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Healthy Communities Report: Active Transportation Design Guidance and Recommendations

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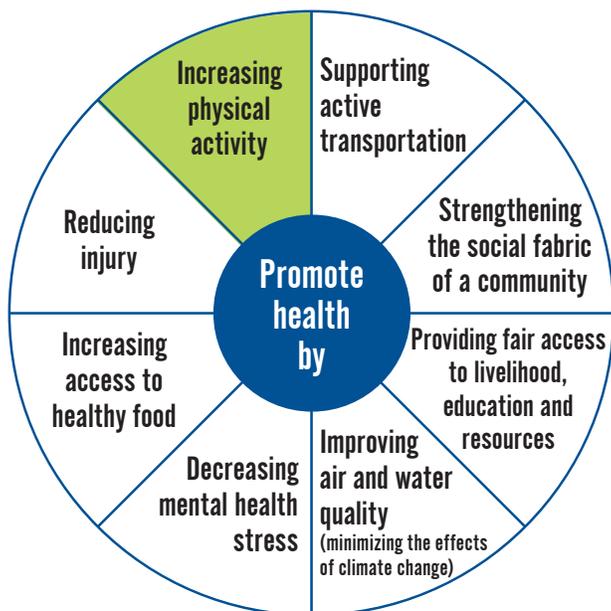
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Introduction

In March of 2010, the Los Angeles County Department of Public Health (Public Health) announced the award of a Centers for Disease Control and Prevention (CDC) Communities Putting Prevention to Work grant of approximately \$16 million over a two-year period for activities addressing obesity and physical activity. As part of Public Health's grant, Regional Planning received funds for the development of a Healthy Design Ordinance.

Regional Planning has had a long standing interest in ensuring that development in the County supports principles of new urbanism, mixed use development and more sustainable design practices. While the focus of this project is on healthy design, it is important to note that Regional Planning has been working on many similar initiatives since the 1990s. For example, in 1997, Regional Planning published a report titled "Livable Communities Guidelines," which presented many similar concepts and design treatments as are discussed in this report, including narrow streets, improved pedestrian and bicycle facilities and grid street networks.



Healthy Community Design

L.A. County Healthy Design Ordinance is focused on design features that promote walking, biking, and exercise.



For the purposes of the Los Angeles County healthy design ordinance, "healthy design" is defined as features of the built environment that promote physical activity in the form of walking, bicycling and exercise.

In the summer of 2010, Regional Planning directed a consultant team to conduct research and stakeholder outreach in an effort to provide information to help inform the process of developing a healthy design ordinance for Los Angeles County. Because the relationship between built environment design and health is complex, there was a need to focus the scope of the project. Thus, Public Health determined that for the purposes of the HDO in Los Angeles County, "healthy design" will be defined as features of the built environment that promote physical activity in the form of walking, bicycling and exercise, and preparation of the Healthy Design Ordinance (HDO) will follow one core principle:

The built environment must be made safe, convenient and pleasant for pedestrians and bicyclists by minimizing hazards, improving accessibility and increasing attractiveness.

It should be noted that the CDC has identified other ways in addition to increasing physical activity in which community design can improve health¹, including:

- Reducing injury
- Increasing access to healthy food
- Improving air and water quality

¹ www.cdc.gov/healthyplaces/default.htm

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- Minimizing the effects of climate change
- Decreasing mental health stresses
- Strengthening the social fabric of a community
- Providing fair access to livelihood, education, and resources

Fortunately, many of these mutually reinforce one another. However, the HDO should not be viewed as the last word in healthy design, as many of these areas were not directly considered.

In addition to the core principle, Regional Planning's HDO guidelines present 12 examples of healthy design features that may be included within the HDO to address health in the built environment:

- | | |
|--------------------|-------------------------------------|
| ■ Block design | ■ Buildings |
| ■ Landscaping | ■ Lighting |
| ■ Mix of land uses | ■ Multi-purpose pathways and trails |
| ■ Parking | ■ Parks and civic spaces |
| ■ Signs | ■ Street design |
| ■ Transit stops | ■ Walls, fences and porches |

The HDO guidelines are intended to establish a basic frame of reference for County staff, the public and staff from other agencies as changes to County standards are discussed and proposed as part of the HDO. They are also meant to introduce the HDO to other ongoing Los Angeles County planning efforts such as the Transit-Oriented District ("TOD") update,



Los Angeles County has had a long standing interest in ensuring that development in the County supports healthy communities.

Master Trails and Bikeways Plan Update, Zoning Ordinance Update Program ("ZOU"), community/area plan updates and the Countywide General Plan Update. The HDO's coordination with the General Plan Update is especially critical as the General Plan proposes many policies that relate to healthy design.

As a first step the consultant team and Regional Planning staff conducted preliminary outreach that included a series of interviews with stakeholders in Los Angeles County departments that interface with the existing code. In addition, a stakeholder workshop was held in January 2011. The workshop introduced representatives from six County departments to the goals for the HDO and gathered information about concerns and opportunities for development of the HDO. The information gathered informed the direction of research for the case studies, best practices and costs and benefits of healthy design described below.

This report summarizes efforts and findings of research conducted to support development of the Healthy Design Ordinance (HDO). The report is followed by a technical appendix which contains more detailed information on the topic areas highlighted in this document. The research topic areas included in this summary and the appendices are outlined below:

- State Legislation – Provides an overview of opportunities to coordinate compliance on existing mandates and capitalize on opportunities to meet multiple objectives.
- Case Studies – Examines healthy design approaches in rural, suburban and urban areas in order to provide context for healthy design in the many landscapes of Los Angeles County.
- Best Practices – Provides concrete examples of how different design elements can support walking and bicycling.
- Cost and Benefits of Healthy Design – Provides a preliminary analysis of the economic impact of healthy design alternatives.
- Potential Code Recommendations – Provides example code language for design features that support bicycling and walking based on best practice.

I. State Legislation

The Healthy Design Ordinance can support Los Angeles County in meeting state level mandates and may provide opportunities to coordinate and capitalize on compliance efforts. Recent regulatory initiatives in California have created a mandate to consider project impacts upon greenhouse gas (GHG) emissions in order to limit the effects of global warming. A key issue related to GHG emissions is that vehicular travel contributes significantly to overall emissions. Statewide, transportation emissions from vehicles generate over one-third of overall emissions. At a municipal level, transportation may contribute more than 50 percent to citywide or countywide emissions.



Transportation emissions contribute close to half of all greenhouse gas emissions in Los Angeles County. Source: Ernesto Andrade

In addition, the State has passed regulation that long range planning must include policies that support the development of multimodal transportation networks. Code and ordinance changes that support active transportation will complement compliance requirements related to multimodal transportation and GHG emissions. The following section summarizes the three most relevant complimentary regulations.

AB 32: Global Warming Solutions Act of 2006

AB 32, passed in 2006, directed the California Air Resources Board (ARB) to begin developing early actions to reduce greenhouse gas emissions and to develop a scoping plan to identify how best to reach the 2020 greenhouse gas emissions reductions. Part 2 of AB 32 requires the development of mandatory GHG emissions reporting. AB 32 sets a mandate for the California Air Resources Board rather than for local cities and counties.

SB 375: Transportation Planning: Improved Travel Demand Models: Preferred Growth Scenarios: Environmental Review

Senate Bill 375, which was signed into law September 2008, implements AB 32. Senate Bill 375 enhances California's ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities. Under the law, the California Air Resources Board (ARB) has until September 2010 to develop regional GHG emission reduction targets for passenger vehicles, which account for a third of the state's GHG emissions. ARB is required to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations (MPOs). Each of California's MPOs will then prepare a "sustainable communities strategy (SCS)" that demonstrates how the region will meet its GHG reduction target through integrated land use, housing and transportation planning. Once adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan (RTP). ARB is also required to review each final SCS to determine whether it would, if implemented, achieve the GHG emission reduction target for its region.

