Mission of Columbus Public Health
Columbus Public Health is a leader in improving the health and safety of Columbus by monitoring community health status, identifying and addressing public health threats, enforcing laws that protect the public’s health, and providing services to prevent and control disease.

Mission of Healthy Places
Columbus Public Health Healthy Places works to enhance healthy and active living by establishing development policies and practices to reduce negative health impacts and by creating places that foster physical activity as a part of everyday life.
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Executive Summary

**Active Design**
Active Design Columbus introduces a strategic tactic that promotes active lifestyles through the built environment. The approach strives to incorporate physical activity into daily routines by designing and planning the physical environment in a manner that encourages physical activity. Columbus Active Design's mission is to develop and enhance built environments to foster healthy lifestyles through daily activity and awareness in partnership with elected officials, development professionals, municipalities, and community organizations.

Columbus Public Health has identified detrimental health trends within the region linked to physical inactivity. Over 59 percent of adults in Franklin County were found to be overweight or obesity (5). This negative fact is compounded with only 50 percent of the adult population meeting the Surgeon General's physical activity recommendations (5). The Alliance for Walking and Biking Benchmark Report 2010 reports shows the majority of Columbus residents do not walk and bike to work or for overall trips and Columbus' rates are lower than the average (1). Clearly, the mid-Ohio region is approaching a pandemic in obesity and promoting active living through design is a critical method to catalyze Columbus as leader in physical activity.

**Design Elements**
Active Design is highly influenced by varying levels of Density, Diversity and Design within the context of rural to urban. This continuum of human settlement has been categorically subdivided to provide the framework for the ‘three-D’s, which have been shown to drive the variations in usage of alternative transportation modes that promote active lifestyles (3). Undeniably, these are the core elements of Active Design and are further advanced through the specific paradigms of Site Context, Open Space and Connectivity.

**Site Context**
Site context is a major factor in implementing a range of active living elements. Site context is the existing form, character, and uses that define an area. These defining features are used to determine adequate active living design elements such as size of sidewalks, frequency of paths, seating, bike racks, and parks, or necessity of traffic calming measures. A key element in analyzing site context is whether the zone is urban, suburban or rural. Additionally, demographics, infrastructure, economics, climate, and culture are a few other elements to research in order to understand site context.

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“Today, physical inactivity and unhealthy diet are second only to tobacco as the main causes of premature death in the United States. A growing body of research suggests that evidence-based architectural and urban design strategies can increase regular physical activity and healthy eating.” (5)
1911 - Bathing Pool and Dance Pavilion, Indianola Park. The pool was 140' by 238' and held 1,800,000 gallons of water. - Columbus Public Library
Columbus Health

Active living is a health movement that strives to incorporate physical activity into daily routines by appropriately design and planning the setting where human activity takes place - the built environment. “Today, physical inactivity and unhealthy diet are second only to tobacco as the main causes of premature death in the United States. A growing body of research suggests that evidence-based architectural and urban design strategies can increase regular physical activity and healthy eating.” (4) In partnership with elected officials, development professionals, city staff, and community organizations, Columbus Active Design’s goal is to develop and enhance built environments that foster physical activity and healthy lifestyles through daily activity and awareness.

Well-designed regions with active design features can help mitigate the larger social, physical, and economic ailments that are created by inactive lifestyles. The nation faces a physical inactivity epidemic. Only one in six children walk to school (7) and adults only walk one of every ten trips. (2) Sedentary life styles have lead to a substantial increase in obesity and other related chronic health issues such as heart disease and diabetes. Obese workers miss more days of work and have higher Worker’s Compensation claims compared to normal weight workers (Table 1). Industry professionals

<table>
<thead>
<tr>
<th></th>
<th>Lost Workdays per 100 FTE</th>
<th>Workers’ Compensation Claims per 100 FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese Worker</td>
<td>183.69</td>
<td>$51,091</td>
</tr>
<tr>
<td>Normal Worker</td>
<td>14.19</td>
<td>$7,053</td>
</tr>
</tbody>
</table>

