall face the primary street serving the development or shall be oriented toward a focal point such as a landscaped public square, plaza or similar formal public open space. All structures that are located along the primary street serving the development shall also have doors or windows facing the primary street (see b. Below for lots with more than one street frontage). Principal buildings shall be parallel to the primary street. If the prevalent (more than 50%) orientation of buildings on the block is at an angle to the street, the new building's orientation shall be the same as other buildings. The walls of buildings on corners should be parallel to the streets. (b.) Retail and office uses within buildings facing two or more streets shall have at least one customer entrance facing the primary street and one customer entrance facing the second street or instead of two entrances, a corner entrance.

<sup>jj</sup> Fort Worth, Tex., Near Southside Dev. Standards and Guidelines § 5.C(3) (2008) (adopted as part of the city code by Fort Worth, Tex., Code appendix A, ch.4, § 4.909(D)) (2009). Available at:

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[http://www.fortworthgov.org/uploadedFiles/Planning\\_and\\_Development/Planning\\_and\\_Design\\_\(template\)/Urban\\_Design/NS%20Standards%20&%20Sign%20Standards%207%2014%2008%20Compressed.pdf](http://www.fortworthgov.org/uploadedFiles/Planning_and_Development/Planning_and_Design_(template)/Urban_Design/NS%20Standards%20&%20Sign%20Standards%207%2014%2008%20Compressed.pdf).

Primary pedestrian building entrances shall be located on the street frontage of the building. For buildings fronting other public spaces, the primary pedestrian entrance shall be oriented to and accessible from the public space.

<sup>kk</sup> Peoria, Ill., Code app. C, § 6.2(A)(9) (2009). Available at: <http://www.ci.peoria.il.us/development-codes>

Street Façade. a. On each lot the building façade shall be built to the required building line for at least 80% of the required building line length. b. The building façade shall be built to the required building line (RBL) within 30 feet of a block corner. c. These portions of the building façade (the required minimum build-to) may include jogs of not more than 18 inches in depth except as otherwise provided to allow bay windows, shopfronts, and balconies.

<sup>ll</sup> Seattle, Wash., Municipal Code tit. 23, subtit. 3, div. 2, ch. 23.48, § 23.48.014 (C) (2009). Available at: <http://clerk.ci.seattle.wa.us/-public/toc/t23.htm>.

<sup>mmm</sup> Seattle, Wash., Municipal Code § 23.49.019(B)(1) (2009). Available at: <http://clerk.ci.seattle.wa.us/-public/toc/23-48.htm>.

a. On Class I pedestrian streets and designated green streets, parking is not permitted at street level unless separated from the street by other uses, provided that garage doors need not be separated. b. On Class II pedestrian streets, parking may be permitted at street level if: (1) at least thirty (30) percent of the street frontage of any street level parking area, excluding that portion of the frontage occupied by garage doors, is separated from the street by other uses; (2) the facade of the separating uses satisfies the transparency and blank wall standards for Class I pedestrian streets for the zone in which the structure is located; (3) the portion of the parking, excluding garage doors, that is not separated from the street by other uses is screened from view at street level; and (4) the street facade is enhanced by architectural detailing, artwork, landscaping, or similar visual interest features.

<sup>nn</sup> Fort Worth, Tex., Near Southside Dev. Standards and Guidelines § 5.F(5)(c) (2008) (adopted as part of the city code by Fort Worth, Tex., Code appendix A § 4.909(D) (2009). Available at: [http://www.fortworthgov.org/zoning/section\\_1200505181815.html](http://www.fortworthgov.org/zoning/section_1200505181815.html).

Fenestration (all buildings) –New building façades fronting on publicly accessible streets or other public spaces (except alleys) shall have openings and transparent (not mirrored) glazing that together constitute not less than 25 percent of the façade.

<sup>oo</sup> San Antonio, Tex., Unified Dev. Code art. VI, div. 6, §§ 35-674(b)(1)–(4) (2009). Available at: <http://www.municode.com/Resources/gateway.asp?pid=14228&sid=43>.

