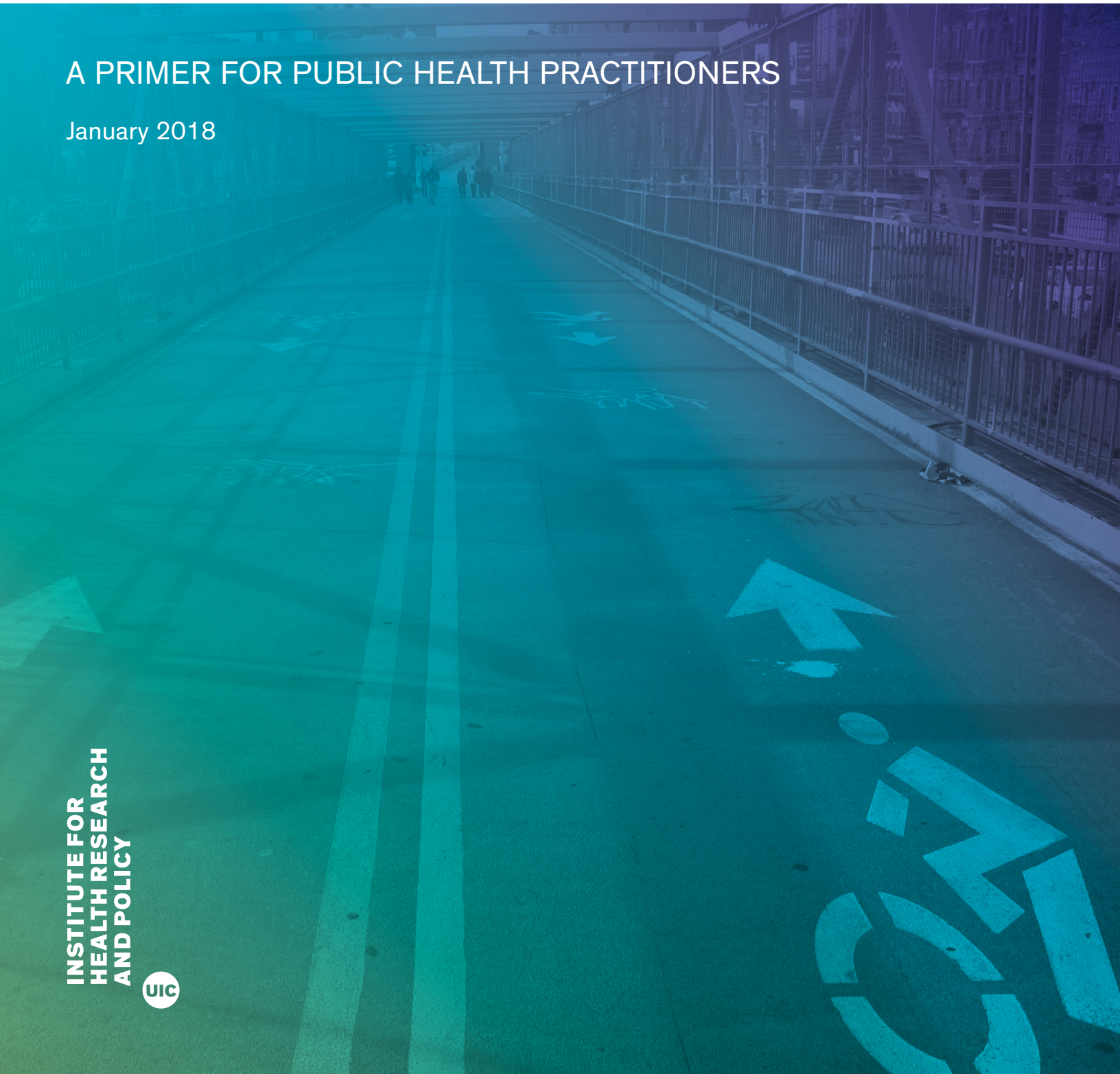
Components of Local Land Development and Related Zoning Policies Associated with Increased Walking

A PRIMER FOR PUBLIC HEALTH PRACTITIONERS

January 2018



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Introduction

This document provides a primer for public health practitioners and others interested in engaging with local planning and zoning officials. Multisector discussions are important in planning and implementing policy strategies for creating and supporting walkable communities.

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One of the most important steps people can take to improve their overall health is to be physically active. The *Physical Activity Guidelines for Americans* recommend that children and adolescents achieve at least 60 minutes of daily physical activity including aerobic, bone-strengthening, and muscle-strengthening activities; and that adults and older adults achieve at least 150 minutes of moderate-intensity aerobic physical activity per week with additional benefits garnered from more minutes and engaging in muscle- and bone-strengthening activities.[1] Yet, only 51.7 percent of adults meet the *Physical Activity Guidelines for Americans* recommendations for leisure time aerobic physical activity and 30 percent of adults do not engage in any leisure time physical activity.[2,3]

To increase physical activity levels, *Step it up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities* recognizes the importance of walking as a key public health strategy. Walking is a form of physical activity that does not require special skills, facilities, or equipment, which makes it easy to begin and sustain physical activity.[4] Since people can adjust their walking pattern to their time, needs, and abilities, walking is a simple way to maintain a physically active lifestyle especially for people with disabilities and older adults.[1,4] Increased time spent walking can be achieved through both leisure-time walking as well as through active travel such as walking, bicycling, or taking public transit to and from work.[4,5] About half of U.S adults walk during their leisure time and, while fewer adults walk for transportation purposes, one review estimated that taking public transit was associated with an average of 14.6 minutes of additional daily activity by virtue of the time it takes to walk to/from the public transit stop.[4,6] And, a recent estimate from the U.S. indicates that 63.9% of adults report walking for transportation or leisure at least one time for 10 minutes or more in the prior seven days.[7]

Even with the best of intentions, walking may not be easy to do in some communities due to many factors including concerns about safety, lack of the necessary community supports, or lack of infrastructure such as sidewalks. In fact, community design and **segregated land uses** that separate communities into single-use districts or zones such as residential-only or commercial-only, rather than mixed land uses, are often recognized as major obstacles that prevent people from walking.[4,7-9] One strategy for overcoming these challenges is the adoption of land use policies such as land development plans and regulations including zoning codes that support walkable communities.[4,7,8,10] Public health practitioners can play a key role in helping to guide and work with local planning officials when they are reviewing and revising their local land use policies to ensure that they are supportive of walking.

The remainder of this document will:

- Provide a brief overview of how the built environment can hinder or support opportunities for walking;
- Review different types of land development policy approaches for use by public health practitioners when they are seeking to engage with their counterparts in planning, transportation, and economic development in their community;
- Identify strategies for incorporating pedestrian-oriented provisions into land development plans and zoning codes, specifically;
- Highlight other policy strategies that communities can take to support walkability; and,
- Outline policy-related strategies that public health and other sectors can take to support walkable communities.

The appendix provides a **glossary** of key terms used throughout this document.

How the Built Environment Can Hinder or Support Opportunities for Walking

The way communities are designed or built can facilitate or present barriers to physical activity and walking.[4,7,8] Land development policies that require separation between land uses, such as commercial and residential development, often make the distances between the two types of development too great to walk. Streets that do not have sidewalks and are poorly connected make it difficult and/or unsafe for people to walk to destinations. Inadequate public transit infrastructure can also contribute to missed opportunities for walking.[4]

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With the popularity of the automobile in the 20th century, communities prioritized designing spaces for the fast and efficient movement of cars instead of creating safe environments for people to walk. Accommodations for parking often resulted in increased separation of buildings and increased distance from street/sidewalk to building to provide spaces for cars.[11] Communities with **sprawl**, disconnected sidewalks/streets, poor sidewalk infrastructure, and single use zoning make walking less feasible, inconvenient, and/or unsafe which, in turn, lead to lower rates of active transportation—walking, biking, or taking public transit—and limit opportunities for leisure-time physical activity.[12-14] Additionally, sprawling development has negative impacts on the natural environment and air quality due to new development replacing natural habitats and open spaces and increased car dependency from increased travel distances. Large distances between frequent everyday destinations, lack of adequate public transit systems, and poorly maintained and unsafe infrastructure, limits people's ability to incorporate walking into their daily activities.[4,7,8]