I. State Legislation

AB 1358: The Complete Streets Act of 2008

AB 1358 was signed into law in September 2008. Commencing on January 1, 2011, the bill requires that complete street policies be included in the circulation element of city and county general plans when they undergo a substantive revision. Complete streets are defined as highways and city streets that provide routine accommodation to all users of the transportation system, including motorists, pedestrians, bicyclists, individuals with disabilities, seniors, and users of public transportation.

The adoption of complete streets policy language has goals in common with both of the greenhouse gas bills (AB 32 and SB 375). As described in Section 2.g of AB 1358, “In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled and to shift from short trips in the automobile to biking, walking, and use of public transit.”



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

II. Healthy Design Case Studies

Many communities in the United States have begun to realize that the built environment – the place where people live, work and play – has direct implications on their well being. In many instances, barriers to shaping healthier communities can reside within the local agency’s policies and regulations related to planning and development. In order to understand how other communities have addressed health through design, the project team conducted case studies for communities representing urban, suburban, and rural contexts. The case studies provide a detailed look into the achievements of three communities that have developed guidelines, policies and ordinances intended to contribute to healthier and more active local environments.

The case studies conducted include the following agencies and planning efforts:

- The City of San Antonio, Texas, for changing its zoning ordinances to include the Unified Development Code and Form-Based Code;
- The City of Richmond, California, for developing a progressive General Plan, which includes a Public Health element to improve the health outcomes of the community; and
- The San Joaquin Valley region in central California, for their recent efforts in addressing Smart Growth and healthy communities by design.

The following section summarizes notable efforts taken by each community to incorporate healthy design guidelines and development standards. The summaries were developed through review of relevant documents and interviews with select individuals. Complete reports for the case studies are located in Appendix B.



San Antonio, Texas

Large infill development near downtown San Antonio includes residential and mixed uses. This is the first large scale development project that benefited from the Form-Based Zoning District. Source: City of San Antonio, UDC Administration

San Antonio, Texas – Urban Case Study

The City of San Antonio is the seventh largest city in the country with a population of 1.4 million. The city serves as the seat of Bexar County, the 19th most populous county in the nation. (Los Angeles County is the most populous county in the country).

San Antonio’s development pattern features predominantly low population densities outside of the city core. Much like the City of Los Angeles, San Antonio used to be surrounded by unincorporated county land. However, due to the flexible annexation laws of the City, by 2002 most of Bexar County was annexed by the City of San Antonio.

Approach - Unified Development Code

In 2001, a Unified Development Code (UDC) was adopted to replace the City’s 1938 and 1965 zoning and subdivision codes. The code update was an implementation action of the 1997 San Antonio Master Plan, which provided a functional framework to guide the development and implementation of new and progressive policies in the City related to growth management, community services, neighborhoods and urban design.

II. Healthy Design Case Studies

Although the intent of the code update was not motivated by healthy community design principles, the UDC presents a comprehensive ordinance with useful guidelines regulating development patterns that are in accordance with healthy design development standards, including the following:

- Traditional Neighborhood Development,
- Transit-Oriented Development, and
- Form Based Development.

The San Antonio UDC was created to consolidate in one ordinance all the regulations and legislation related to land use and development patterns, including conventional subdivisions, commercial centers, traditional neighborhood development, transit-oriented development, and form-based development, among others.



Multi-family development requirements in San Antonio include maximum setbacks and maximum block size. Source: City of San Antonio, UDC Administration

Primary Elements

Form-Based Zoning District

From 2006 to 2007, a Form-Based Zoning District (FBZD) was created and amended to the Unified Development Code. This code change was initially developer-driven, intending to develop a specific green-fill zone under the parameters of Form-Based Code. There were no code language changes, but a new chapter was added to Article 2 of the Unified Development Code, creating the FBZD in a portion of the City delimited by specific boundaries. In 2009, the FBZD was changed again to allow Form-Based development citywide. This change came about by the need to regulate urban infill in a more progressive way.

Best Practices for Zoning, Land Use and Development Standards

The Unified Development Code of San Antonio supports healthy design by implementing a number of practices that improve the environment for bicycling and walking. The code includes the following:

- Land Use
- Smart growth
- Neighborhood pattern and block assembly
- Active spaces
- Transportation Design
- Pedestrian and bicycling facilities
- Parking requirements
- Off-street paths
- Development Standards and Design
- Building orientation and setbacks
- Building treatments/facades
- Landscaping and screening

Richmond, California



*Richmond's renovated Civic Center provides an attractive and comfortable civic space to residents and visitors.
Source: City of Richmond Planning Department*

Richmond, California – Suburban Case Study

The City of Richmond is located in the San Francisco Bay Area, on the western shore of Contra Costa County. Richmond is considered a residential inner suburb of San Francisco. Given the large presence of industrial and commercial land uses, the city also offers many employment opportunities for its residents.

The land use, demographics and culture of Richmond present opportunities for healthy design. As an example, approximately 30 percent of the city is comprised of parks and open space, including greenways and trails.

Approach - General Plan Update and Development Code

The City of Richmond was the first city in California to include a Public Health element in its General Plan. Starting in 2007, the City began developing a comprehensive Community Health and Wellness Element for its General Plan, seeking to address not only concerns related to the built environment, but also socio-economic conditions associated with health inequalities among low-income and minority communities.

The City of Richmond's General Plan incorporates the concepts of sustainability, smart growth, transit-oriented development, and new urbanism as guiding principles for the design and development of the

community. Through the General Plan, Richmond addresses factors that influence physical and mental health including physical activity, nutrition, bicycle and pedestrian safety, environmental quality, and neighborhood quality.

A primary goal of integrating a health element into the General Plan was to improve the health outcomes in the community by creating complete neighborhoods that provide services to their residents within walking distance of their homes.

Upon adoption of the General Plan by the City Council, the City Ordinances will undergo a revision process to change the language in accordance with the General Plan recommendations. Nonetheless, the City of Richmond's code already includes a number of ordinances that are relevant to healthy living and active transportation. The following section summarizes the opportunities for healthy design identified in the City of Richmond code. The most significant addition that is expected is including mixed-use zoning as a land use type in the ordinance to allow the development of complete neighborhoods throughout the City. Other code updates associated with the General Plan implementation include guidelines for Senior Housing, Urban Agriculture and Crime Prevention.

In April 2011, the General Plan update was under public review with adoption hearings being scheduled in the near future. Prior to formal adoption, the Planning Department began implementing the policies of the Plan in two pilot neighborhood programs surrounding two elementary schools. City staff worked with the neighborhood associations, PTAs and School Boards to develop an Action Plan to improve health and safety within the selected communities. The goal is to expand these pilot programs to the entire city through the implementation of the General Plan.

Primary Elements

Richmond's General Plan introduces a range of innovative features intended to sustain and improve the quality of life for its residents. Each element included in the Plan reflects the community's vision and goals for the future development of the city. The following

II. Healthy Design Case Studies

section summarizes the key health-related elements of the General Plan.

Element 3 – Land Use and Urban Design

The intent of this element is to realign the City's land uses using a flexible development framework to promote community identity and active living by focusing on higher-density and mixed-use development in urban corridors. This element also promotes sustainable development patterns that enhance mobility options in the city by changing the character of streets to make them more pedestrian and community friendly.

Element 4 – Circulation

The Circulation element of the General Plan offers a progressive vision of the transportation system, focusing on multimodal access and interconnectivity to ensure efficient mobility and access for all residents. The Circulation element defines goals for improving the transportation system and mobility options for residents, and identifies policies to address the transportation needs required to provide safe and comfortable conditions for pedestrians and bicyclists. The City of Richmond plans to integrate transportation demand management policies into the General Plan as a strategy to create a more sustainable transportation system. Also, the City supports the use of low impact development practices to treat and retain stormwater, specifically in the design of pedestrian and parking facilities.