Mass and Scale. A building should appear to have a "human scale". In general, this scale can be accomplished by using familiar forms and elements interpreted in human dimensions. Exterior wall designs should help pedestrians establish a sense of scale with relation to each building. Articulating the number of floors in a building can help to establish a building's scale, for example, and prevent larger buildings from dwarfing the pedestrian. (1) Express facade components in ways that will help to establish building scale. A. Treatment of architectural facades should contain a discernable pattern of mass to void, or windows and doors to solid mass. Openings should appear in a regular pattern, or be clustered to form a cohesive design. Architectural elements such as columns, lintels, sills, canopies, windows and doors should align with other architectural features on the adjacent facades. (2) Align horizontal building elements with others in the blockface to establish building scale. A. Align at least one (1) horizontal building element with another horizontal building element on the same block face. It will be considered to be within alignment if it is within three (3) feet, measured vertically, of the existing architectural element. (3) Express the distinction between upper and lower floors in commercial and mixed-use buildings. A. Develop the first floor as primarily transparent. The building facade facing a major street shall have at least thirty (30) percent of the street level facade area devoted to display windows and/or windows affording some view into the interior areas. Multi-family residential buildings with no retail or office space are exempt from this requirement. (4) Where a building facade faces the street or river and exceeds the maximum facade length allowed in Table 674-1 [30 to 100 feet] divide the facade of building into modules that express traditional dimensions.

<sup>pp</sup> Salt Lake City, Utah, Code § 21A.59.060 (M)(2) (2009). Available at: [www.slccgov.com/CED/buildzone/pdfs/zonekey.pdf](http://www.slccgov.com/CED/buildzone/pdfs/zonekey.pdf)

The following additional standards shall apply to any large scale developments with a gross floor area exceeding sixty thousand (60,000) square feet: 1. The orientation and scale of the development shall conform to the following requirements: a. Large building masses shall be divided into heights and sizes that relate to human scale by incorporating changes in building mass or direction, sheltering roofs, a distinct pattern of divisions on surfaces,

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windows, trees, and small scale lighting. b. No new buildings or contiguous groups of buildings shall exceed a combined contiguous building length of three hundred feet (300').

<sup>qq</sup> Nashville and Davidson County, Tenn., Code part II, tit. 17, ch. 17.36, art. IV, § 17.40.160(F)(3) (2009). Available at: <http://library.municode.com/index.aspx?clientId=14214&stateId=42&stateName=Tennessee>.

Lighting shall be designed and located at a pedestrian scale consistent with pedestrian movements and the neighborhood. Lighting shall be concealed or shielded to avoid glare and off-site impacts on abutting properties. Lighting poles and fixtures shall be compatible with the function and design of the feature and abutting properties.

<sup>tt</sup> San Antonio, Tex., Unified Dev. Code art. VI, div. 6, § 35-673(j)(2) (2009). Available at: <http://www.municode.com/Resources/gateway.asp?pid=14228&sid=43>.

Provide Lighting for Pedestrian Ways That is Low Scaled for Walking.  
A. The position of a lamp in a pedestrian-way light should not exceed fifteen (15) feet in height above the ground.

<sup>ss</sup> Nashville and Davidson County, Tenn., Code part II, tit. 17, ch. 17.40, art. IV, § 17.40.160(F)(4) (2009). Available at: <http://library.municode.com/index.aspx?clientId=14214&stateId=42&stateName=Tennessee>.

Any sign, where permitted as part of the neighborhood landmark development plan, shall be consistent with the context, scale, and character of the neighborhood and in particular streetscape where the district is located. The feature's mass and scale and the neighborhood in which it is located shall be considered in any sign size and design to ensure sensitivity and proportion to surrounding properties.

<sup>tt</sup> San Diego, Cal., Mun. Code ch. 15, art. 16, div. 4, § 1516.0403(b)(1) (2009). Available at: <http://docs.sandiego.gov/municode/MuniCodeChapter15/Ch15Art16Division04.pdf>.