Most people are willing to walk on average about a half mile or about a 10-minute walk to reach a destination.[15] People can walk for transportation to get to work, school, or shop, or they can walk for leisure to socialize or exercise.[4] However, when transportation networks are disconnected, land use patterns are sprawling, and uses are segregated, walking is an inconvenient or impossible option.[12,16] **Connectivity** refers to the degree to which sidewalk, street, and transportation networks are connected and the directness of travel between destinations.[17] Communities with poor connectivity, inadequate **pedestrian facilities**, and single land uses tend to have lower rates of active travel.[12] In addition, people are less likely to walk when they feel unsafe due to inadequate pedestrian-oriented infrastructure and safety protections from traffic.[18] Also, pedestrian injuries and fatalities are more likely to occur in areas without sidewalks or crosswalks.[18]

Creating communities supportive for walking will not only increase physical activity but also make communities safer, support social bonds, reduce air pollution, and benefit local economies.[4] Community design features that support walking and other forms of physical activity include:

- Well-lit streets and sidewalks connected by marked crossings and **traffic calming** measures.[10,12,19-24]
- **Connected transportation networks** with bus shelters, lighting, and benches near transit stops.[19,20]
- Paths or trails and open, recreational space.[25]

Land Development and Related Policies as a Strategy to Support Walkable Community Design

Local governments can use community planning and land development policies to guide future development and support walking in their communities.[4] Examples of such policies include long-term development plans and land development regulations. Prior to engaging with local planning and development officials, it will help to understand key land development policy-related terminology.

In this section, we briefly review and provide specific examples of key planning and policy approaches that are relevant when discussing land development policy and walkability. The **appendix** provides a "quick" reference for each of the key terms discussed herein.

Examples of Land Development Policy Strategies to Support Walkable Community Design

LAND DEVELOPMENT PLANS
- Long-Term Land Development Plans
- Separate Topical Plans:
  - Pedestrian, Bicycle, or Trail Plans
  - Park, Recreation, and Open Space Plans
  - Transportation Plans

LAND DEVELOPMENT REGULATIONS
- Zoning Codes
  - Traditional Zoning Codes
  - Zoning Code Reforms
- Subdivision Regulations
- Unified Development Ordinances or Codes
- Planned Unit Developments
- Overlay Zoning

ADDITIONAL LAND DEVELOPMENT POLICY TOOLS
- Smart Growth
- Design Guidelines
- Development Incentives

Land Development Plans

Long-term land development plans (e.g. comprehensive, general, or master plans) are used by local governments in their decision making process to direct future physical, social, and economic growth in their community.[9,26] They outline a community's vision with goals, objectives, policies, and implementation strategies related to different topic areas including those that address walkability-related issues such as land use, design, transportation, open space/recreation, and health.

In one example, **New Orleans, Louisiana's** master plan, *The 21st Century Plan,* provides a vision and planning framework for the city's physical, social, environmental, and economic future.[27] The master plan includes specific implementation strategies for topics including neighborhoods and housing; historic preservation; parks, open space and recreation; health and human services; economic development; community facilities, services, and infrastructure; transportation; resilience, water, and dealing with natural hazards; environmental quality; and land use. In addition, New Orleans has a separate bicycle and pedestrian master plan[28] as well as separate neighborhood or community area plans, many of which were developed during years after Hurricane Katrina.

In **California**, cities and counties are required by state law to adopt **local general plans** which are intended to be comprehensive and long-term and include the following required elements: land use; circulation (addressing the circulation of people, goods, energy, water, sewage, storm drainage, and communications); housing; conservation; open space (including specific provisions for parks and recreation); noise; and safety.[29]

Separate Topical Plans

A community may also develop **separate topical plans** either in addition to the long-term plan or in lieu of including them within the long-term development plan. For example, a community may have separate plans that affect community walkability and physical activity such as a separate bicycle and pedestrian plan; separate park, recreation, and/or open space plans; a separate trails plan; and a separate transportation plan.

EXAMPLES OF SEPARATE TOPICAL PLANS

PEDESTRIAN, BICYCLE, OR TRAIL PLANS

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Hoboken, New Jersey's *Bike and Pedestrian Plan* is essentially a guide, which includes goals, recommendations, and strategies, to creating an environment that enables walking and bicycling.[30] The plan's guidelines for bicycle facilities provide networks of on-road and off-road bikeways with lane pavement markings as well as speed limit and right of way rules that favor pedestrians. Pedestrian accommodations include a contiguous sidewalk network on both sides of the street that does not conflict with automobile traffic and provides pedestrian amenities, such as benches, outside of businesses. With the implementation of the plan, the City of Hoboken hopes to safely connect all modes of travel including walking, bicycling, transit use, and driving.

The purpose of **Naperville, Illinois's** *Trail Master Plan* is to guide the creation of a connected network of existing and future walking and bicycling trails and recreational amenities.[31] Recommendations include adding trail amenities, such as mileage markers and bicycle parking, ensuring safe routes by maintaining trails and eliminating hazards, as well as expanding existing parks to include connections to surrounding recreational areas and an internal loop trail system.

PARKS, RECREATION, AND OPEN SPACE

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In 2013, **Harrisonburg, Virginia** commissioned an update to their *Comprehensive Parks and Recreation Plan* to accommodate the community's population growth since 2003.[32] The plan assesses the community's growth in relation to their current recreation trends and identifies improvements that can be made. Recommended improvements include renovating and better maintaining existing parks, ensuring all parks are compliant with the Americans with Disabilities Act (ADA), and developing more neighborhood parks and new recreational facilities.

Similarly, **Boston, Massachusetts** developed a seven year action plan, *Open Space & Recreation Plan 2015-2021,* that provides an analysis of current community open space and recreation needs as well as goals, objectives, and recommendations for improvements.[33] The city intends to revitalize existing parks and create an equitable open space system for Boston's diverse populations by designing flexible multi-functional park spaces and providing recreational and special event programming that promotes wellness and builds a sense of community.

TRANSPORTATION PLANS

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Boulder, Colorado updated their *Transportation Master Plan* to move toward a sustainable transportation system.[34] The plan identifies five focus areas including **Complete Streets** for bicycle and pedestrian innovations, a renewed vision for transit and regional travel to accommodate population and employment growth in and around Boulder, and Transportation Demand Management (TDM) strategies to offer people travel choices and options. Reducing vehicle miles of travel in the Boulder Valley by 20 percent by 2035 is one major goal within the plan. To achieve their goals, Boulder intends to make pedestrians and bicyclists their first priority by encouraging, educating, and enforcing safe walking, biking, and transit use.

Long-term development plans and separate plans may be amended periodically and typically cover planning time periods ranging from five to twenty years depending on statutes or contents of the plan.[35,36] Plans can be comprehensively overhauled or incrementally amended and approved by a local governmental body (i.e., local legislative body, council of governments, planning board or commission, or regional planning body depending on the jurisdiction) to incorporate new policies to maintain relevancy over time.[36]

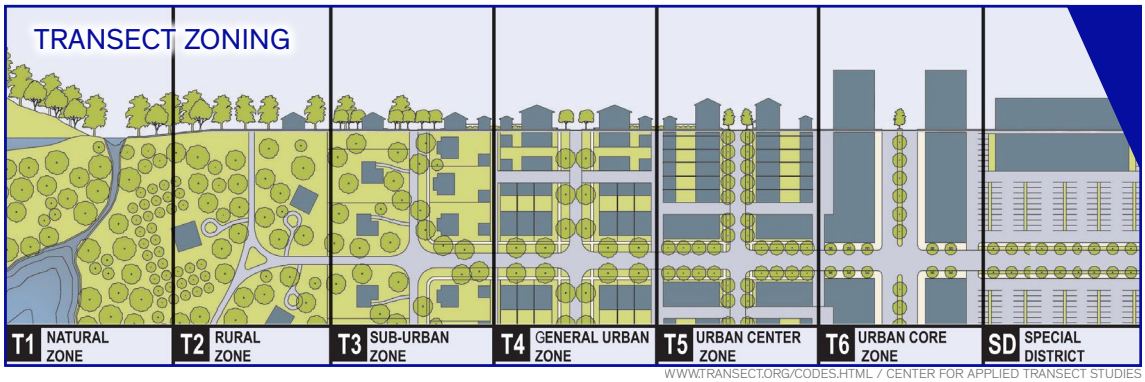
Land Development Regulations and Zoning

Land development regulations are often guided by policies outlined in community long-term development plans. Land development regulations consist of *zoning codes* (also known as zoning ordinances or regulations), *subdivision regulations, unified development ordinances or codes, or planned unit developments.* These regulations can be revised to incorporate pedestrian- and/or transit-oriented elements in existing districts or zones. Regulations are created at the local level and need to be approved by the local city council or county board.[19]