Element 6 – Community Facilities and Infrastructure Element

The Community Facilities and Infrastructure element expands upon the development standards guidelines for the City in order to provide services, amenities and infrastructure for all residents. The goals, policies and implementation actions are intended to improve the physical infrastructure, public utilities and services to improve the health and overall well being of residents.

Element 11 – Community Health and Wellness

The Community Health and Wellness element of the General Plan serves as the backbone for the healthy design objectives that the City strives to achieve. This element describes the status of health and wellness



A Transit Oriented Development in downtown Richmond provides features of a healthy community design. Source: City of Richmond Planning Department

in the city and defines goals for promoting healthy living. Some of the goals, policies and implementation actions of this element are incorporated into other elements of the Plan. Through the incorporation of healthy design into the planning process, the City of Richmond is striving to become a leader in building healthy communities, using the following strategies which other communities may want to emulate:

- Develop standards and guidelines to evaluate the health benefits and impacts of significant development programs.
- Develop a program that measures health outcomes over time to assess the effectiveness of city policies and programs.
- Develop a marketing campaign to promote healthy lifestyle choices.
- Establish a program to recognize projects and programs that achieve multiple health objectives.

San Joaquin Valley, California



The San Joaquin Valley is California's top-producing agricultural region, serving as the economic vitality for the area's residents.

San Joaquin Valley, California – Rural Case Study

The San Joaquin Valley (Valley) is a region in central California, south of Sacramento, comprised of eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. The Valley is California's top-producing agricultural region, serving as the economic vitality for the area's residents. In addition to priceless farmlands, the Valley is home to some of the nation's most valuable natural resources, including the San Joaquin Delta, and Yosemite, Kings Canyon and Sequoia National Parks. The rural character of the region is changing as a result of significant population growth, with considerable development anticipated throughout the next decade.

The San Joaquin Valley has an ethnically diverse population and contains some of the highest poverty rates in the country. The lack of resources presents substantial limitations in developing and sustaining healthy and active communities. Other constraints to creating more active, healthy communities include poor air quality, extreme weather conditions during winter and summer months and inadequate existing infrastructure. Consequently, there are high rates of asthma and obesity, particularly among children and youth, as well as Type 2 diabetes. The economic cost of these issues in California has reached the billions of dollars with regards to health care and lost

productivity, with a sizeable portion of that total from the San Joaquin Valley.

Approach

The challenges and issues discussed above reveal the need for fundamental changes to take place to reverse trends and move toward a healthier and improved quality of life in San Joaquin Valley. Efforts are currently underway to initiate this change, including the Healthy Communities in California's San Joaquin Valley: A Community Design Toolkit, released in October 2009.

Primary Elements

Active Living Design Toolkit

The Healthy Communities in California's San Joaquin Valley: A Community Design Toolkit (Design Toolkit) provides community design best practices, recommendations and policies to promote healthy communities. The report identifies the critical role of community design and policy when planning for healthy and active communities. Pedestrian and bicycle activity serves as the foundation for the development and sustainability of safe and accessible transportation networks that encourage an enduring active community. While the Design Toolkit is a series of recommendations and not mandated policy for the San Joaquin Valley, the report emphasizes the need



Bicycle facilities improve connections in San Joaquin Valley.

III. Healthy Design Case Studies

to implement the policy actions to reduce barriers to physical activity and to provide more healthy eating options. The document references AB 32 and SB 375 as landmark policy for the reduction of Vehicle Miles Traveled (VMT) and Greenhouse gases (GHG), which are of particular relevance for this agricultural region. Moreover, the report identifies strategies for altering the built environment at a local level to contribute to the reduction of VMT and GHGs, such as Safe Routes to School programs.

The Design Toolkit incorporates the concepts of the Congress for the New Urbanism's Charter as a framework for community design. Specifically, the suggested design guidelines are presented in three sections:

- **Metropolis:** Large-scale principles to promote health and exercise are emphasized, as well as land-use and subdivision patterns that promote connectivity, pedestrian access, and alternative forms of transportation.
- **City:** At the neighborhood level, the importance of scale and organization are emphasized in order to promote walkability within districts and corridors.
- **Town:** At the street scale, detailed elements that promote a high-quality pedestrian environment are recommended within blocks and buildings.



Streetscape enhancements improve bicycle and pedestrian safety on a street in San Joaquin Valley.

San Joaquin Valley Blueprint Planning Process: Summary Report

The San Joaquin Valley Blueprint provides an overview of the extensive development process involved in creating a collaborative Valley-wide planning document. The Blueprint planning process began in 2006 with funding from the California Regional Blueprint Planning Program. Participants from the eight counties that comprise the San Joaquin Valley prepared individual county blueprints, which were then consolidated into a Valley-wide vision.

The document's guiding principles aim to achieve the following: reduce development-driven land consumption, preserve resources, enhance communities, and provide more transit options. The planning process also considers the "Three Es" of sustainable communities: prosperous economy, quality environment, and social equity. As a result of these objectives, in April of 2009, the San Joaquin Valley Regional Policy Council, the decision-making body for the Valley-wide process, approved the 12 Smart Growth Principles in addition to an Alternative Growth Scenario.

Agricultural Zoning Codes

With regard to fostering healthy communities, the designation and maintenance of agricultural lands can reinforce and support higher density and Smart Growth development within urban areas. Although the San Joaquin Valley's agricultural lands are a valuable resource, they are located on the outskirts of growing cities and are increasingly viewed as prime land for developers to expand outward. The Fresno Council of Government's Deputy Director, Barbara Steck, stated that in addition to promoting and implementing Smart Growth concepts within the urban core, facilitating and developing a successful framework for healthy communities also requires creating a limit to the growth that should occur around cities. This serves to preserve the agricultural nature of the region while supporting density and infill for a more active and connected community overall.

III. Healthy Design Best Practices

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. 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.

Healthy design addresses a number of code elements, including transportation facility design, land use and development standards; each are critical to supporting a built environment that is accessible and attractive for bicycling and walking.

The following section provides an overview of best practices from communities around the nation that actively incorporate elements into their development code to support bicycling and walking. The summary highlights practices in three primary categories:

- Transportation Design
- Land Use
- Development Standards

Additional best practices can be found in Appendix C.



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

Transportation Design

There are many elements of transportation design that improve conditions for walking and bicycling. Municipal and county codes often do little to regulate the design of these facilities explicitly, instead deferring to guidance in planning documents, local policies and other guiding documents such as design manuals. There are opportunities to strengthen requirements by incorporating specific language regarding active transportation facilities into County code. The following section presents examples of best practices in jurisdictional code related to active transportation facilities and amenities, parking (both motor vehicle and bicycle) and pedestrian and bicycle circulation.



There are opportunities to strengthen development requirements by incorporating specific active transportation language into County code.

Design Feature Example: Multi-Purpose Pathways and Trails

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, block length standards (not

III. Healthy Design Best Practices

to exceed 600 feet in most cases), and street connectivity standards based 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



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

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.

Design Feature Example: Parking

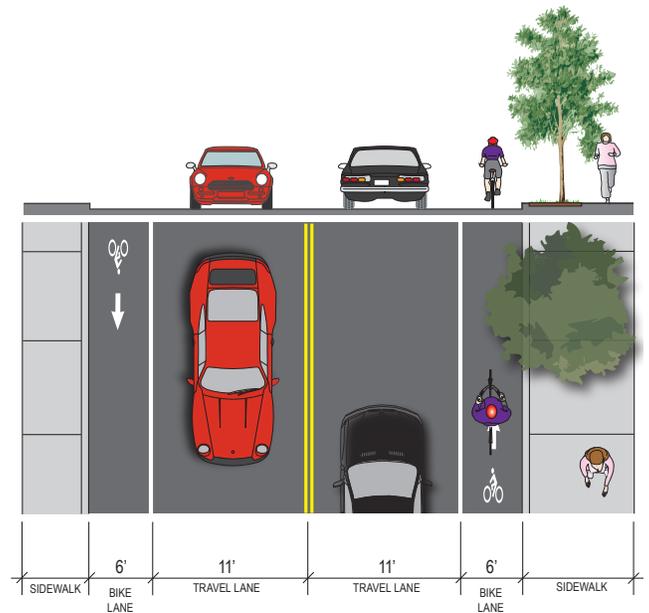
Municipal and county codes have historically provided standards for the minimum number of motor vehicle parking spaces required for developments. The intent of minimum parking requirements has been to ensure that peak parking demand is met onsite. The outcome in many places has been an excess of parking 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.