Table 1
Source: Trust for America’s Health. (2009). F as in Fat: How Obesity Policies are Failing in America

The City of Columbus has identified unhealthy trends in both physical activity and obesity. As shown in Table 2, Franklin County has high overweight and obesity for both adults and children compounded by the fact that only about 50 percent of the adult population meets the Surgeon General’s physical activity recommendations. The Alliance for Walking and Biking Benchmark Report 2010 reports shows the majority of Columbus residents do not walk and bike to work or for overall trips and Columbus’ rates are lower than the average (Table 3). Promoting active living through design is one method that Columbus can become a leader in physical and mental health.

<table>
<thead>
<tr>
<th>Adult Obesity</th>
<th>Adults Meeting Physical Activity Recommendations</th>
<th>Adult Asthma</th>
<th>Child Asthma *</th>
<th>Disability (5 years and older)**</th>
<th>Senior (65+)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklin County</td>
<td>59.1%</td>
<td>49.3%</td>
<td>8.0%</td>
<td>10.0%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Ohio</td>
<td>62.4%</td>
<td>N/A</td>
<td>8.0%</td>
<td>10.1%</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

Table 2

“...59.1% of the adult population is obese or overweight...”

“...children have decreased walking and biking activities by a third...”
“Today, physical inactivity and unhealthy diet are second only to tobacco as the main causes of premature death in the United States.”

Introduction

Who will use the guidelines?
Columbus Public Health Healthy Places will use Columbus Active Design as tool to encourage community design that promotes physical activity. The City of Columbus municipal departments and elected officials will be provided with the Active Design report to support informed decisions. Likewise, Public Health will provide the document to architects, landscape architects, engineers, and other development professionals with the goal of creating, enhancing, and promoting environments that are conducive to active living. The document will also be available to community members, neighborhood groups, and community organizations that have a desire to stimulate and encourage active living within their respective areas.

How the document will be used?
Columbus Active Design is a resource for improving health by improving the walking and biking environment. The city is shaped everyday through planning projects and development applications. Through collaboration, everyone shaping the built environment will be able to identify and address specific active living elements that can be incorporated into any project. The Healthy Places program currently participates in rezoning staff review in an educational capacity. Columbus Active Design will provide additional information and examples about Healthy Places recommendations.
"The Columbus Arch was part of an old railroad station near the new Arena District, a riverfront development."
-NY Times

Source: Keith Schneider
Active Design Components

Increasing active lifestyles through the physical environmental relies predominantly on three essential variables: Density, Diversity of uses and pedestrian oriented Design. Robert Cervero and Kara Kockelman’s research of the “3D’s” found a high correlation between the levels of Density, Diversity of use and pedestrian oriented Design on the reduction of automobile trips and increase of alternative modes of transportation. (3) Cervero and Kockelman further concluded the contention of that creating more compact, diverse and pedestrian-oriented neighborhood could meaningfully influence American travel modes.(3) Unmistakably, the three-D’s have an impact on Active Design with need to implement all three in a cohesive manner, and the following gives a detailed description of each.

Density - measures the quantity of development contain in a definable area

Diversity - gauges the mix of development land-uses

Design – level of the districts pedestrian orientation

The Transect

The Transect assembles a framework to identify the territorial continuum of human settlements from rural to urban and establishes the foundation for recommendations of Active Design elements. Transects are utilized to categorically subdivide physical design elements within a defined context. These groupings include standards to encourage diversity based on the natural progression of human habitat. Obviously, The Transect enables Columbus Active Design to implement physical design elements within the regional context and will further advance the contextual appropriateness of the Three D’s - Density, Diversity, and Design

“DIVERSITY IS A MOSAIC WHICH BRINGS A VARIETY OF BACKGROUNDS, STYLES, PERSPECTIVES, VALUES, AND BELIEFS AS ASSETS TO THE GROUPS AND ORGANIZATIONS WITH WHICH THEY INTERACT.” - GUION 1999

Water features act as social gathering spaces and can create visual, audio, and other sensory stimulation

Celebration, Florida

Source: City of Columbus Public Health

Natural Zone consists of lands approximating or reverting to a wilderness condition including lands unsuitable for settlement due to topography, hydrology or vegetation.