A **zoning code** divides the land in a community into separate areas, districts or zones, and (1) determines what can or cannot be built on the land (e.g. residential, commercial, industrial); and (2) the height, bulk, and placement of structures.[36] Zoning codes can be revised or they can be completely overhauled to include zoning code reforms as noted below. **Traditional/Euclidean zoning** is the historical form of zoning whereby communities are divided into **single use developments**, districts, or zones based on use and density.[35] For example, **Wheaton, Illinois's** zoning ordinance consists of various single use districts including an Institutional District, Office and Research District, Retail Core Business District, and multiple Residential Districts.[37] More recently, communities have been reforming their zoning codes for many purposes including walkability; these zoning code reforms are briefly discussed next.

Zoning Code Reforms

Zoning code reforms support the development of infrastructure supportive of walking and a mix of land uses that are associated with walking, biking, and public transit.[11,38] Specific types of zoning code reforms are described below and include form-based codes, new urbanist districts or zones, pedestrian-oriented districts or development (POD), transit-oriented districts or development (TOD), and traditional neighborhood development or districts (TND).



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FORM-BASED CODES

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A **form-based code** is a type of zoning code reform that regulates the built environment based on building form, including building mass, scale, and type of streets or blocks, rather than, or in addition to, building use. These codes are based on pedestrian accessibility and the character and scale of the surrounding buildings.[35,39] **Little Elm, Texas** adopted a form based code for their Town Center District in 2009.[40] The purpose of the Town Center District is to "implement the adopted recommendations of the comprehensive plan by establishing a pedestrian-oriented town center which will serve as the civic and cultural heart of the town for generations."[40] The intent of the district is to provide a comfortable space for pedestrians that includes **street furniture** and other features that invite pedestrian activity such as benches, street lamps, and street trees; to construct buildings close to sidewalks and streets; encourage shared parking; have public parks and plazas serve as a focal point for **mixed-use development**; to design streets, access lanes, and buildings such that they provide connectivity for bicyclists, pedestrians, and automobiles; and to foster a safe, **multimodal** mixed-use environment.

Transect-based codes are form-based codes that are typically comprised of six zones ranging from a natural environment zone (T1) through an urban core zone (T6).[41] The figure below provides a schematic of the Transect. **Cotati City, California** adopted a zoning code that provides standards that determine the type of development allowed in each zone.[42] Districts are organized as transects whereby aspects of urban design, development, and land use are allocated based on zone density and intensity. Zones are intended to accommodate diverse land use and housing types depending on the relative position of the zone within the rural (open space, conservation areas) to urban (downtown commercial area) transect.

The **SmartCode** is a model form- and transect-based code with land development patterns and regulations for seven transects.[11] **Fitchburg, Wisconsin** adopted a SmartCode district with five transects (T1 through T5) to promote a pedestrian-oriented and mixed-use environment. Of particular relevance for walkability, Fitchburg's SmartCode includes a framework for a transit, pedestrian, and bicycle system as well as compact urban development.[43]

ADDITIONAL TYPES OF ZONING

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New urbanist districts are districts that follow the New Urbanism planning and development approach that promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities with accessible public spaces.[44] **Dunnellon, Florida** adopted a Neighborhood Business Residential (NBR) zoning district that contains new urbanism elements that provide opportunities for property owners and developers to achieve innovative

site design that allow the combination of land uses including residential, professional office, retail, recreation, open space, and civic uses, while remaining consistent with traditional neighborhood development.[45]

CITY OF SAN JOSE, CA – DEPT OF PLANNING, BUILDING, AND CODE ENFORCEMENT

Pedestrian-oriented districts or developments (POD) create an environment conducive to pedestrian activity in proximity to locations of specialty retail, entertainment, restaurants, and other residential uses.[46] **Norfolk, Virginia** adopted a Pedestrian Commercial Overlay (PCO) and Pedestrian Commercial and Residential Overlay (PCRO) Districts to promote walking.[47] And, **San Jose, California** added a pedestrian-oriented commercial shopping district that supports bicycling and transit within their Alum Rock Neighborhood Business District.[48]

CENTER FOR ACTIVE DESIGN

Transit-oriented districts or developments (TOD) are located near transit stops and are characterized by compact developments, higher density, and a mixture of land uses.[46] **San Antonio, Texas** has a TOD and specific development standards associated with that district to promote walking and transit usage.[49] And, **Fremont, California** adopted a TOD Overlay District to promote pedestrian access and reduce vehicular miles traveled.[50] The purpose of the district is to encourage light rail station or other high capacity transit areas that have a mixture of residential, commercial, and employment opportunities.

Traditional neighborhood districts or developments (TND) emulate the style of walkable features that occurred in urban neighborhoods from 50 to 100 years ago.[35] TNDs stress a walkable "human" scale, mixed-use developments with different housing types, and neighborhood centers with civic uses.[35] **Columbus, Ohio** adopted regulations for traditional neighborhood developments that are supported in four zoning districts that are organized as transects: neighborhood edge, neighborhood general, neighborhood center, and town center.[51] Each zone varies in density and usage. The purpose of this regulation is to foster pedestrian and community activity through the development of transit that supports mixed-use neighborhoods.

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Other Forms of Land Development Regulations

In addition to traditional zoning and zoning code reforms, other types of land development regulations may be employed to effectuate changes in the design and walkability of the community. Such strategies, which are described next, include but are not limited to, subdivision regulations, unified development codes, planned unit developments, and overlay zoning.

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Subdivision regulations control the division of land to accommodate land uses by including standards for street and lot layouts and public improvements.[19,35] The development standards that are most applicable to creating a walkable community are lot size and width standards for buildings, block length and width standards, and street standards which includes roadway, intersection, and sidewalk design. Occasionally open space standards are accommodated by requiring land to be set aside as open space in a new development.[19] The metropolitan government of **Nashville and Davidson County, Tennessee** joint subdivision regulations focus on creating walkable development patterns. The regulations utilize transects to characterize development patterns for the rural through urban areas in their jurisdiction.[52] They have adopted a specific set of regulations for creating walkable subdivisions that apply to certain urban transects in their community which include design that promotes connectivity as well as block length, sidewalk, and street pattern provisions that increase pedestrian access.[52]

A **unified development ordinance/code (UDO or UDC)** combines both zoning and subdivision regulations along with other development regulations, like design guidelines, into one document. The purpose is to help streamline the development process, help eliminate inconsistencies between land development regulations, and enable better implementation of policies contained in a community's long-term planning documents.[19,35,53] Combining the land development regulations into one document makes processes and regulations easier to understand for developers, the public, and staff. **Fayetteville, North Carolina** adopted a

UDO to combine all their development regulations within one chapter.[54] It contains regulations related to the development review and approval process, regulations for specific zoning districts, subdivision design, and general development standards. Relevant sections that promote walkability focus on sidewalk location and configuration as well as development standards for residential, commercial, office, and mixed-use developments.