Best Practice: King County, Washington – Zoning Code

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.

Design Feature Example: Street Design/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. Development code can require that new projects and road improvements include multi-modal street designs to enhance safety, convenience and attractiveness. Standard road cross section



Standard road cross section design can be modified with varied widths and striping to support multi-modal corridors.

design can be modified with varied widths and striping to allow a greater variety of bike, pedestrian, transit, and parking amenities that correlate to the surrounding land uses and zoning.

Best Practice: Louisville, Kentucky Metro – Complete Streets Resolution and Manual

The Complete Streets 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.

Land Use

Land use is affected by both the zoning code (as in the best practice examples) 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.



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

Design Feature Example: Mix of Land Uses

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.

Healthy design standards in the County code can require or at minimum 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 strengthen 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

In encouraging a mixture of land uses, the code from St. Lucie County, Florida, takes a city-wide approach, requiring a mix of uses in each neighborhood. Rather than simply allowing different types of uses, St.



Healthy design standards in the County code can ensure that residential buildings are developed close to commercial, civic, and recreation destinations.

III. Healthy Design Best Practices



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.

Lucie's code requires that each neighborhood contain a minimum number of retail and civic building lots. St. Lucie County's code provides for continuous street walls and accounts for transitions in scale and type, placing considerable emphasis on urban design and aesthetic impact.

Design Feature Example: Parks and Civic 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. Healthy code should create standardized typologies for open space such as parks, greens, squares, plazas and playgrounds that fit into rural, non-urban and urban contexts. To increase accessibility in urban areas, developers should integrate smaller open space areas into private developments at more frequent intervals.

Best Practice: Montgomery, Alabama – Code of Ordinances

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 and 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.

Design Feature Example: Block Design

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. Small block sizes and a variety of destinations help make a neighborhood highly walkable. People living in 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 neighborhoods². In order to improve connectivity and accessibility, code can create standardized block design types, and make blocks smaller.

Best Practice: Sarasota County, Florida – Form-Based Code

Sarasota 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 an

² 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).

existing walkable street network. Sarasota County'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.

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 considerable increases in the amount of physical activity that residents get. The best practices discussed below identify aspects of building design and use that make an area more user-friendly and inviting to pedestrians.



Buildings play an important role in defining the feel of nearby streets and public spaces.

Design Feature Example: Building Orientation and Setback

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 improve safety and pedestrian access, code can require that buildings are closer to the sidewalk, with entrances and windows open and oriented

toward the street. In addition, other requirements can increase comfort and attractiveness with features such as awnings and other amenities appropriately scaled to the pedestrian.

Best Practice: Louisville, Kentucky and Fort Worth, Texas – 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 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



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

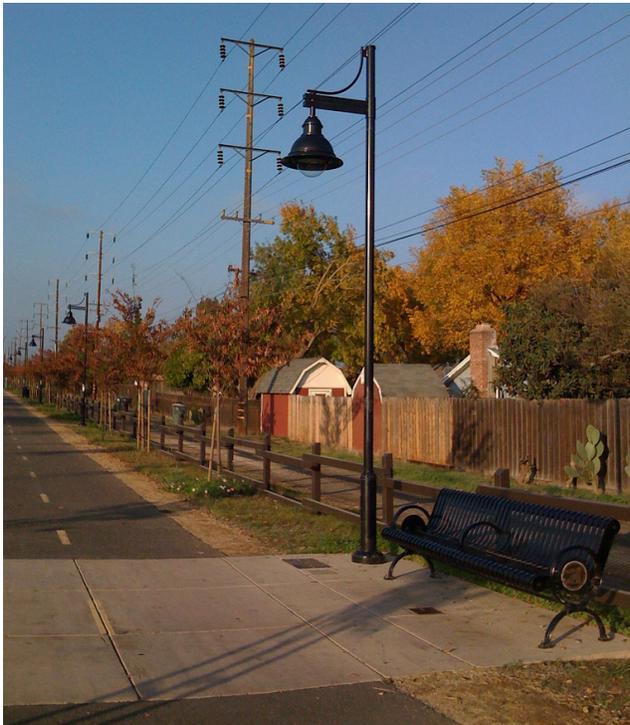
III. Healthy Design Best Practices

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.

Design Feature Example: 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 uses code to require that street lights appropriate for the development context to improve overall safety and comfort, such as lower wattage and reduced-height light poles at more frequent intervals along busier residential and commercial streets.

Best Practice: Nashville, Tennessee – Zoning Code
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

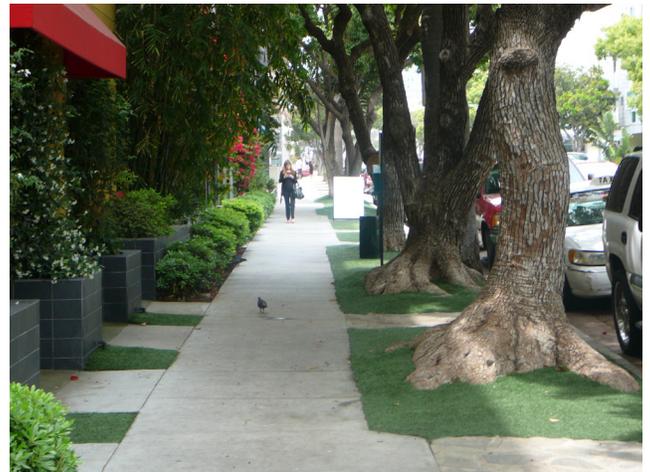


Requiring lighting to be scaled appropriately enhances safety and comfort and can prevent unwanted glare or illumination for adjacent uses.

with the function and design of the feature and abutting uses.

Design Feature Example: Landscaping

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 landscaping and screening along pedestrian corridors, jurisdictions can ensure a well-scaled pedestrian environment and contribute to walkability of the place.



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

Best Practice: Davis, California – Zoning Code

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 a site, drought resistant plantings be used where feasible, and landscaping be reasonably maintained. The code also requires that site landscaping follow the guidelines laid out for particular zones.

IV. Benefits and Costs of Healthy Design

One of the first issues planners addressed in the early 1900s was the problem of public health. Cities were growing in population and becoming increasingly dense, which meant that residents were coming in direct contact with substances that negatively affected public health, such as pollutants from industries. City planners started separating land uses so that people had less interaction with the causes of public health problems. As public health improved, planners were able to focus their efforts in other areas.

Recently, the subject of public health has reemerged as an important topic for urban planners, though this time for different reasons. As the number of vehicles on the road has increased, air quality has deteriorated causing respiratory illnesses. When residential areas are located in separate areas from community services, people are forced to drive their cars as their form of transportation, which has led to inactivity and a subsequent rise in obesity rates. With streets designed primarily to accommodate the automobile, the potential for conflicts between motorized vehicles, pedestrians and bicyclists has increased.

Healthy design practices address these modern issues of public health at a policy and design level. If a community requires designs that encourage active transportation, healthy behavior and sustainable practices, it is likely to have residents with improved physical and mental health.

The following pages provide a summary of benefits and costs of implementing healthy design principles, practices and treatments – first for community broadly, then followed by a brief summary related specifically to implementation for Los Angeles County. More detailed information about this research can be found in Appendix D.