Rural Zone consists of sparsely settled lands in open or cultivated state. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.

Sub-Urban Zone consists of low density residential areas, adjacent to higher zones that some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.

General Urban Zone consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.

Urban Center Zone consists of higher density mixed use buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.

Urban Core Zone consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an Urban Core Zone.

Source: Duany Plater-Zyberk Company
ACTIVE DESIGN

Site Context

Source: http://www.flickr.com/photos/dilipkumar/3829466548/
Site Context

Importance
Site context is a major factor that dictates what active living elements should be incorporated into a development. Site context is the existing form, character, and uses that define an area. These defining features are used to determine adequate active living design elements such as size of sidewalks, frequency of paths, seating, bike racks, and parks, or necessity of traffic calming measures. The first question to ask when analyzing site context is whether the zone is urban, suburban, or rural. Table 4 gives the fundamental features that characterize urban, suburban, or rural zones. The descriptions address design forms such as building height, building placement, and density. In addition to form, demographics, infrastructure, economics, climate, culture, and other features of a community must be researched to understand site context.

The topics listed above help development professionals understand a site’s surroundings and identify opportunities and threats that will affect the success of a project. Researching and analyzing these topics help create safer more enjoyable environments conducive to active living. “Research has identified many determinants of physical activity. These include the overall neighborhood design features, density, land use mix the presence and quality of sidewalks and footpaths, enjoyable scenery, the presence of other people who are physically active, and safety.” (6) People are more inclined to be active in an environment that is aesthetically pleasing, safe, walkable, well-designed, and blends well and is sensitive to what exists in the area – the site context.

Table 4: Transect Zone Descriptions
This table provides descriptions of the character of each T-zone.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Characterization</th>
<th>Building Placement</th>
<th>Frontage Types</th>
<th>Typical Building Height</th>
<th>Type of Civic Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Natural Zone</td>
<td>Natural landscape</td>
<td>Street tree planting and buildings set close to sidewalks.</td>
<td>Shallow to medium front and side yard setbacks</td>
<td>Parks, Greens</td>
</tr>
<tr>
<td>T2</td>
<td>Urban Core Zone</td>
<td>Mix of commercial and residential buildings.</td>
<td>Porches, arcades, and arcades.</td>
<td>1-2 Story with a few taller mixed use buildings</td>
<td>Squares, Greens</td>
</tr>
<tr>
<td>T3</td>
<td>Suburban Zone</td>
<td>Shallow setbacks or none; buildings oriented to street defining a street wall.</td>
<td>Stoops, shops, and arcades.</td>
<td>3-5 Story with some variation</td>
<td>Parks, Plazas, and Squares, median landscaping</td>
</tr>
<tr>
<td>T4</td>
<td>General Urban Zone</td>
<td>Variable setbacks</td>
<td>Parks, plazas and squares, median landscaping.</td>
<td>Not applicable</td>
<td>Natural landscape with some agricultural use</td>
</tr>
<tr>
<td>T5</td>
<td>Center Zone</td>
<td>Variable setbacks</td>
<td>Parks, plazas and squares, median landscaping.</td>
<td>Not applicable</td>
<td>Parks, greens</td>
</tr>
<tr>
<td>T6</td>
<td>Core Zone</td>
<td>Variable setbacks</td>
<td>Parks, plazas and squares, median landscaping.</td>
<td>Not applicable</td>
<td>Parks, greens</td>
</tr>
</tbody>
</table>

Source: City of Columbus Public Health

Source: City of Columbus Public Health

Source: City of Columbus Public Health

Source: City of Columbus Public Health

Source: City of Columbus Public Health
### Site Context

#### Character
The character of a city, town, or neighborhood is defined by, but not limited to, the existing architecture, landscape, uses, culture, and demographics. To promote active living, new and existing developments will be sensitive to and blend with the existing character of the neighborhood.