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Planned unit developments (PUDs) allow developers to develop a large area of land or multiple building lots as a single entity. They allow for creativity, flexibility, and more efficient use of land by allowing the community to review developments on a project level rather than by a building or lot basis, as is typical for the rest of the zoning review process. They permit some flexibility in design such as building placement, vehicle and pedestrian circulation facilities, and location of open space. PUDs can include a mix of land uses, housing-types, and densities.[35] Specific PUD provisions and their process for approval are typically located within a zoning ordinance.[35] PUDs are a good option for communities who want to develop more mixed-use areas within their community since they allow for flexibility in development. In one example, **Dexter, Michigan's** zoning ordinance contains development regulations for districts that may be applied in any zoning district.[55] The PUD can contain any land use or mixture of land uses authorized in their zoning ordinance. The PUD "is provided as a design and planning option, intended to permit flexibility in the regulation of land development; to encourage innovative land use in terms of variety in design, layout, and type of structures constructed…" among other purposes.[55]

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Overlay zoning is a regulatory tool that communities may adopt when they want to create additional standards that address specific purposes for certain areas in their community. Zoning overlay districts are applied over one or more general use-based districts (i.e., commercial or residential districts) and establish additional regulations. To create walkable neighborhoods, communities are adopting mixed-use, pedestrian, and transit-oriented overlays. Overlays that are focused on creating walkable areas often contain supplemental regulations for building setbacks; requiring buildings be set near the sidewalk; building facade treatments, windows, awning, and other items to make buildings visually interesting to the pedestrian; and on-street and off-street parking. **Olympia, Washington** has a Pedestrian Street Overlay District that implements additional pedestrian-oriented provisions in numerous areas within the community.[56] The intent of this overlay is to foster a network of active and visually pleasing streets that link city and regional transportation plans. The overlay contains regulations for setbacks, pedestrian plazas, building architectural standards, and parking lot standards that contribute to making these areas pedestrian-friendly.

Additional Land Development Policy Approaches

Local communities also utilize non-regulatory approaches to support land development. While there are a wide range of approaches to support land development we highlight herein three such strategies including Smart Growth, design guidelines, and providing development incentives to land developers.

Smart Growth is an "approach to development that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods, and community engagement." [57] Like New Urbanism and form-based codes, Smart Growth approaches focus on creating pedestrian-friendly communities by integrating community design features such as sidewalks, increased density, connectivity of routes, and mixed land uses which have been shown to increase walking.[57,58] Smart Growth America has many initiatives, including the State Smart Transportation Initiative, in which states can create partnerships to implement Smart Growth policies and models as well as facilitate discussion toward pedestrian-friendly communities. In one example, the **Vermont Agency of Transportation** revised their state standards, which provide transportation staff and other partners with direction for roadway transportation projects, to include Smart Growth approaches for planning and designing their transportation network.[59]

Design guidelines are used to illustrate the planning of space to foster a sense of community.[35] They are often in written form with pictures, sketches, and diagrams to convey design information and provide direction. Design guidelines specify building location, parking, and pedestrian access, building orientation and form including facades, location of entrances, and the design of public places such as sidewalks and plazas to create walkable communities.[35] They can apply to a specific neighborhood within a community such as a downtown area or they can apply community-wide such as street design standards. Design guidelines can be written within the zoning codes, as separate documents, or within guidebooks.[35] **San Mateo, California** adopted a *Sustainable Streets Plan* in 2015 that includes street design guidelines that are to be used by municipal and private sector designers when building, reconstructing, or repaving streets in San Mateo.[60] The city's design guidelines include recommendations based on different street typologies and the context of the area (i.e., if the street network is near a specific area that might need special design treatments such as train stations and bicycle routes). The top priority for the city's design guidelines is to design for all pedestrians. The design guidelines also include examples of elements that can be made to promote pedestrian activity such as street furniture, traffic calming measures, crosswalks, and pavement materials and treatments.

Development incentives are tools that provide land developers with additional development capacity in exchange for a public benefit.[35] Incentives can be financial such as reduced development fees; tax credits/exemptions; in-kind, where payments are made in the form of goods or services rather than cash; permitting, which expedites the review process for a project; or density increasing bonuses. Communities can offer incentives to developers in exchange for a public benefit that can increase walking. For example, a developer can have greater flexibility regarding regulations for required building setbacks, lot area, parking requirements, number of dwelling units, or can have their development fast-tracked through the permitting process in exchange for providing sidewalks, trails, or other pedestrian-oriented amenities. Some communities have adopted an employer transportation demand management program to promote active transportation to work and are offering incentives for building owners that provide certain provisions that will increase walking, biking, or public transit usage. Transportation demand management programs seek to reduce the demand for roadway travel and the negative impact car usage has on community congestion, air quality, and public and environmental health.[61] **Dallas, Texas** adopted a form-based code that offers parking reductions for developments that are near transit, developments that have increased pedestrian amenities, and for buildings that have adopted a transportation demand program.[62] Parking regulations are reduced for buildings that are located near rail and bus transit stations, contain pedestrian amenities, and/or have a transportation demand management program.[62] And, in **Livonia Town, New York** their zoning code includes an incentive zoning provision for developers that provide physical, environmental, and cultural amenities in support of the town's Comprehensive Plan. The allowable amenities specifically include the provision of trail linkages.[63] Allowable incentives include increases in dwelling unit density, increases in lot coverage, and changes in setback or height standards.[63]

How are communities modifying their zoning codes to support walkability?

REPLACING AND REWRITING THEIR CODES TO BE ENTIRELY FORM-BASED

- **Miami, FL** rewrote their traditional zoning code to be entirely form-based. When the award-winning regulations went into effect in 2010, Miami became the first major city to adopt a form-based zoning approach.[64]

OVERHAULING THEIR ENTIRE CODES TO CONTAIN ACTIVE DESIGN POLICIES

- **Sacramento County, CA** updated their zoning code in 2015 to ensure that health is a primary component for development in the county. They also adopted countywide design guidelines with active design principles along with their zoning code.[65] The guidelines include a distinctive "active design" icon next to strategies that promote health. For more information visit: https://centerforactivedesign.org/sacramentoactivedesignpolicy

INTEGRATING FORM-BASED ZONES INTO CODE UPDATES FOR SPECIFIC AREAS

- **Peoria, IL** adopted form-based districts for their city core in their 2007 code update. One intent of the form-based regulations is to transform Peoria's historic warehouse district into a mixed-use neighborhood.[66]

ADDING SPECIFIC STAND-ALONE PEDESTRIAN-ORIENTED ZONES

- **San Jose, CA** added pedestrian-oriented districts to their code to support pedestrian and bicyclist travel in their business district.[48]

CREATING PEDESTRIAN-ORIENTED OVERLAY DISTRICTS TO BUILD UPON EXISTING REGULATIONS

- **Cleveland, OH** added urban form district overlays to their code to promote high levels of walkability and design for their urban streets.[67]

Strategies for Incorporating Pedestrian-Oriented Provisions into Land Development Plans and Zoning Codes

In addition to adopting policy strategies such as form-based codes that, by design, are pedestrian-oriented, communities with more traditional zoning codes can ensure that certain structural elements that are supportive of walking are required as part of their land development plans and policies. These structural provisions include but are not limited to: mixed-use development; sidewalks; crosswalks; bike or pedestrian trails or paths; bike, pedestrian, and street network connectivity; parks and open space; and other types of pedestrian infrastructure such as street furniture and traffic calming measures.[10,20,23,24,68,69] The following discussion briefly describes and provides examples of each of these structural features and how they can be incorporated into land development policies.

Elements that Support Walkable Communities

- Mixed-use development
- Sidewalks
- Crosswalks
- Bike and pedestrian trails or paths
- Bike/pedestrian and street connectivity
- Parks and open space
- Other types of pedestrian-friendly infrastructure (e.g., traffic calming measures, street furniture)

Provisions for Mixed-Use Development

WWW.PEDBIKEIMAGES.ORG / CARL SUNDSTORM

Mixed land uses can be an effective option to increase walking in communities.[10,12,16,68,70] When housing is located near jobs, retail, services, and schools, walking is a convenient option to meet residents' daily needs. Mixed-use policies can be addressed in land use or design sections of plans. To implement mixed-use provisions, a community can create a mixed-use district or allow a mixed-use development within a district. Mixed-use developments can be vertically integrated within a zoning code by combining different uses within the same building (i.e. allowing residential uses over retail uses in a building) or they can be horizontally integrated by allowing a mixture of multiple buildings with a range of uses within close proximity to each other.[35]

Tempe, Arizona's *General Plan* promotes mixed-use development and design to encourage a walkable community by establishing the development of multiple hubs with higher densities to serve surrounding neighborhoods as its mixed-use urban center that provide housing, access to open space, goods, employment and services.[71] To implement the objectives and policies within Tempe's plan, they have created numerous mixed-use districts whose purpose is to integrate commercial and residential uses to support pedestrian walkability and transit as alternatives to driving, as well as to provide employment and housing options.[72]