Benefits of Healthy Design

Neighborhoods that are designed around the automobile are often not well designed for walking and biking for transportation or for recreation. Bicycling and walking, however, have many proven benefits, which include health, public safety, environmental,



Communities that make walking and bicycling viable provide benefits in health, public safety, environment, the local economy and quality of life.

economic and quality of life benefits. This section discusses each of these benefits, which can be associated with healthy design principles, practices and treatments.

The benefits of healthy design practices expand over many subjects, including public health and safety, environmental sustainability, economics, and quality of life. Developments that make bicycling and walking viable alternatives to driving reduce the risk of obesity and its associated costs through increased physical activity. With fewer people commuting by driving, there are also not as many motorized vehicles on the road, which improves air and water quality. Savings resulting from decreased automobile usage can be filtered back into the economy through increased purchases at local businesses. Environments with principles of healthy designs bring more people out of their cars and onto the street, thus creating both a perceived sense of security and lower crime rates. Increased activity in public spaces produces more opportunities for social interaction and improves overall sense of community, making people happy to be in their neighborhoods.

IV. Benefits and Costs of Healthy Design

Health Benefits

Automobile-oriented development has contributed to a growing level of inactivity amongst Americans. The lack of physical activity has led to increasingly high obesity rates which have real costs for communities and individuals. Healthy design has the potential to support increased physical activity and better health in the community by:

- Reducing prevalence of obesity;
- Increasing life expectancy; and
- Reducing medical expenses.

Public Safety Benefits

Since healthy design increases the provision and bicycle and pedestrian facilities, there are many public safety benefits associated with it. Healthy design elements can help to:

- Reduce crime rates;
- Reduce traffic collision rates; and
- Improve overall perception of public safety.

Environmental Benefits

Along with health and public safety benefits, healthy design principles and practices can dramatically improve the natural environment due to a variety of reasons, including a reduced need to drive, less



Healthy transportation design features can improve air quality and water quality by reducing traffic congestion.



Walkable neighborhoods are associated with increased property values, increased sales for local businesses and lower household transportation expenses.

impervious, paved surfaces and more sustainable, green infrastructure concepts and practices. Healthy design can help improve the environment by doing the following:

- Improving air quality;
- Reducing water pollution;
- Conserving open space; and
- Lowering a community's carbon footprint by reducing energy and fuel consumption.

Economic Benefits

Increasing fuel prices and the growing awareness of environmental sustainability have begun to affect where people are choosing to live. Increasingly, people desire to be in walkable areas where they do not have to rely on a motorized vehicle and can walk or bike to their destinations. There are several economic



In addition to increased levels of physical activity, mixed use communities provide quality of life benefits, including higher levels of social interaction, improve sense of place and increases in social equity.

benefits associated with walkable and bikeable neighborhoods, including the following:

- Increased property values;
- Increased sales for local businesses; and
- Lower household transportation expenses.

Quality of Life Benefits

On top of all of the previously mentioned benefits associated with healthy design, healthy design practices can also contribute towards a better quality of life for people. Residents develop a strong sense of pride when their communities are vibrant and walkable. Some benefits to quality of life include the following:

- Psychological benefits of an active lifestyle;
- Higher levels of social interaction;
- Improved sense of place; and
- Increased social equity.

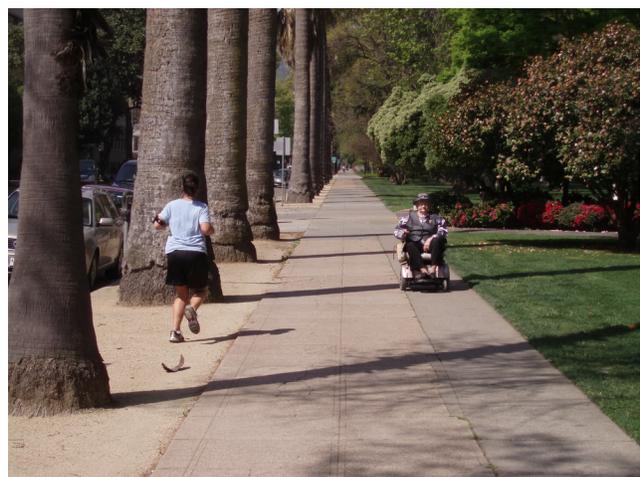
Costs of Healthy Design

As documented in the section above, there are numerous benefits to healthy design. However, healthy design practices can also be more expensive as compared to conventional design treatments.

Healthy design provides features that encourage walking and bicycling and improve safety. Some features may require greater expense for both capital (e.g. right-of-way and construction) and maintenance. Healthy design features that may be relatively expensive to install when compared to conventional design include:

- Curb extensions
- Median refuge islands
- Raised crosswalks
- Accessways
- Transit shelters
- Stormwater features

Business and property owners may experience increased maintenance costs associated with healthy design. For example, landscaping, building facades, sidewalks and pedestrian amenities may require greater maintenance than with conventional design. On the other hand, these design features improve the pedestrian environment, in turn encouraging use of the right of way and public spaces fronting these businesses.



Most healthy design features comprise a small portion of overall development costs.

IV. Benefits and Costs of Healthy Design

Developers may incur additional expenses when incorporating healthy design features into their construction plans. Plan preparation, hiring specialists and the added maintenance costs of private facilities (such as streets, civic spaces, etc.) are likely to be higher. To mitigate these additional expenses, Los Angeles County may want to examine other development standards to determine whether changes can also serve to reprioritize healthy design principles and practices. For example, healthy design features such as reduced parking standards, narrower roadway standards, and shorter building setback standards not only contribute towards creating more pedestrian and bicyclist-friendly communities, but they also typically result in reduced construction costs for developers. Accounting for active transportation within environmental analyses can allow developers to avoid costly traffic, noise and environmental mitigation measures based on conventional, auto-centric analyses.

It is worth noting that in most cases healthy design features only comprise a small portion of the overall development cost. As healthy design becomes more

prevalent, research indicates that municipalities’ and lenders’ increased comfort with healthy design helps streamline the project review and project financing process, further reducing development costs.

Cost Impacts on Los Angeles County Departments

The Los Angeles County Departments of Regional Planning, Public Works, Parks and Recreation, Fire and Public Health will experience varying costs and benefits associated with the implementation of healthy design principles and practices. At this point in time, it is not possible to quantify the costs and benefits of adopting a Healthy Design Ordinance due to numerous uncertainties. Nevertheless, the following table presents a qualitative assessment of the potential costs and benefits of the HDO on each Los Angeles County department. Although the Los Angeles County Office of the Assessor is not listed in this table below, it is worth mentioning that property tax revenues are likely to increase over time with the adoption of an HDO, as was documented in the Economic Benefits section above.

HDO Impacts on Los Angeles County Departments		
Department	Potential Costs	Potential Benefits
Regional Planning	<ul style="list-style-type: none"> • Ordinance development • Ordinance implementation, more time devoted to project review and re-training to identify healthy design features in projects 	<ul style="list-style-type: none"> • Codifies and clarifies goals related to sustainability and healthy communities • Streamlined design review process • More clarity in staff design recommendations for specific projects
Public Works	<ul style="list-style-type: none"> • Maintenance of bicycle and pedestrian facilities 	<ul style="list-style-type: none"> • Decreased total roadway maintenance resulting from narrower roadway width and increased percentage of public right-of-way allocated to pedestrians and bicyclists • Reduced watering requirements by using drought tolerant landscaping
Parks and Recreation	<ul style="list-style-type: none"> • Increased capital and construction costs of building new parks and open space • Maintenance from increased landscaping and park space and from having more dispersed facilities • Park maintenance and monitoring due to an increase in usage 	<ul style="list-style-type: none"> • Improved countywide health • Improved quality of life from recreation opportunities • Smaller urban parks can serve more residents with less intense uses
Fire	<ul style="list-style-type: none"> • Purchasing new fire trucks that can traverse narrower streets 	<ul style="list-style-type: none"> • Shorter emergency response times on account of having a well connected grid street pattern • Smaller coverage area per station on account of higher population densities • Reduced traffic collision rates from roadways designed for all users translates to few traffic incidents to which to respond
Public Health	N/A	<ul style="list-style-type: none"> • Improved countywide health • Reduced medical expenses

V. Code/Ordinance Recommendations

The Healthy Design Ordinance is focused on improving elements included in Titles 21 and 22 of the Los Angeles County code. Both titles have existing language to support bicycling and walking but do not contain language for a full suite of healthy community design features. Titles 21 and 22 are reviewed below, followed by a comprehensive table that presents sample code language, intended outcomes of such language, and sample communities for reference. The table is organized by the key design features set forth by the Los Angeles County Department of Regional Planning in their guidelines for the Healthy Design Ordinance. More on the existing code can be found in Appendix A.