#### Goal
Maintain sensitivity to existing neighborhood character.

#### Objectives
- Provide similar architectural and landscape forms, accents, and elements that already exist in the development area. If the area lacks a consistent or defined style, individuals and groups should work with staff to identify reasonable styles.
- Provide connections with existing pathways and maintain existing sizes of pathways, sidewalks, and trails.
- Use sidewalks, paths, bike routes and roads to connect with existing parks and open space.
- In areas with high vehicular traffic volumes, provide traffic calming measures and multiple connections between new and existing roads.

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#### Goal
Create safe and comfortable environments.

#### Objectives
- Clearly identify and delineate public and private spaces.
- Orientate doorways and windows towards sidewalks, major circulation paths, transportation nodes.
- Place windows and doors toward streets to help create "eyes on the street", a concept that argues the ability to see the street, and perception of being watched while moving through an environment can be a deterrent of undesirable behavior.
- Delineate different circulation patterns such as pedestrian, bicycle, and vehicular through buffering, curbing, decorative paving, and other space indicators.
- Line streets with trees for aesthetics and shade to increase comfort when walking or biking. Trees also serve as a safety feature delineating pedestrian and vehicular traffic zones.

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#### Goal
Adequately research, identify, and address existing uses.

#### Objectives
- Identify trip generators such as schools, retail, civic uses, etc. and adequately address them in terms of connectivity and open space.

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Dense, urban environments necessitate a mix of uses, small block sizes, wide sidewalks, adequate bike racks, and public art.

Suburban environments consist of low density to medium density housing options and natural parks and open spaces connected by paths.
### Sidewalk Activity

People are more inclined to walk or bike in environments that are visually appealing and interesting. Safe, active and dynamic sidewalks become inviting generators of physical activity and connect daily needs.

**Goal**

Increase sidewalk activity

**Objectives**

- Appropriately place benches, water features, public art, and other associated elements to create an active, dynamic, and interesting space.
- Allow outdoor seating and markets to stimulate social interaction and economic development.
- Use decorative paving materials to delineate areas of importance such as crosswalks or plazas.

### Parking

Parking is a necessary element of most developments. However, parking can be a hindrance to physical activity. Designing and planning around cars can make individuals less inclined to walk or bike to their destinations. Although parking is necessary, the influence of the car must be minimal in environments that are conducive to physical activity and active living.

**Goal**

Reduce visual affects of parking lots.

**Objectives**

- Provide a minimum of 3’ high hedge rows with 100% opacity in order to minimize glare from headlights and to adequately delineate and buffer parking facilities.
- Place trees in parking islands to shade automobiles and to aesthetically soften parking facilities.
- In urban settings, and where possible in suburban settings, place parking in the rear of the building to emphasize walking and biking trips. Placing the parking in the rear of the building also helps to create a more defined and human-scale streetscape that is safe, comfortable, and inviting for pedestrians and active living.

**Goal**

Reduce amount of parking required

**Objectives**

- In areas that are within ¼ mile to ½ mile of an active mixed-use center or transit node, allow for reduced parking standards in order to emphasize alternative transit, walking, and biking.
- Where there are complimentary uses such as office and residential that have differing hours of operation, incorporate shared parking arrangements.

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![Wood planter delineate outdoor eating areas along a busy street.](Source: City of Columbus Public Health)

Outdoor seating areas create an active dynamic space that is inviting to pedestrians, bicyclists and motorists. (High Street, Clintonville)
ACTIVE DESIGN
Open Space

Source: http://www.flickr.com/photos/dilipkumar/3839100640/
Parks and open space come in many different forms depending on site context. Larger regional parks are typically located in rural areas while small urban plazas and pocket parks are generally located in urban settings. (Refer to chart on page 31) Parks and open space have been shown to improve mental health and lower all-cause mortality rates of people living near a park. (5,8) Open space and parks of all sizes provide environments conducive to physical activity and social interaction creating opportunities for active, healthy lifestyles. They also provide environmental benefits in the form of enhanced air quality, biodiversity and stormwater management.