(A) Signs are permitted on the faces of each business establishment provided that no such sign shall project above the nearest parapet or eave of the building and signs parallel to the face of a building shall not project more than 12 inches from the building to which the signs are attached.  
(B) One identification sign shall be permitted on the front or primary face of a business establishment. Said sign shall not exceed one square foot for each linear foot of frontage or 24 square feet, whichever is smaller, provided that said sign need not be less than 10 square feet in area.  
(C) One identification sign on the side or rear wall of an establishment shall not exceed 16 square feet or one-half-square-foot for each linear foot of street or dedicated walkway frontage along those walls, whichever is smaller, provided that said sign need not be less than 8 square feet in area.  
(D) One perpendicular (30 degrees or greater) projecting and/or hanging trade identification sign not to exceed 6 square feet per side shall be permitted on the front or primary face of each establishment.

<sup>uu</sup> Davis, Calif., Zoning Code § 40.26.250. Available at: <http://cityofdavis.org/cmo/citycode/detail.cfm?p=40&q=1925>.

Landscaping and screening (commercial zoning districts).  
(a) Findings. The city council finds as follows:  
(1) Deciduous trees, vines and other landscaping can provide excellent cooling during summer. This cooling reduces heat load on buildings and reduces energy use.  
(2) Air temperatures and heat radiation affect human comfort equally.  
(3) In Davis, unshaded walls and paved surfaces can reach surface temperatures in excess of 140 degrees Fahrenheit. Such high temperatures make walking and bicycling unpleasant and thereby encourage automobile use.  
(b) Landscaping. Landscaping shall cover a minimum of ten percent of the site. The landscape plan and elevations submitted for review by the community development director or his/her designee shall demonstrate the reasonable expected growth and shading patterns of the proposed landscaping materials. Drought resistant plantings are to be used where feasible, subject to review by the community development director or his/her designee. Landscaping shall be reasonably maintained.  
(c) Screening. Where a commercial site adjoins an R district, a solid wall or fence six feet in height shall be located on the property line, except in a required front yard. In each case where fences are required in connection with a use in any district, such fence shall be landscaped as appropriate.

<sup>vv</sup> Pasadena, Calif., Zoning Code Chapter 17.44. Available at: <http://vw2.cityofpasadena.net/zoning/P-4.html#17.44>.

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<sup>ww</sup> Portland, Ore., Zoning Code, Chapter 33.248. Available at:  
<http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53315>.

<sup>xx</sup> Los Angeles, Calif., Public Works and Property Code Sec. 62.03.2. Available at:  
[http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:lanc\\_ca](http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:lanc_ca).

#### SPECIFICATIONS AND PROCEDURES FOR ABOVE GROUND FACILITIES INSTALLATIONS IN THE PUBLIC RIGHTS-OF-WAY.

The following Above Ground Facilities Specifications and Procedures (AGFSP) shall govern the approval process for the installation of above ground facilities (AGFs) in the public rights-of-way.

I. AGF Definition: The AGF shall be defined as all structures, cabinets, electric meters, and any other appurtenance installed for telecommunication or utility purposes above surrounding grade in the public rights-of-way. For the purposes of reviewing allowable AGF Applications, all structures, cabinets, electric meters, and any other appurtenances that share a common structural foundation shall be defined as one AGF. All structures, cabinets, electric meters, and any other appurtenances required to operate a facility, but that do not share a common structural foundation, shall be considered a separate AGF installation. The number of separate AGF installations shall be based on the number of separate structural foundations installed when the facility is fully operational.

#### V. Aesthetic Requirements:

A. Visual Impact: The applicant shall demonstrate that the AGF installation site meets the aesthetic requirements of the AGFSP. The AGF installation should not obstruct street scape views, view corridors existing in the public rights-of-way, view corridors of neighboring lots, or view corridors from the public rights-of-way.

B. AGF Volume Threshold: The AGF shall have a maximum volume threshold of thirty-six (36) cubic feet. The AGF volume shall include the combined volume of all cabinet enclosures that share a common foundation or platform. The AGF volume shall not include the volume of the foundation or platform supporting the cabinet that is above the existing surrounding grade. The maximum AGF height shall be five and one-half feet (5' 6"). The minimum AGF height shall be two and one half feet (2' 6"). The Board of Public Works may grant a variance from the AGF volume and height limitation if all of the following conditions exist:

1. Suitable measures consistent with the aesthetic guidelines of this report mitigate the excessive AGF volume.
2. The applicant demonstrates that no financially or technically acceptable alternative exists that complies with Section V.B.