Provisions for Sidewalks

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Sidewalks make streets safer by separating pedestrians from automobile traffic, and the presence of sidewalks is associated with higher levels of walking.[20,23,68,73] Communities can incorporate sidewalk policies within the transportation section of their plan or within separate pedestrian plans. Sidewalk regulations within land development regulations should ensure that they are developed to the appropriate width depending on context, conform to American Disability Act (ADA) Guidelines, and contain elements to promote access such as curb ramps.[35]

Longmont, Colorado's *Multi-Modal Transportation Plan* includes policies related to the development of sidewalks including identifying and completing missing segments of the sidewalk and integrating sidewalks into site design.[74]

To implement those policies, Longmont, Colorado's Land Development Code requires sidewalks along all streets for development applications for site plans, subdivision plats, PUDs, conditional uses, re-zonings, and annexations.[75]

Provisions for Crosswalks

WWW.PEDBIKEIMAGES.ORG / DAN BURDEN

Crosswalks can reinforce walkability by allowing residents to conveniently and safely cross streets. They are usually found near locations that are pedestrian-generators (e.g., parks, schools, transit facilities). Marked crosswalks are more effective than unmarked crossings because they allow motorists and pedestrians, especially pedestrians with low-vision, to easily identify crossing locations.[35] Policies for crosswalks are typically found in transportation or design sections of plans and are typically implemented as design standards in land development regulations.

Destin, Florida's *Comprehensive Plan* promotes the development of crosswalks to prioritize pedestrian access within their Multimodal Transportation District though pedestrian crossing facilities.[76] To implement those policies, their Multimodal Transportation District requires pedestrian crosswalks at intersections with access ways.[77]

Provisions for Bike and Pedestrian Trails or Paths

Trails and path systems are options to encourage physical activity by accommodating a range of users including walkers, hikers, and bicyclists. Trails can be located in urban settings, nature preserves, greenways, and parks and their network can vary in size, scope, or function.[35] Successful trails link to destinations such as retail areas, parks, schools, and other trails.[35] Communities can include policies for trails within the transportation or park, recreation, or open space sections of their plan or they can develop a trail plan specifically. Trail provisions can be implemented through land development regulations by being listed as a permitted use within a district, through the creation of an open space district that promotes the development of trails, or they can be listed as a requirement for developers to construct as indicated in their plans.

WWW.FLICKR.COM / JOHN GREENFIELD

Pleasant Hill, Iowa's *Parks, Recreation, and Open Space Plan* contains numerous implementation action items to promote the development of trails in association with new residential development and within the community through minimum trail development standards.[78] Their zoning code references the *Park and Recreation Trails Plan* and requires the development of pedestrian and bicycle trails within site plans.[79]

Provisions for Bike, Pedestrian, and Street Connectivity

CENTER FOR ACTIVE DESIGN

Bike, pedestrian, and street connectivity provisions promote efficient and easy access to destinations by providing numerous direct routes from one point to another within a community.[80] Multimodal connectivity emphasizes shorter blocks, multiple intersections, and direct routes making walking or biking safe and convenient.[46,53] Connected networks are associated with increased walking.[12,68,81] Communities with high connectivity have multiple bike and pedestrian connections so bicyclists and pedestrians do not have to take long detours to reach their destinations.[35] Similarly, street connectivity encourages a transportation system where there are frequent and direct connections in the network. A grid street pattern has high connectivity because it has frequent connections and allows for travel using multiple routes.[35] Streets with low connectivity increase the time and distance it takes for an individual to travel to a destination, and therefore can influence an individual's decision to drive instead of walking or biking.[35] Connectivity policies are often found in transportation, park, recreation, open space, or trail sections of plans. They are often implemented in land development regulations by requiring street, sidewalk, and path networks in developments connected to existing networks. And, some communities have adopted block length standards to restrict block length to control spacing between streets and improve connectivity.[35]

Oklahoma City, Oklahoma's *Comprehensive Plan* includes goals and policies to implement bike/pedestrian and street connectivity standards relevant to transportation goals and state objectives/initiatives that improve functionality and efficiency of the street network.[82] Several of the plan provisions are implemented through their Scenic River Overlay Design District's zoning regulation which includes development guidelines for traditional block patterns and efficient on- and off-site connections.[83]

Provisions for Open or Green Space

WWW.PEDBIKEIMAGES.ORG / ELOISA RAYNAULT

Promoting the development of open or green space can encourage opportunities for recreational walking. Parks and open space are associated with physical activity and have increased physical health benefits.[69] Communities can incorporate policies for trails into chapters on parks, recreation, or open space within their long-term development plans or within separate trail plans. These policies can be implemented through land development regulations by permitting trails in certain districts in the zoning code or by creating park and open space zoning districts that promote the development of hiking trails.

WWW.COMMONS.WIKIMEDIA.ORG / GRYFFINDOR

West Jordan, Utah's Parks, Recreation, Trails, and Open Land chapter of their *Comprehensive General Plan* contains numerous goals and policies related to open space and the role that it has on walkability and trails.[84] Goal 1 is to maintain parkland service levels by requiring parkland development with each new project within the city. Goal 4 is to promote the use of trails as an alternative transportation mode by educating the public on the benefits of walking and biking. To implement those goals, they have a parks, recreation, and open space zoning district which preserves the natural landscape and providing opportunities for hiking, horseback riding, and bicycling outdoors.[85] Additionally, the district requires that developers install parks or trails in locations identified in their *Comprehensive General Plan* and/or the Park, Recreation, Trails, and Open Space Handbook.

Provisions for Other Types of Pedestrian-Friendly Infrastructure

WWW.PEDBIKEIMAGES.ORG / DAN BURDEN

There are other pedestrian-oriented provisions that can promote an attractive and comfortable walking environment including: traffic calming measures (e.g., traffic circles, **curb extensions** or **bulb-outs**, **speed tables** or humps, medians with traffic islands), lighting, signage, landscaping and street trees, and furniture such as benches and planters. Street lighting and traffic calming measures are effective in increasing physical activity or active transportation.[10] Traffic calming measures are associated with increased safety and injury prevention benefits.[69] Beyond sidewalks, these other pedestrian-friendly policies are typically addressed in the transportation or design section within a plan and can be implemented in design standards sections of land development regulations.

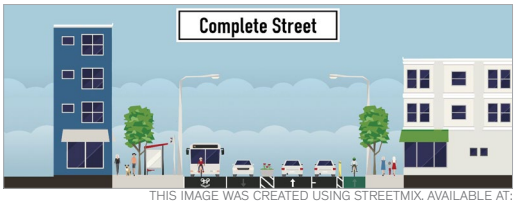
Eugene, Oregon's *Pedestrian and Bicycle Master Plan* contains policies that support the development of pedestrian-friendly infrastructure and it provides tools and incentives for businesses and other entities to add bicycle and pedestrian amenities.[86] The plan also recommends changes to the development code such as allowing these amenities to be placed within required building setbacks to allow developers more flexibility. Eugene's Land Use Code implements some of those provisions by requiring certain pedestrian amenities in large multi-tenant commercial facilities or shopping centers.[87] Shopping streets and spaces within the development are designed to be pedestrian oriented by incorporating amenities such as pedestrian-scale lighting, curb extensions, patio-seating area, and plazas with benches.

Other Policy Strategies Communities Can Take to Support Walkable Communities

In addition to land development approaches, there are several other policy strategies that communities are adopting to support community walkability. While the range of options is vast, examples of some of the more common strategies include: Complete Streets policies, Safe Routes to schools and parks, Vision Zero policies and plans, Americans with Disabilities Act (ADA) transition plans, and parking policies. Policy strategies such as these can complement a community's land development philosophy and approach.

Complete Streets Policies

Complete Streets is a Smart Growth initiative that directs local planning, transportation, and/or public works department members to design and create streets that are safe and accessible for all users.[88] The policies can be adopted in the form of resolutions, ordinances, policies, or executive orders/directives as well as design guidelines, planning documents, or street standards. By design, Complete Streets are intended to enable pedestrians to safely walk to their destination by incorporating sidewalks, crosswalks, traffic calming measures, curb ramps, and street furniture such as benches as appropriate to streets.