A. Park: A natural preserve available for unstructured recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturally disposed. Parks may be linear, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by Warrant as Special Districts in all zones.

B. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturally disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.

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

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

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

Source: Duany Plater-Zyberk Company

Source: http://www.CrossTrips.com
Open Space

Recreation Facilities
People in all age groups can enjoy the convenience of recreational assets and share the community involvement with social diversity. Good design of recreation facilities may bring out community pride, integrating people into the physical activities into a daily routine and helping prevent obesity of both children and adults.

Goal
Provide a variety of safe and functional recreation facilities.

Objectives
- Construct facilities that are accessible to all age groups and ability levels by incorporating universal design standards. Appropriate heights for water fountains, easily maneuverable ramps and stairs with railings, and accessible rest room facilities are some examples of universal design.
- Identify opportunities for sports facilities such as soccer, tennis, baseball, basketball, etc.
- In locations where rest rooms are not readily available, provide facilities.
- Research demographic factors that help identify patterns of recreation facility needs and interests.

Plazas and Squares
Plazas and squares are civic public spaces which can stimulate social interaction. Along with physical activity, social interaction is an important element of healthy, active living. With more diverse opportunities of social interaction, the mental health of citizens can be strengthened.

Goal
Create safe and comfortable plaza and square spaces that act as community identifiers.

Objectives
- Provide diversity in seating options like movable chairs and tables, steps, seating walls, sculptures, and other objects that can comfortably and effectively be used as seating.
- Encourage surrounding businesses, offices and residents to plan programs such as performances, games, public shows, and art exhibits.
- Provide lighting to create a usable space during the day or night.
- Provide deciduous shade trees with small trunks and wide canopies for shade and limited obstruction of views.
- Accessible routes should be maintained to encourage the public participation. Design slopes to meet accessibility standards.
- Provide trash containers near seating areas to increase the ease and intensity of usage.
- Plazas and squares should accommodate a diverse set of activities, whether they are active or passive, formal or informal, group or individual, and planned or spontaneous.
**Parks and Greens**

Parks have been shown to increase physical activity and mitigate environmental concerns such as air quality and stormwater. Trees and plant material generate oxygen, recycle water and absorb pollutants. (5) These factors help produce inviting environments that welcome and encourage physical activity.

**Goal**

Provide opportunities for active and passive recreation.

**Objectives**

Integrate children’s play areas into park spaces and make them accessible and functional for all ability levels. Incorporating natural elements such as grassy mounds, boulders, and logs for the play areas can be beneficial for the children and help soften the landscape.

Place seating areas around play areas with minimal visual barriers so adults can monitor children.

Use shock absorbing material in play areas to decrease the possibility of injury.

Place seating in areas that maximize interesting views.

**Goal**

Design environmentally sensitive landscapes.

**Objectives**

Provide buffers using native plant materials for fragile areas such as wetlands and floodplains.

Use a variety of native plant species within parks to minimize maintenance and reduce vulnerability to disease.

Incorporate bio-retention and bio-swales to augment storm water levels and provide a natural filtration system.
Connectivity

Importance
Creating an interconnected physical environment is a critical component to encourage physical activity. A well-connected region provides inhabitants with a variety of transportation options that include walking and bicycling. Literature illustrates that connectivity can reduce automobile dependence and promote healthy lifestyles. Likewise, compelling evidence suggests that integrating walking or bike within daily routines can have significant health benefits. Clearly, there is evidence that connectivity is a critical component in promoting physical activity; however, equally important is the rural, suburban or urban context of the physical design element.