3. The cabinet design has been approved by the Cultural Affairs Commission.

BOE shall prepare a Variance Board Report for consideration of the applicant's variance request by the Board of Public Works. The Bureau of Engineering shall process the initial variance request within 35 days of submission. The 35-day deadline shall commence when BOE verifies the variance request to be accurate and complete. In cases where multiple variances are requested, the BOE may take up to five additional days for each additional variance request.

C. Parkway Alignment: The AGF should be placed in proximity to and in line with existing power poles, street light fixtures, street signs and other structures within the parkway to create an aesthetic and unobstructed alignment. The AGF shall not be placed in such an alignment if the installation blocks the line of sight for vehicles exiting adjacent alley intersections or driveways.

D. Landscape Considerations: For AGFs installed in a parkway, the AGF owner shall install landscaping immediately surrounding the installation or restore any landscaping disturbed by the installation. The installed or restored landscaping shall be consistent with the existing landscaping in the parkway. For AGFs installed in the public rights-of-way in an area where no sidewalk exists, the AGF owner shall install landscaping immediately surrounding the installation and restore any landscaping disturbed by the installation. The installed or restored landscaping shall be consistent with the existing surrounding landscaping. All new landscaping shall be installed and maintained for the purpose of screening or camouflaging the AGF, and to create an aesthetically pleasing appearance. An automatic irrigation system shall be installed or modified to sustain landscaping when necessary. If an automatic irrigation system is not feasible, the applicant may submit an irrigation plan with the application. The irrigation plan shall include manual watering intervals and a guarantee to replace any vegetation that does not survive. All landscaping shall be installed and maintained in conformance with pedestrian passage Sections VI.A, VI.B, and VI.C. Landscaping shall not be required for AGF installations located in existing full-width sidewalks.

E. Cabinet Treatment and Graffiti Mitigation: The AGF shall be a color similar to the existing surrounding landscape. The exterior of the AGF shall resist graffiti or be painted with anti-graffiti paint and be maintained in a "like-new" condition at all times. The applicant shall submit a Graffiti Mitigation Plan ("Plan") detailing how the AGF owner will maintain the AGF free from graffiti and other defacements (i.e. stickers, posters). The Plan shall require AGF inspection at a minimum of four (4) times each year and include identification of the resources dedicated to mitigating graffiti. Additionally, the Plan shall provide the name, mailing address, phone number, and E-mail address for a single point of contact responsible to resolve graffiti issues. The Plan shall clearly state that AGF surfaces shall be restored to their original exterior appearance.

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F. Cabinet Identifiers: For the purpose of active monitoring by City personnel, residents, and other telecommunications companies, the following information shall be clearly indicated on all AGFs:

1. A toll-free telephone number for the AGF owner.

2. The AGF registration, number issued by the BOE pursuant to Section X.F.

G. Cabinet Foundations: Concrete pads shall be a color that is consistent with adjacent surrounding sidewalks. Concrete pads installed in full width sidewalks, shall be constructed per design plan and shall join to the nearest score line of the existing concrete pavement. For installations where there is no existing sidewalk, concrete pads shall be an earth-tone color that is consistent with existing surrounding earth. Any slough walls constructed to protect an AGF installation shall be an earth-tone color consistent with the existing surrounding soil.

H. Density Threshold: The area between the two adjacent intersections of two sets of intersecting streets shall be defined as a city block, including sidewalks on either side of the street. Accordingly, the maximum number of AGF installations in the public right-of-way per city block shall be as follows:

1. For city blocks in which the two adjacent intersections are less than 1000 feet apart, the threshold is three (3).

2. For city blocks in which the two adjacent intersections are equal to or greater than 1000 feet apart, the threshold is three (3), plus a maximum of one (1) additional AGF for every additional 250 feet of adjacent intersection separation.