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Reading, Pennsylvania adopted a Complete Street executive order that prioritizes pedestrians and applies to all phases of development for any city-owned transportation facilities. It applies to the planning, programming, design, acquisition, subdivision and land development, new construction, engineering, reconstruction, operation, repair, and maintenance of roads.[89] In another example, **Troy, New York** adopted a Complete Streets ordinance in 2014 that states that the "city shall design, build, operate and maintain a safe, reliable, efficient, integrated and connected multimodal transportation network that will provide access, mobility, safety, and connectivity for all users."[90] This policy applies to all city-owned and privately constructed streets in the community.

Additional Policy Strategies that Support Community Walkability

- Complete Streets policies
- Safe Routes to school and park policies
- Vision Zero commitment
- Americans with Disabilities Act (ADA) transition plans
- Policies to promote alternative forms of transportation

Safe Routes to Schools or Parks Policies

Safe Routes to Schools or Parks policies are initiatives that encourage and enable children to walk or bike safely to and from schools and parks.[91,92] Better access to these destinations encourages people to engage in active transportation. These policies can enhance the walking environment in communities by funding the necessary pedestrian-oriented infrastructure and the necessary education programs for community members to safely walk to these destinations.[91,93,94] Funding for infrastructure improvements and programming are often obtained from separate state Safe Routes to School grants or under federal highway and transit programs (i.e., Congestion Mitigation and Air Quality Improvement (CMAQ) programming, or the Surface Transportation Block Grant (STBG) Program).

Key elements for inclusion in **Safe Routes to School** policies, also known as the six E's, include: *evaluation* that collects data or surveys to understand travel choices to school, *engineering* built environment changes to create safe walking environments, *education* by training children about the basics of walking and following traffic rules, *encouraging* students and parents to walk, *enforcement* of local traffic laws around schools, and *equity* to ensure safe walking environments for

low-income communities and people of color.[91] **Eugene and Springfield, Oregon** each established Safe Routes to School programs, funded by an Oregon Department of Transportation Safe Routes to School grant, to promote safe walking and biking to schools in both communities.[95] Each program developed maps that include recommended walking routes to schools and promote safe walking and biking through the six E's.

Communities can also implement policies that create safe routes to parks. Elements of ideal **Safe Routes to Parks** policies include: comfort regarding sidewalk conditions and aesthetics on route, convenience of park access from homes, safety from roads and crime, access and design to ensuring multiple points of entry and American Disability Act compliant walkways, as well as ensuring the park itself will have amenities/programs that the public will want to use.[92] Funding for these policies are available through federal and state programs, environmental or air quality funds, or through local funding and grants.[93] **Miami-Dade County, Florida** created a *Parks and Open System Master Plan* to promote safe and equitable access to parkland within the county. They identify specific design interventions to promote Safe Routes to Parks such wayfinding signage and installing sidewalks, crosswalks, and bikeways.[96]

Vision Zero Commitment

WWW.FLICKR.COM / CHICAGO BICYCLE PROGRAM

Vision Zero is a multidisciplinary campaign that promotes collaboration among local traffic planners and engineers, police officers, policy makers, and public health professionals to prevent traffic fatalities and severe injuries and increase physical activity while also benefiting the environment and local economy through the implementation of proven strategies such as lowering speed limits, redesigning streets, implementing meaningful behavior change campaigns, and enhancing data-driven traffic enforcement. After the city's highest-ranking local officials make a public commitment to the Vision Zero network, an official city Vision Zero Taskforce is created and leads all planning efforts for Vision Zero. The taskforce is required to include high ranking representatives from a diverse set of local departments that are stakeholders for creating safe, healthy, and mobile communities. Action plans and policies are uniquely created depending on the community with clear strategies for implementation, "owners" of each strategy, interim targets, and evaluation measures.

In one example, Vision Zero **San Francisco** identified action strategies for safe streets, safe people, and safe vehicles within their *Two-Year Commitment Action Strategy.*[97] These strategies include implementing 13 miles of safety improvements for prioritized streets, new technologies and data sources, such as electronic citations and electronic stops to improve data collection, automated speed enforcement, Safe Routes programming, and other policy strategies that address safety and research.

Vision Zero Examples

CHICAGO, ILLINOIS

Healthy Chicago 2.0, a four year plan that outlines goals and strategies to guide the Chicago Department of Public Health (CDPH), played a key role in the development of the city's Vision Zero strategy through CDPH's partnership with the Chicago Department of Transportation (CDOT).[98] CDPH and CDOT worked together to ensure the city's Vision Zero plan aligned with Healthy Chicago 2.0. Due to the goals, objectives, and strategies outlined in *Healthy Chicago 2.0,* Chicago's Vision Zero Task Force acquired a holistic understanding of street safety with context and direction to achieving safer streets and placed a stronger emphasis on increasing safe active transportation.

QUEENS BOULEVARD, QUEENS, NEW YORK CITY

Queens Boulevard in the Queens borough of New York City was identified as one of New York City's Vision Zero Priority Corridors due to its history of excessive traffic deaths.[99] New York City's Department of Transportation reviewed crash data to determine potential improvements along the corridor as well as hosted community workshops, met with local community groups and businesses, and collected survey responses in order to finalize design details. The Vision Zero corridor now has a narrower width, a walking and bicycle path with paint used to distinguish the bike lane, buffers between pedestrian's paths and the road, as well as reduced speed for merging into traffic.

RAINIER AVENUE, SEATTLE

Rainier Avenue was a priority corridor within Seattle's Vision Zero commitment, the Seattle Department of Transportation redesigned Rainier Avenue South, a portion of the four mile corridor, due to its one traffic crash per day average.[99] The improvements consisted of reducing the four travel lanes to two, shortened crosswalk distances for pedestrians, and adding a transit lane to help improve transit times.

Americans with Disabilities Act (ADA) Transition Plans

Local government entities with 50 or more employees must perform a self-evaluation to identify physical barriers to accessibility for people with disabilities in accordance with the Americans with Disability Act Title II. If structural changes are needed to comply with the **Americans with Disabilities Act**, they must develop transition plans that identify structural improvements to increase access.[100] While this policy is meant to improve access for people with disabilities, the provisions included in the plans benefit everyone and promote walking. Some examples of structural provisions the plans may address include curb ramps, crosswalks, pedestrian pushbuttons and signals, and sidewalks.[100]

WWW.COMMONSWIKIMEDIA.ORG / DAVEYNIN

Garden City, Georgia adopted an *ADA Transition Plan* to comply with Title II of the ADA.[101] The city performed an assessment to conduct an inventory of sidewalk conditions and locations. They also collected information for sidewalk ramps, landing areas, and problem areas. Additionally, they examined any maintenance issues such as vegetation overgrowth obstructing sidewalks, other natural or man-made obstructions, any structural damage to sidewalk materials, and if erosion created unsafe conditions along sidewalk segments. As a part of their action plan, the city indicated that they will review the sidewalk inventory and perform an assessment of the ramps to determine ADA compliance, develop and implement a sidewalk improvement plan, and provide ADA transition plan training for all city staff.

Policies to Promote Alternative Forms of Transportation

Policies that encourage people to take alternative modes of transportation rather than being car-reliant can also help to foster walking for leisure and/or transport.[4] For example, an employer can incentivize transit by providing subsidized transit passes intended to reduce automobile travel and employer parking needs and thereby providing employees with another opportunity to achieve walking minutes while commuting to/from work.[4,100] Communities also can develop more flexible parking standards by allowing shared parking in areas that have different parking needs throughout the day such as areas near TODs, mixed-uses, or other activity centers. For example, parking lots and garages can be used for office workers during the weekdays and for entertainment purposes in the evenings, weekends, and holidays. Shared parking also encourages people to park and walk between multiple destinations instead of driving between locations that might otherwise have their own lots.[100] Another policy option is to utilize parking pricing strategies and limit off-street parking to discourage driving.[100]

Chico, California adopted parking standards within their land use and development code that helps reduce automobile travel with the hope that it will increase pedestrian access.[102] For example, they allow a reduction of off-street parking if the site is within some of their mixed-use districts, if the project will reduce vehicular travel, or if the site is served by public transit, bike facilities, or features that support pedestrian access.

Policy Strategies that Support Walkable Communities: What Can Different Sectors Do?