Title 21 – Subdivisions

Chapter 21.24 Design Standards

The design standards set forth in Chapter 21.24 of the Los Angeles County code are critically important in either supporting or hindering active transportation and healthy lifestyles. Pedestrian and bicycling conditions in the County will be shaped by the details of these standards.

The existing design standards accommodate the needs of pedestrians and bicyclists in a number of ways, but lack comprehensiveness; a healthy design ordinance should include design standards that require pedestrian and bicycle facilities and supportive conditions in all situations.

For example, Section 21.24.210 (Pedestrian ways) states that, “excepting in the case of any reversion-to-acreage map, vacation map or boundary-line map, a transverse pedestrian way of adequate width may be required through the approximate middle of each block having a length of more than 700 feet.” This type of guideline may result in improved pedestrian connectivity; however, stricter design standards will improve connectivity by requiring mid-block crossings beyond a certain block length. Healthy design standards may also require connected, grid-like development patterns or pedestrian/bicycle connections

between streets where development patterns stray from the grid.

Design standards should include regulations that provide for the following:

Pedestrian-friendly design elements:

- Complete network of wide, well-maintained sidewalks
- Frequent crossings with safe crossing treatments
- Neighborhood connectivity to destinations (short block lengths, connected street network, priority destinations located within ¼-mile walking distance)
- Pedestrian-scaled amenities, such as street lighting, street trees, benches, etc.
- Pedestrian-friendly street frontage, pedestrian-scale building facades



Healthy design features foster healthy, active communities, reducing health care costs and improving quality of life for residents.

Bicycle-friendly design elements:

- Safe bikeway facilities and crossings
- Appropriate and sufficient bike parking in practical locations
- Neighborhood connectivity to destinations (short block lengths, connected street network)

General design elements that support healthy design:

- Public and green spaces
- Traffic calming measures
- Green street features
- Mixed use development pattern (neighborhood, block and building scale)
- Local and regional transit stops sited at convenient and walkable intervals

Chapter 21.32 Improvements

This chapter includes regulations for installing street lighting, street trees, and sidewalks – important elements for encouraging active transportation and healthy lifestyles. To aggressively support nonmotorized transportation, the County should require pedestrian accommodations as part of all new development and redevelopment, regardless of neighborhood pattern but still sensitive to the surrounding context. Street lighting should always accompany sidewalks. Street trees should be planted to improve pedestrian environments wherever possible. The current sections within this chapter that address these elements are not stringent enough to ensure the installation of these features in new development and redevelopment.

Title 22 – Planning and Zoning

The establishment of a combined commercial-residential zone, as is stated in Title 22, supports healthy design and is beneficial to walking and bicycling by connecting destinations by shorter distances than where zones are segregated. The support of mixed use developments, joint live and work units, and density bonuses can have the same effect, reducing the need for automobile travel and in turn reducing congestion. These zoning regulations and incentives provide opportunities for healthy design.

In contrast, minimum parking requirements and minimum frontages can be detrimental to walking and bicycling conditions and present challenges for healthy design. Minimum parking requirements prioritize driving through the allocation of valuable space to parking lots and by making it easy to drive to destinations. Easily accessible parking encourages auto use, often at the expense of other travel choices. In commercial areas, minimum frontages (setbacks) harm the pedestrian environment by creating a disconnect between pedestrians and buildings and encouraging store-front parking lots and other auto-oriented site designs.

The following summary table provides specific recommendations on language and intent for design features that support bicycling and walking.

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
BLOCK DESIGN				
21.24.210 Pedestrian ways (and other locations as appropriate)	Excepting in the case of any reversion-to-acreage map, vacation map or boundary-line map, a transverse pedestrian way of adequate width may be required through the approximate middle of each block having a length of more than 700 feet. No such pedestrian way shall have a grade exceeding 30 percent, provided that where one or more adequate stairways in such pedestrian way are made a part of the improvement thereof, the grade of such stairway may be as great as 75 percent.	<ul style="list-style-type: none"> A transverse pedestrian way is required through the approximate middle of each block having a length of more than 700 feet. All such pedestrian ways shall be at least 6 feet wide, meet ADA requirements, be direct in route, be grade separated from roadways, provide marked crossings where crossing roadways, and provide pedestrian scale lighting and landscaping. Subdivisions must provide an interconnected network of streets, trails or other public passageways. 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. Streets do not need to form an orthogonal grid but must connect to other streets. Typical/standardized block configurations with maximum perimeters Smaller block sizes in denser, more mixed-use areas and neighborhood centers 	<ul style="list-style-type: none"> Increased connectivity between destinations Abatement of large super blocks. Well-planned, interconnected streets and pathways that provide safe, efficient, and reliable movement for pedestrians (and bicyclists) within and between developments. A more complete pedestrian and bicycle network throughout the jurisdiction as development occurs. 	<ul style="list-style-type: none"> Eugene, Oregon King County, Washington Portland, Oregon St. Lucie County, Florida San Diego, California
22.52.1930 MIXED USE DEVELOPMENTS Development standards	Loading/unloading. Off-street loading areas shall be located toward the rear of the structure(s) and shall not be visible from the street. Trash/recycling. Areas for the collection and storage of refuse and recyclable materials shall be located on the site in locations that are convenient for both the residential and commercial uses. The trash enclosures shall be located toward the rear of the structure(s) and shall not be visible from the street.	<ul style="list-style-type: none"> Rear and side alleys and/or lanes should serve as the primary means of vehicular access to lots, loading and unloading, and trash/recycling collection. Pedestrian access shall be provided from the street. Similar language should be used for other zones, particularly commercial and residential. 	<ul style="list-style-type: none"> Guided development that provides opportunities for rear alley/lane functions. Improved pedestrian/ bicycling environment. Sidewalk space prioritized for pedestrian through-movement and access. 	<ul style="list-style-type: none"> St. Lucie County, Florida
BUILDINGS				
22.20.120, 22.20.220, 22.20.320, 22.20.380, etc. Yard requirements (Residential)	Each lot or parcel of land shall have a front yard of not less than X feet in depth.	<ul style="list-style-type: none"> Each residential lot or parcel of land shall have a front yard of not less than 20 feet in depth. 	<ul style="list-style-type: none"> Driveway parking does not encroach on sidewalk. 	<ul style="list-style-type: none"> Peoria, Illinois Seattle, Washington
22.28.070, 22.28.120 Development standards (Commercial)	That front and/or corner side yards be provided equal to a distance of: 1. 20 feet where property adjoins a parkway, major or secondary highway, and 2. Equal to the front or corner side yard required in any contiguous residential or agricultural zone where property adjoins a street.	<ul style="list-style-type: none"> On each lot (within a pedestrian district or other pedestrian use designation) the building shall be built to the lot line. 	<ul style="list-style-type: none"> Enhanced pedestrian environment through street walls. Street-facing parking lots eliminated. Safer and more direct access for pedestrians and bicyclists. 	