3. In Parking zones (LAMC 12.12.1) and Industrial zones (LAMC 12.17.5 - 12.20), there is no AGF threshold per city block.

All facilities exempt from the AGFSP shall not be counted in the number of AGF installations per city block. The Board of Public Works may grant a variance from the AGF density threshold per city block at its discretion when the threshold is reached and when measures consistent with the AGFSP mitigate the excessive number of AGF installations. AGF co-location may be required as a mitigation measure. The BOE shall prepare a Variance Board Report for consideration of the applicant's variance request by the Board of Public Works. The Bureau of Engineering shall process the initial variance request within 35 days of submission and, in cases where multiple variances are requested, may take up to five additional days for each additional variance request. The 35 days deadline shall commence when BOE verifies the density variance request is accurate and complete.

#### VI. Public Safety Requirements:

A. Major and Secondary Highway Pedestrian Passage: In public rights-of-way that have a Major Highway or Secondary Highway Street designation and an existing sidewalk, the AGF shall be located in sidewalks or parkways such that there is a minimum six (6) feet unobstructed distance between the edge of cabinet and the property line. The six (6) feet unobstructed distance is provided for pedestrian and wheelchair passage. If the paved sidewalk is less than six-feet wide, additional concrete sidewalk shall be constructed to provide a minimum six (6) feet wide paved sidewalk between the edge of cabinet and the property line.

B. Non-Major and Non-Secondary Highway Pedestrian Passage: In public rights-of-way that have the street designation other than Major Highway or Secondary Highway, and that have existing sidewalk, the AGF shall be located in sidewalks or parkways such that there is a minimum four (4) feet unobstructed distance between the edge of cabinet and the property line. This four (4) feet unobstructed distance is provided for pedestrian and wheelchair passage. If the paved sidewalk is less than four feet wide, additional concrete sidewalk shall be constructed to provide a minimum four (4) feet wide paved sidewalk between the edge of cabinet and the property line.

C. Pedestrian Passage Distances: In public rights-of-way of all street designations with no existing sidewalk pavement, the AGF shall be located in the parkway such that a four (4) feet unobstructed distance is provided for pedestrian passage by one of the following:

1. When there is no curb face, a minimum four (4) feet unobstructed distance between the edge of cabinet and the edge of pavement, or

2. When there is a curb face, a minimum four (4) feet unobstructed distance between the edge of cabinet and the curb face, or

3. A minimum four (4) feet unobstructed distance between the edge of cabinet and property line.

D. Minimum Curb Face Distances: The AGF shall have a minimum 18-inches unobstructed distance from edge of cabinet to curb face. In areas where no curb face exists, the AGF shall have a minimum four (4) feet unobstructed distance from the edge of cabinet to edge of pavement.

E. Vehicular Line of Sight and Sight Distance: The AGF shall not be located in the "visibility triangle", defined as that portion of both public right-of-way and private property located at any corner and bounded by the curb line or edge of roadway of the intersecting streets and a line joining the points on the curb or edge of roadway forty-five (45) feet from the point of intersection of the extended curb lines or edges of roadway. The AGF shall not be located adjacent to driveways and alley intersections where they would reduce the sight distance for exiting vehicular traffic to less than two hundred (200) feet.

F. Proximity to Buildings, Houses, Structures: The AGF shall not be located immediately in front of buildings, houses, structures, or public stairs such that it causes a violation of ADA guidelines for pedestrian passage. The AGF shall not obstruct pedestrian passage from private property to the public right-of-way.