There are many actions that different sectors can take to implement the strategies discussed herein to create walkable communities. This section provides examples of some of these actions. See the **Resources** section at the end for links to documents and websites that provide additional information about these and other related strategies and issues.

Public Health

Collaborate with planners, transportation officials, and other cross-sector partners to:

- Form an interdisciplinary team, attend meetings and workshops, and provide feedback, expertise, and/or guidance throughout the land development policy process.[103]
- Coordinate with your community agency partners to adopt and implement transportation, land use, and community design policies given that these policies can be used to improve health by increasing physical activity, decrease fatalities and injuries by improving traffic safety, and improve air quality by decreasing motorized transportation.[4,19,53,103]
- Institute education and training that includes best practices in active lifestyle design and policies.[7] Participate in the development and implementation process of policy strategies, such as Complete Streets and Vision Zero, to ensure planning and design align with walkability goals and health initiatives.[98,103]
- Ensure local governments are compliant with the Americans with Disabilities Act and provide safe, comfortable, and efficient access for people with disabilities.

Create a research and evaluation agenda to:

- Identify priorities in order to understand what strategies to implement and how to best implement them.[98]
- Monitor what built environment features influence walking and pedestrian safety by collecting data on walking and health to inform program and policy evaluations.[4,103]
- Ensure all policies, infrastructure provisions, and programs are implemented equitably to ensure all community areas and populations are receiving the benefits of walkability.[4,103]
- Disseminate resources that are important to increasing walking behaviors, including information on disease burden related to inactivity and interventions that are backed by evidence-based research.
- Support zoning policies and programs that increase walking and active transportation.[7]

Engage the community by:

- Conducting outreach through meetings, workshops, and written communication (e.g., newsletters, websites, and email) to diverse groups and people to educate them on the importance of zoning policies and how they can increase walking.[14] Figure out how to engage and what messages might resonate.[19]
- Educating community members about available amenities such as paths/trails and public transit services within their neighborhoods to increase walking.[20]

Land Use and Community Design

Revise planning and zoning regulations to support walkable communities by:

- Developing or updating existing long-term development plans, zoning regulations, and other land development regulations to create walkable areas.[103,104]
- Including references to walkability, physical activity, and health as part of the goals, objectives, or strategies in the community's long-term development plan.[105]
- Reviewing community planning documents and land development regulations to confirm the plans' vision, goals, and objectives are reflected in the land development policies.[14]
- Identifying and reaching out to other jurisdictions that have revised their plans and land development

regulations to gather lessons and examples to reference during your community's process.[14]

- Organizing a team of experts (i.e., other staff departments, consultants, legal team, community outreach team) to help facilitate the process when revising land development regulations.[14]
- Including local public health officials when making changes to long-term development plans or zoning regulations. Also include them in the review process for site plans, planned unit developments, and subdivision plans.[53]
- Adopting innovative and flexible zoning regulations such as form-based codes and planned unit development regulations that support walkable communities.
- Evaluating land development regulations in areas underserved by pedestrian amenities and determine if the existing policies are creating barriers to walking.[19]

Ensure implemented policies encourage walkable developments by:

- Creating a checklist of pedestrian-oriented elements that can be used as a guide for planning staff that review projects to ensure that developments are encouraging walkability.[53]
- During the development review process consider if the project: 1) promotes active living through sidewalks, intersection design, and plans; and 2) connects to existing multimodal networks such as sidewalks, paths, and transit stops.[53]
- Providing developers with tax, permitting, or density or other incentives to build facilities, such as sidewalks and trails or affordable housing near public transportation, which can increase opportunities for walking.[19,106]
- Using Health Impact Assessments (HIAs) to evaluate and inform the creation and implementation of plans, policies, and projects.[19,105,107]
- Using data provided by public health practitioners (i.e. health department data, U.S. Census Bureau) to guide decision-making and incorporate costs and cost benefits into plans and projects.[104,105]

Transportation

Create a connective network of pedestrian facilities and transportation for seamless active travel by:

- Providing incentives to employers that adopt transportation demand management programs that encourage active transportation to work.[7]
- Adopting design standards and guidelines that improve the pedestrian experience and safety by providing recommendations for roadway design and streetscape features.
- Adopting a Complete Streets policy that supports the design, construction, and reconstruction of all roadways to safely accommodate all users.[4]
- Adopting parking strategies to encourage people to drive less and walk more, such as increasing the amount of shared parking and using parking pricing to control demand.

Parks and Recreation and Schools

Park and recreation departments and school districts can:

- Co-locate schools and parks when either are being sited for development to provide safe and convenient access to both.[108]
- Leverage funding from federal, state, and local sources to adopt and implement Safe Routes to Parks and Safe Routes to School policies, plans, programming, and infrastructure priorities.
- Conduct walk audits to determine infrastructure updates or needs for areas around parks and schools.[108]
- Engage in the planning process to ensure sidewalks and paths connect to schools, parks, and other destinations within the community.[7]

Private Employers, Businesses, and Developers

Support opportunities for walking by:

- Locating worksites near transit networks to encourage active travel to work.[4] Economic development officials can work with employers and developers to find sites near walkable areas.[4]
- Engaging in the community planning process to design areas around businesses to be walkable to encourage physical activity during, before, and after work.[4,7]
- Providing features in new developments that increase walking such as connected sidewalks or paths.
- Taking advantage of incentives that communities offer such as density bonuses in exchange for amenities like trail systems or sidewalks to encourage walking.

Resources

American Planning Association:

- Advisory Service Report: SmartCodes: Model Land Development Regulations: https://www.planning.org/publications/report/9026880/
- Advisory Service Report: The Rules That Shape Urban Form: https://www.planning.org/publications/report/9026894/
- Benefits of Street-Scale Features for Walking and Biking: https://www.planning.org/nationalcenters/health/streetscale/
- Health Impact Assessment Toolkit for Planners: https://planning-org-uploaded-media.s3.amazonaws.com/document/HIA-Toolkit.pdf
- Health in the Development Review Process: https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/nationalcenters/health/toolsforhealth/pdf/devreviewguidelines.pdf
- Healthy Plan Making: https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/nationalcenters/health/toolsforhealth/pdf/healthyplanmaking.pdf
- Loving Your Walk: The Planner's Role: https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/nationalcenters/health/walking/pdf/lovingyourwalk.pdf

Americans with Disabilities Act (ADA) Transition Plans:

- Americans with Disabilities Act website: https://www.ada.gov/
- Chicago Metropolitan Agency for Planning – ADA Transition Plans for Your Community: http://www.cmap.illinois.gov/documents/10180/96803/ADA_Transition_Plans_Community_Briefing_Paper.pdf/5cb74bd0-061a-42d7-a494-0007173f5378

Centers for Disease Control and Prevention:

- Built Environment Assessment Tool: http://www.cdc.gov/nccdphp/dch/built-environment-assessment/
- Healthy Places website: http://www.cdc.gov/healthyplaces/
- The Community Guide: Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design: https://www.thecommunityguide.org/findings/physical-activity-built-environment-approaches
- *Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities*: https://www.surgeongeneral.gov/library/calls/walking-and-walkable-communities/

Complete Streets:

- Active Transportation Alliance's Complete Streets, Complete Networks: http://atpolicy.org/resources/design-guides/complete-streets-complete-networks-design-guide/
- ChangeLab Solutions' A Guide to Building Healthy Streets: http://www.changelabsolutions.org/sites/default/files/Building_Healthy_Streets_FINAL_20160630.pdf
- National Complete Streets Coalition: https://smartgrowthamerica.org/program/national-complete-streets-coalition/

Design Guidelines:

- American Association of State Highway and Transportation Officials (AASHTO) Guides for the Planning, Design, and Operation of Pedestrian Facilities: https://bookstore.transportation.org/item_details.aspx?id=119
- Center for Active Design: Active Design Guidelines: https://centerforactivedesign.org/guidelines/

- Center for Active Design: Active Design Supplement: Shaping the Sidewalk Experience: https://centerforactivedesign.org/sidewalks
- Institute of Transportation Engineers (ITE) Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: http://www.ite.org/css/
- National Association of City Transportation Officials (NACTO) Urban Street Guide: http://nacto.org/publication/urban-street-design-guide/
- National Association of City Transportation Officials (NACTO) Transit Street Guide: http://nacto.org/publication/transit-street-design-guide/
- Urban Land Institute: Building Healthy Places Toolkit: http://uli.org/wp-content/uploads/ULI-Documents/Building-Healthy-Places-Toolkit.pdf