Connectivity Context
The Transect provides the framework for determining the appropriateness of scale for connectivity. In the rural context streets may not have sidewalks as bike lanes are generally more suitable. Similarly, the urban district may require 12-30 foot sidewalks along the street depending on use intensity. The subsequent materials utilize the Transect’s division of human settlement patterns as a framework to produce a general rule-of-thumb for producing Active Design through connectivity.

Table 4B: Public Frontages - Specific. This table assembles prescriptions and dimensions for the Public Frontage elements - Curbs, walkways and planters.

<table>
<thead>
<tr>
<th>Transect Zone</th>
<th>R U R A L</th>
<th>T R A N S E C T</th>
<th>U R B A N</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Assembly</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td><img src="image4" alt="Image" /></td>
<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
</tr>
<tr>
<td>Type</td>
<td>Total Width</td>
<td>Total Width</td>
<td>Total Width</td>
</tr>
<tr>
<td></td>
<td>16-24 feet</td>
<td>12-24 feet</td>
<td>12-18 feet</td>
</tr>
<tr>
<td>b. Curb</td>
<td><img src="image7" alt="Image" /></td>
<td><img src="image8" alt="Image" /></td>
<td><img src="image9" alt="Image" /></td>
</tr>
<tr>
<td>Type</td>
<td>Radius</td>
<td>Radius</td>
<td>Radius</td>
</tr>
<tr>
<td></td>
<td>10-30 feet</td>
<td>10-30 feet</td>
<td>5-20 feet</td>
</tr>
<tr>
<td>c. Walkway</td>
<td><img src="image10" alt="Image" /></td>
<td><img src="image11" alt="Image" /></td>
<td><img src="image12" alt="Image" /></td>
</tr>
<tr>
<td>Type</td>
<td>Width</td>
<td>Width</td>
<td>Width</td>
</tr>
<tr>
<td></td>
<td>Path Option</td>
<td>Path</td>
<td>Sidewalk</td>
</tr>
<tr>
<td></td>
<td>4-8 feet</td>
<td>4-8 feet</td>
<td>12-20 feet</td>
</tr>
<tr>
<td>d. Planter</td>
<td><img src="image13" alt="Image" /></td>
<td><img src="image14" alt="Image" /></td>
<td><img src="image15" alt="Image" /></td>
</tr>
<tr>
<td>Arrangement</td>
<td>Planter Type</td>
<td>Planter Type</td>
<td>Planter Type</td>
</tr>
<tr>
<td></td>
<td>Clustered</td>
<td>Continuous</td>
<td>Opportunistic</td>
</tr>
<tr>
<td></td>
<td>Multiple</td>
<td>Planter</td>
<td>Tree Well</td>
</tr>
<tr>
<td></td>
<td>Planter Width</td>
<td>8 feet-16 feet</td>
<td>4 feet-6 feet</td>
</tr>
</tbody>
</table>

Table 4B: Public Frontages - Specific. This table assembles prescriptions and dimensions for the Public Frontage elements - Curbs, walkways and Planters.

Source: Duany Plater-Zyberk Company

Source: City of Columbus Public Health

Placing 6’ - 10’ sidewalks in suburban settings adequately addressing pedestrian traffic.

Placing 10’ - 20’ sidewalks in urban settings addresses higher traffic volumes, other activities such as outdoor seating, and provides a larger distance between pedestrians and vehicular traffic.
Connectivity

**Streets**
Street connectivity is an essential element in building healthy environments. Studies have shown that communities with an integrated network of pedestrian friendly streets can significantly support healthy built environments. (9) Likewise, neighborhoods that have mixed transportation modes, such as biking or walking, can promote pedestrian activity and increase physical wellness.