V. Code/Ordinance Recommendations

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
To be included in Title 22	Code language does not yet exist for this specific design feature.	Consider incorporating form-based code overlay districts into zoning code.	<ul style="list-style-type: none"> Control streetscape environment related to lot sizes, building placement and form, use, parking, encroachments, frontage types, and/or building types for improved walkability. 	<ul style="list-style-type: none"> Albuquerque, New Mexico Sarasota County, Florida
To be included in Title 22	Code language does not yet exist for this specific design feature.	<ul style="list-style-type: none"> 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. All structures that are located along the primary street serving the development 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. Active commercial uses which are permitted by the specific zone or district in which they are located are required on the ground floor of all street frontages listed. 	<ul style="list-style-type: none"> Prioritization of active transportation through pedestrian-oriented buildings and amenities. Enhanced pedestrian environment through engaging facades and other pedestrian-oriented features. 	<ul style="list-style-type: none"> Seattle, Washington San Francisco, California Denver, Colorado Louisville, Kentucky Fort Worth, Texas San Antonio, Texas Salt Lake City, Utah
LANDSCAPING				
21.32.160 Street tree planting.	<p>Except as otherwise provided in this section, a subdivider shall plant trees along the frontage of all lots shown on a final map or parcel map. The number, species, and location of such trees shall be as specified by the road commissioner. Tree planting is not required unless it is determined to be in the public interest:</p> <p>A. Along a segment of a street or highway to which the right of direct access from abutting lots has been relinquished; and</p> <p>B. Along streets and highways which are not improved with curbs.</p>	Street trees shall be planted no closer than 75 feet from street intersections so as to maintain visibility.	Provision of shade, effective roadway narrowing, and maintenance of visibility to provide enhanced attraction to walking.	
22.20.460 (Part 7 RPD RESIDENTIAL PLANNED DEVELOPMENT ZONE) Uses and development standards	A plan for landscaping all open areas, where appropriate, shall be submitted to and approved by the hearing officer.	Regulations should be more specific, as in Davis, CA: "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."	<p>Inclusion and guided regulation of landscaping as part of new developments to provide:</p> <ul style="list-style-type: none"> Enhanced comfort for pedestrians and bicyclists. Increased safety. Enhanced attractiveness of the streetscape. 	<ul style="list-style-type: none"> Davis, California

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
MIX OF LAND USES				
22.12.030 Combining zones established and designated	The following combining zones are established as additional zone designations used in combination with zone designations listed in Section 22.12.010, which shall for purposes of this section be deemed the basic zone: D. Zone ()-CRS (Commercial-Residential). For Zone C-3 listed in Section 22.12.010, an additional zone designated by the symbol CRS in combination with such zone is established. E. Zone ()-PO. For Zone R-4() U listed in Section 22.12.010, an additional zone designated by the symbol PO in combination with such zone is established.	<ul style="list-style-type: none"> Require mix of uses in all neighborhoods. Limit size of commercial uses within neighborhood business zones. 	Increased viability of walking and bicycling for transportation when appropriately-sized commercial uses are located closer to residential uses.	<ul style="list-style-type: none"> St. Lucie County, Florida Portland, Oregon
22.40.510 Established— Purpose. MXD MIXED USE DEVELOPMENT ZONE	Zone MXD is established to provide for planned mixed-use developments which may contain residential, commercial, industrial and other such uses. By allowing greater flexibility in design and encouraging innovative and creative planning, Zone MXD provides the opportunity to combine various land uses in well-planned developments which may contain multi-use buildings or several single-purpose buildings each containing a different use. It is the intent of the mixed use development zone to: 1. Integrate a variety of housing densities with commercial, industrial or other uses, thus reducing transportation costs, energy consumption and air pollution, preserve precious land resources, and foster varied human environments through unified planning, design and control of development; 2. Implement the land use and special management area policies of the countywide General Plan; and 3. Implement the policies and provisions of adopted coastal, community and redevelopment plans.	<ul style="list-style-type: none"> It is the intent of this mixed use development zone to integrate a variety of housing densities with commercial, industrial or other uses, thus reducing transportation costs, energy consumption and air pollution, promoting healthy lifestyles, preserving precious land resources, and fostering varied human environments through unified planning, design and control of development. In order to ensure a mix of land uses within the area, consider requiring more than one use as part of each development within the MXD zone. 	<ul style="list-style-type: none"> Health promotion and healthy design through zoning that provides for availability of goods and services adjacent to residential areas, within walking and bicycling distance. Increased viability of walking and bicycling for transportation when appropriately-sized commercial uses are located closer to residential uses. 	

V. Code/Ordinance Recommendations

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
22.40.540 Intent and purpose. ()-CRS COMMERCIAL-RESIDENTIAL ZONE and 22.40.610 Intent and purpose. ()-PO UNLIMITED RESIDENCE-PROFESSIONAL OFFICE ZONE	<p>Zone ()-CRS is established in order to provide for combining commercial and residential uses subject to specific development standards and director’s review. It is the intent of this zone to encourage combining these uses in order to provide additional opportunities for housing development and to reduce transportation costs, energy consumption and air pollution.</p> <p>Zone ()-PO is established to encourage low-intensity professional offices in conjunction with residential structures to augment specialized or large-scale commercial and institutional uses located in proximity thereto. The combination of employment and housing within one project is intended to reduce transportation costs, energy consumption and air pollution.</p>	It is the intent of this zone to reduce transportation costs, energy consumption and air pollution and to promote healthy lifestyles.	Health promotion and healthy design through zoning that provides for availability of goods and services adjacent to residential areas, within walking and bicycling distance.	
To be included in Title 21	Code language does not yet exist for this specific design feature.	For larger neighborhood-scale developments, require a mix of uses (via lot dedications or buildings) such as commercial, office, civic spaces and community facilities, contained within a short walking distance of residences.	Increased viability of walking and bicycling for transportation when commercial, office, and civic uses are located closer to residential uses.	
To be included in Title 22	Code language does not yet exist for this specific design feature.	<ul style="list-style-type: none"> For larger developments, require the dedication of land for one or more school sites as part of the project design and as a condition of approval of development, with the requirement that the resulting school site(s) be located centrally or near concentrated residential population areas, rather than on the outskirts of town. Establish a collaborative relationship with school districts and non-profit education providers in regards to planning and project review. Incentivize new mixed income residential developments near existing or new school sites. 	<p>Promotion of physical activity through school siting and design, including:</p> <ul style="list-style-type: none"> Increased opportunity for children to walk or bike to school. Schools serving as community centers, increasing opportunities for adult physical activity. Schools sited 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. 	
MULTI-PURPOSE PATHWAYS AND TRAILS				
22.20.460 (Part 7 RPD RESIDENTIAL PLANNED DEVELOPMENT ZONE) Uses and development standards	<p>Subject to the approval of the hearing officer, open space may include one or more of the following, designated for the use and enjoyment of all of the occupants of the planned residential development or appropriate phase thereof:</p> <p>...</p> <p>Present or future hiking, riding or bicycle trails.</p>	Through the zoning and subdivision codes, incorporate trails as part of the overall transportation network and not solely for recreation.	<ul style="list-style-type: none"> Better connected healthy transportation network Increased opportunities for physical activity 	Portland, Oregon