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<sup>yy</sup> City of Tampa, Florida. Zoning Code. Available

at: <http://library.municode.com/index.aspx?clientId=10132&stateId=9&stateName=Florida>

<sup>zz</sup> City of Sarasota, Florida. Ordinance 92-3562, Section 8-323, Available at:

<http://www.sarasotagov.com/InsideCityGovernment/Content/CAC/ReferenceLibrary/CityCodeOrdinances.htm>

Sherry Plaster Carter, MURP, AICP, Stanley L. Carter, Police Captain (Ret.), and Andrew L. Dannenberg, MD, MPH. Zoning Out Crime and Improving Community Health in Sarasota, Florida: “Crime Prevention Through Environmental Design” Am J Public Health. 2003 September; 93(9): 1442-1445.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1447990>

<sup>aaa</sup> City of Palmdale. Site Plan Review. Available at:

[http://www.cityofpalmdale.org/departments/public\\_safety/cpted.html](http://www.cityofpalmdale.org/departments/public_safety/cpted.html)

<sup>bbb</sup> City of Hampton, VA. Site Plan Review Committee. Available at:

[http://www.hampton.gov/police/programs/site\\_plan\\_review\\_committee.html](http://www.hampton.gov/police/programs/site_plan_review_committee.html)

<sup>ccc</sup> Sonoma County, CA Sonoma County Community Action Plan. Available at:

[http://www.climateprotectioncampaign.org/ccap/ccap-report/CCAP\\_Final\\_11-05-08.pdf](http://www.climateprotectioncampaign.org/ccap/ccap-report/CCAP_Final_11-05-08.pdf)

<sup>ddd</sup> City of Boulder, CO. Climate Action Plan and other resources. Available at:

[http://www.bouldercolorado.gov/index.php?option=com\\_content&task=view&id=43&Itemid=87](http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=43&Itemid=87)

<sup>eee</sup> Portland, Ore. Zoning Code Chapter 33.653. Available at:

<http://www.portlandonline.com/auditor/index.cfm?c=28197&a=53452>.

<sup>fff</sup> Fresno, Calif., Municipal Code § 12-105(F)(4.5) (2009). Available at: [www.fresno.gov/NR/rdonlyres/FCED7E7B-C803-48A0-A50D-1F67D4F9288E/0/BarsFullVersionOrdinanceDec142009.pdf](http://www.fresno.gov/NR/rdonlyres/FCED7E7B-C803-48A0-A50D-1F67D4F9288E/0/BarsFullVersionOrdinanceDec142009.pdf).

<sup>ggg</sup> San Francisco, Calif., Administrative Code § 9A.15 (2009). Available at:

[http://www.archive.org/stream/gov.ca.sf.admin.01/ca\\_sf\\_administrative\\_01\\_djvu.txt](http://www.archive.org/stream/gov.ca.sf.admin.01/ca_sf_administrative_01_djvu.txt).

<sup>hhh</sup> Seattle, Wash., Ordinance 123378 (2010). Available at:

[www.seattle.gov/dpd/cms/groups/pan/@pan/@plan/@urbanagriculture/documents/web\\_informational/dpdp020184.pdf](http://www.seattle.gov/dpd/cms/groups/pan/@pan/@plan/@urbanagriculture/documents/web_informational/dpdp020184.pdf).

<sup>iii</sup> Des Moines, Iowa, Municipal Code §§ 74-201, 74-202 (2009).

<sup>jjj</sup> Washington D.C. Code § 48-402(1) (West 2009); and Hartford, Conn., Municipal Code § 26-15(a)(1) (2008).

<sup>kkk</sup> New York City, N.Y., *Food Retail Expansion to Support Health* (2009). Available at:

[www.nyc.gov/html/misc/html/2009/fresh.shtml](http://www.nyc.gov/html/misc/html/2009/fresh.shtml).

<sup>lll</sup> Los Angeles, Calif. File No. 10-1843. Available at: [http://clkrep.lacity.org/onlinedocs/2010/10-1843\\_ca\\_12-08-10.pdf](http://clkrep.lacity.org/onlinedocs/2010/10-1843_ca_12-08-10.pdf).

<sup>mmm</sup> Calistoga, Calif. Municipal Code § 17.22.040 (2009).

<sup>nnn</sup> Concord, Mass., Zoning By-laws § 4.7.1.(2008). Available at:

[www.concordma.gov/Pages/ConcordMA\\_BOA/zone/2009ZoningBylawCOMPLETE.pdf](http://www.concordma.gov/Pages/ConcordMA_BOA/zone/2009ZoningBylawCOMPLETE.pdf).