**Goals**
To promote physical activity by providing pedestrian oriented streets.

**Objectives**
- Place emphasis on providing pedestrians with the most direct routes possible
- Craft universally accessible paths that are integrated within the main design scheme
- Produce pedestrian paths through blocks with intersection ever 200 – 300’ where small scale blocks are not possible
- Avoid excessive use of elevation changes in sidewalk elevations or over-and underpasses
- Maintain access for pedestrians and bicycle paths on dead-end streets where vehicles cannot pass.
- Minimize mid-block curb cuts on streets with heavy foot traffic
- Minimize conflicts created by driveways and ramps through pedestrian passages
- Provide adequately sized sidewalks depending on surrounding uses: 5’-6’ Rural, 6’-10’ Suburban, and 10’ – 20’ Urban

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**TABLE 3a: Vehicular Lane/Parking Assemblies.** The projected design speeds determine the dimensions of the vehicular lanes and Turning Radii assembled for Thoroughfares taken from Duany Plater-Zyberg and Company’s Smart Code.

<table>
<thead>
<tr>
<th>Type</th>
<th>Design ADT</th>
<th>Pedestrian Crossing</th>
<th>Design Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>5,000 VPD</td>
<td>3 Seconds</td>
<td>20-25 MPH</td>
</tr>
<tr>
<td>b.</td>
<td>18,000 VPD</td>
<td>15 Seconds</td>
<td>25-30 MPH</td>
</tr>
<tr>
<td>c.</td>
<td>20,000 VPD</td>
<td>17 Seconds</td>
<td>20-25 MPH</td>
</tr>
<tr>
<td>d.</td>
<td>22,000 VPD</td>
<td>20 Seconds</td>
<td>25-30 MPH</td>
</tr>
<tr>
<td>e.</td>
<td>25,000 VPD</td>
<td>23 Seconds</td>
<td>25-30 MPH</td>
</tr>
</tbody>
</table>

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**On street parking and street trees create buffers between the road and sidewalk to increase safety and provide aesthetic appeal.**

**Source:** Duany Plater-Zyberg Company
Traffic Calming
Traffic Calming measures enhance pedestrian activity by lowering the vehicular travel speeds. Research has illustrated that streets with low-speed traffic are safer and have increased pedestrian activity. Elements such as parallel parking, street trees and sidewalks have been proven to lower automobile speeds. Clearly, there is evidence that incorporating traffic calming measures increases pedestrian activity.

Goals
Slow traffic to encourage walking, improve safety and advance the overall pedestrian network.

Objectives
- Widen sidewalks and reduce travel lane widths to decrease traffic speeds and pedestrian crossing times.
- Alter one-way streets to two-way streets for reduced traffic speeds.
- Incorporate on-street parking to slow traffic plus provide a barrier between the pedestrian realm and traffic.
- Include vertical deflections such as raised intersections or crossings.
- Comprise low-speed intersection treatments such as traffic diveters, roundabouts, and mini-traffic circles.
- In select areas such as mid-block or intersection create sidewalk extensions to reduce traffic speeds and pedestrian crossing times.

Paths
In a community, paths are the arteries that help transfer information, people, and goods. Providing paths that connect offices, parks, shops, and homes allows for a more fluid and efficient transfer of these items. Paths must be safe, comfortable, and have a defined purpose whether it is a connection to an adjacent neighborhood center, connection to parks, or a recreational path. Wherever possible, paths should take advantage of interesting views, landmarks, or natural features to provide an aesthetically appealing experience that entices routine use.

Goals
Create safe, comfortable, and well-defined paths that promote regular use.

Objectives
- Integrate seating, drinking fountains, rest rooms and other infrastructure to promote more frequent and longer trips.
- Provide lighting in a consistent and safe manner.
- Increase visibility to pathways for awareness and safety.
- Provide shade trees, building canopies or other elements to allow summer shade.
- Reduce conflicts with pedestrians and automobiles by using plantings, on street parking, and other street furnishings.
- Try to avoid elevation change wherever possible.
- Use materials that are functional for different types of users like pedestrians, bicyclists, strollers, wheelchairs, etc.
- Provide adequate wayfinding such as signage, kiosks, and markers to identify location, direction, and distance.
- Provide incentive elements such as “Calorie’s burned” to next destination.
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