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
PARKING				
21.24.330 Additional parking area for commercial use, and Chapter 22.52 General Regulations - Part 11 VEHICLE PARKING SPACE	<ul style="list-style-type: none"> Wherever property in a division of land is to be devoted to commercial use, special consideration shall be given to automobile parking space independent of highway curbside parking. Various minimum parking requirements 	<p>Use a variety of strategies to reduce parking demand and minimize excess capacity, including:</p> <ul style="list-style-type: none"> Reduced minimum parking requirements Maximum parking requirements Shared use allowances Other exceptions and substitutions <p>The presence of transit stations and stops, on-street parking, and high-density development should be taken into account when establishing trip generation rates and parking requirements.</p>	<ul style="list-style-type: none"> Support and prioritization of healthy transportation Deprioritization of automobile use More efficient use of valuable land Improved pedestrian environment and aesthetic quality of an area Improved economic viability of a development project by reducing the overall cost of the project Improved air and water quality by reducing auto traffic and the coverage of impervious surfaces 	<ul style="list-style-type: none"> Portland, Oregon King County, Washington Charlotte, North Carolina
To be included in Title 22	Code language does not yet exist for this specific design feature.	<p>Bicycle parking requirements:</p> <ul style="list-style-type: none"> Create minimums based on use and/or appropriate measures (e.g., square footage of commercial floor area or number of students at a university) Provide guidance for placement, design, and types of parking Account for both short-term and long-term parking needs Specific design standards will enhance the utility and attractiveness of bicycle parking 	<ul style="list-style-type: none"> Support and prioritization of healthy transportation Deprioritization of automobile use Preserved space as compared to auto parking Improved economic viability of a development project by reducing the overall cost of the project Improved air and water quality by reducing auto traffic and the coverage of impervious surfaces Provide end of trip bicycle facilities to encourage use of bicycle for utilitarian trips Supporting guidance for bicycle supportive development 	<ul style="list-style-type: none"> Eugene, Oregon Boulder, Colorado Santa Cruz, California
PARKS AND CIVIC SPACES				
21.24.340 Residential subdivisions-- Local park space obligation--Formula.	The subdivider of a residential subdivision shall provide local park space to serve the subdivision, pay a fee in lieu of the provision of such park land in accordance with the provisions of Section 21.28.140, provide local park space containing less than the required obligation but developed with amenities equal in value to the park fee, or do a combination of the above in accordance with the requirements of this title.	The subdivider of a residential subdivision shall provide local park space to serve the subdivision. Park requirements are as follows....	<ul style="list-style-type: none"> Increased neighborhood activity, "eyes on the street" or "safety in numbers" Decreased effective block size by providing breaks between buildings Increased opportunities for physical activity Improved aesthetic character and enhanced sense of place 	<ul style="list-style-type: none"> Montgomery, Alabama Cambridge, Massachusetts

V. Code/Ordinance Recommendations

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
SIGNS				
Part 10 SIGNS 22.52.790 Purpose of Part 10 provisions	It is the purpose of this Part 10 of Chapter 22.52 to establish comprehensive sign regulations for effectively regulating the placement, erection and maintenance of signs in the unincorporated territory of the county. These regulations are intended to provide equitable standards for the protection of property values, visual aesthetics, and the public health, safety and general welfare, while still providing ample opportunities for businesses and the visual advertising industry to operate successfully and effectively.	<ul style="list-style-type: none"> • Include pedestrian-appropriate sizing in neighborhood commercial, residential, and mixed-use areas. 	<ul style="list-style-type: none"> • Increased attractiveness of the streetscape • Enhanced pedestrian environment through appropriately-sized signs 	<ul style="list-style-type: none"> • Nashville, Tennessee • San Diego, California
STREET DESIGN				
21.32.180 Sidewalks-- Required when, and 21.32.190 Sidewalks--Not required when	<ul style="list-style-type: none"> • Except as otherwise provided in this Title 21, the subdivider shall, as part of the improvement of the street or highway, install sidewalks not less than four feet wide: <ul style="list-style-type: none"> A. On both sides of entrance and collector streets within the division of land; B. On both sides of loop, interior and cul-de-sac streets; C. Along one side of service roads adjacent to abutting lots; D. Along highways shown on the Highway Plan where no service road is provided and the lots in the division of land take direct access to the highway; E. Along highways shown on the Highway Plan where necessary in order to provide for the safety and convenience of pedestrians. • The construction of sidewalks is not required where any one or more of the following conditions exist and the advisory agency so finds: <ul style="list-style-type: none"> A. Where all lots in the division of land contain a net area of not less than 15,000 square feet or have an average width of not less than 100 feet, except where sidewalks are necessary to serve such lots so as to maintain the continuity of the established neighborhood sidewalk pattern; B. The construction of sidewalks would be impractical because of topographical conditions or because of other physical obstacles; C. Sidewalks will not be in keeping with the neighborhood pattern; D. Sidewalks are not needed in, and will not benefit the area. 	<ul style="list-style-type: none"> • The subdivider shall, as part of the improvement of the street or highway, install sidewalks not less than five feet wide. • Sidewalks shall be direct in placement in order to create the most efficient connections between destinations. • Require compliance with County street design guidelines (including construction materials, ADA compliance, use of ramps, etc.) • Remove exception language from ordinance, particularly sections C and D. 	<ul style="list-style-type: none"> • Sidewalks provided where pedestrians are expected. • Newly-constructed sidewalks feature consistent design and quality (width, construction materials, ADA compliance, etc.). • Provides for future walking demand 	<ul style="list-style-type: none"> • Davis, California • Boulder, Colorado • Portland, Oregon

Healthy Design Code Recommendations				
Code Location	Existing Code Language (if applicable)	Recommended Code Changes or Additions	Intended Outcomes	Sample Communities* (if applicable)
To be included in Title 21	Code language does not yet exist for this specific design feature.	<ul style="list-style-type: none"> The proposed street system in and adjacent to a subdivision conforms to the Los Angeles County street design guidelines document. The proposed street system in and adjacent to a subdivision is designed in such a manner as to provide for the safe, convenient, and pleasant movement of pedestrians and bicyclists. 	<ul style="list-style-type: none"> Streets provide enhanced safety, convenience and attractiveness all road users, including pedestrians and bicyclists. Standardized street design guidelines that mandate healthy design, but are more flexible to change over time than ordinances. 	<ul style="list-style-type: none"> Salem, Oregon
STREET LIGHTING				
21.32.140 Street lighting--Required when, and 21.32.150 Street lighting--Not required when	<ul style="list-style-type: none"> Except as otherwise provided in this Title 21, the subdivider shall provide a street-lighting system in each division of land. Plans for street lights shall be submitted to the road commissioner in accordance with the Highway Permit Ordinance adopted May 28, 1940 and set out at Division 1 of Title 16 of this code. The requirement for street lighting systems as provided in Section 21.32.140 may be waived if the advisory agency finds that street lights will not be in keeping with the neighborhood pattern, or all lots in the division of land contain a net area of not less than 40,000 square feet and street lights are not necessary to serve such lots so as to maintain the continuity of an established neighborhood street-lighting pattern. 	<ul style="list-style-type: none"> Lighting shall be designed and located at a pedestrian scale; the position of street lamps along pedestrian ways should not exceed fifteen (15) feet in height above the ground. Lighting shall be designed to avoid off-site impacts on abutting properties. Lighting poles and fixtures shall be compatible with the function and design of the feature and abutting properties. 	<ul style="list-style-type: none"> Street lighting provided where pedestrians are expected Consistent and appropriately-scaled street lighting as part of all development, providing a more comfortable, inviting pedestrian environment and minimizing impacts on abutting uses 	<ul style="list-style-type: none"> Nashville and Davidson County, Tennessee San Antonio, Texas
TRANSIT STOPS				
To be included in Title 21and/or Title 22	Code language does not yet exist for this specific design feature.	Within transit-oriented districts, neighborhoods, and in other appropriate zones and districts, require new developments to, at minimum, dedicate spaces for transit stops at convenient and walkable intervals, and provide incentives for installing and maintaining transit user amenities such as shelters, benches, showers, lockers, bike parking and signage.	Transit use and healthy transportation promotion through greater convenience and more amenities	Look to policy language for examples
WALLS, FENCES, AND PORCHES				
To be included in Title 21and/or Title 22	Code language does not yet exist for this specific design feature.	Establish Crime Prevention Through Environmental Design (CPTED) guidance for development including guidelines for screening, fencing, and landscaping including maximum height for walls, fences, and hedges.	<ul style="list-style-type: none"> Increased attractiveness through higher-quality building methods and materials Increased safety through appropriate wall, fence, and porch design 	<ul style="list-style-type: none"> Tampa, Florida Palmdale, California
* Examples of code language from sample communities can be found in the appendix of Technical Memorandum 2 - Healthy Design Best Practices presented to Los Angeles County from Alta Planning + Design.				