Parking Policies:

- Chicago Metropolitan Agency for Planning – Parking Strategies to Support Livable Communities: http://www.cmap.illinois.gov/programs-and-resources/local-ordinances-toolkits/parking
- Victoria Transport Policy Institute – Parking Management: Strategies, Evaluation, and Planning: http://www.vtpi.org/park_man.pdf

Safe Routes to Schools or Parks:

- American Planning Association: Safe Routes to Parks: https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/nationalcenters/health/toolsforhealth/pdf/saferoutestoparks.pdf
- ChangeLab Solutions: Complete Parks Playbook: Rails: http://www.changelabsolutions.org/publications/complete-parks
- ChangeLab Solutions: Safe Routes to School: http://www.changelabsolutions.org/childhood-obesity/srts
- National Center for the Safe Routes to School: http://www.saferoutesinfo.org/
- National Highway Traffic Safety Administration Safe Routes to School: http://www.nhtsa.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
- National Recreation and Park Association: Safe Routes to Parks: http://www.nrpa.org/Safe-Routes-To-Parks/
- National Recreation and Park Association: Safe Routes to Parks: Improving Access to Parks through Walkability: http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/Park-Access-Report.pdf
- National Recreation and Park Association & Safe Routes to School National Partnership: Safe Routes to Parks Action Framework: http://www.nrpa.org/tentassets/64ee196b5bf241c6ac3462b8d42d1e66/safe-routes-action-framework.pdf
- Safe Routes to School National Partnership: http://www.saferoutespartnership.org/

Vision Zero:

- Vision Zero Network: http://visionzeronetwork.org/about/what-is-vision-zero/
- Vision Zero Resources: http://visionzeronetwork.org/resources/

Other Useful Resources:

- America Walks Technical Resources: http://americawalks.org/learning-center/technical-resources/
- ChangeLab Solutions: General Plans and Zoning: A Toolkit for Building Healthy, Vibrant Communities: http://www.changelabsolutions.org/publications/toolkit-gp-and-zoning
- ChangeLab Solutions: Move This Way: Making Neighborhoods More Walkable and Bikeable: http://www.changelabsolutions.org/publications/move-this-way
- ChangeLab Solutions: Pedestrian Friendly Code Directory: http://www.changelabsolutions.org/childhood-obesity/pedestrian-friendly-code
- ChangeLab Solutions: Putting Business to Work for Health: Incentive Policies for the Private Sector: http://www.changelabsolutions.org/sites/default/files/Incentives_FINAL_20120514_2.pdf
- Chicago Metropolitan Agency for Planning - Form Based Codes: A Step-by-Step Guide for Communities: http://www.cmap.illinois.gov/documents/10180/10715/CMAP+Form+Based+Codes+Guide+lowres.pdf/5a034e51-ffd5-4b71-b5f1-c068d0096293
- Center for Applied Transect Studies: http://transect.org/index.html
- Creating Walkable + Bikeable Communities: A User Guide to Developing Pedestrian and Bicycle Master Plans: http://www.pdx.edu/ibpi/sites/www.pdx.edu.ibpi/files/IBPI%20Master%20Plan%20Handbook%20FINAL%20(7.27.12).pdf
- Congress for New Urbanism: https://www.cnu.org/
- Smart Growth America's Smart Growth Implementation Toolkit: https://smartgrowthamerica.org/resources/smart-growth-implementation-toolkit/?download=yes&key=40037300

- Urban Land Institute's Building Healthy Places Toolkit: http://uli.org/wp-content/uploads/ULI-Documents/Building-Healthy-Places-Toolkit.pdf
- United States Environmental Protection Agency's School Siting Guidelines: https://www.epa.gov/schools/school-siting-guidelines
- Transportation for America's Measuring What We Value Case Studies: http://t4america.org/maps-tools/mpo-case-studies/
- Rails to Trails Conservancy: http://www.railstotrails.org/
- Victoria Transportation Policy Institute's Online Transportation Demand Management Encyclopedia: http://www.vtpi.org/tdm/

NOTE: While topics such as equity, gentrification, environmental justice, and Title VI compliance are important topics in relation to creating walkable communities, they were not the focus of this product. To learn more about these topics please visit the following resources:

- Victoria Transport Policy Institute: Evaluating Transportation Equity: http://www.vtpi.org/equity.pdf
- Centers for Disease Control and Prevention: A Practitioner's Guide for Advancing Health Equity: Community Strategies for Preventing Chronic Disease: https://www.cdc.gov/nccdphp/dch/health-equity-guide/
- PolicyLink: Equity Tools: http://www.policylink.org/equity-tools
- Environmental Protection Agency: Environmental Justice: https://www.epa.gov/environmentaljustice
- Federal Highway Administration: Environmental Justice: https://www.fhwa.dot.gov/environment/environmental_justice/

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Appendix

Key Terms, Descriptions, and Application Examples from Communities Nationwide

Long-term Development Plans

LONG-TERM DEVELOPMENT PLANS

Also called: comprehensive, general, or master plans

Outlines goals, policies, and objectives of the community to guide future physical, social, and economic developments.[9,26]

POLICY EXAMPLE: **San Diego, California** adopted *The City of San Diego General Plan* in 2008, which they regularly update with amendments to provide policy guidance. The plan's sections related to walkability include the mobility, urban design, and recreation sections. These sections discuss how to create walkable communities, connected transit networks, mixed-use neighborhoods, and recreation guidelines.[109]

SEPARATE TOPICAL PLANS

Individual topic specific plans that can be in addition to the long-term plans or in lieu of including them within the long-term development plans.[9,35]

Examples of separate plans that affect community walkability and physical activity include bicycle and pedestrian plans; park, recreation, and/or open space plans; trail plans; and transportation plans.

PEDESTRIAN, BICYCLE, OR TRAIL PLANS

Topical plans that guide pedestrian, bicycle, or trail improvements.

POLICY EXAMPLES: **Hoboken, New Jersey's** *Bike and Pedestrian Plan* is essentially a guide to creating an environment that enables walking and bicycling and safely connect all modes of travel.[30] Guidelines for bicycle facilities provide networks of on-road and off-road bikeways with lane pavement markings, speed limit, and right of way rules that favor pedestrians. Pedestrian accommodations include sidewalk networks on both sides of the street that do not conflict with automobile traffic and that provide pedestrian amenities outside of businesses.

Naperville, Illinois's *Trail Master Plan* guides the creation of a connected network of existing and future walking and bicycling trails and recreational amenities.[31] Recommendations include adding trail amenities, such as mileage markers and bicycle parking, ensuring safe routes by maintaining trails and eliminating hazards, as well as expanding existing parks to include connections to surrounding recreational areas and an internal loop trail system.

PARKS, RECREATION, AND OPEN SPACE PLANS

Also called: green space plans

Topical plans that guide the development of parks, recreation, and open spaces.

POLICY EXAMPLE: **Boston, Massachusetts's** seven year action plan, *Open Space & Recreation Plan 2015-2021,* provides an analysis of current community open space and recreation needs and recommendations for improvements.[33] The city intends to revitalize existing parks with additional pedestrian amenities and create an equitable open space system for Boston's diverse populations by designing flexible multi-functional park spaces and providing recreational and special event programming that promotes wellness and builds a sense of community.

TRANSPORTATION PLANS

Topical plans that guide the development and improvement of a community's transportation system.

POLICY EXAMPLE: **Boulder, Colorado** updated their *Transportation Master Plan* in order to move toward a sustainable transportation system.[34] The plan identifies five focus areas including **Complete Streets** for bicycle and pedestrian innovations, a renewed vision for transit, and regional travel to accommodate population and employment growth in and around Boulder, and Transportation Demand Management (TDM) strategies to offer people travel choices and options. Reducing vehicle miles of travel in the Boulder Valley by 20 percent by 2035 is one major goal within the plan. In order to achieve their goals, Boulder intends to make pedestrians and bicyclists their first priority by encouraging, educating, and enforcing safe walking, biking, and transit use.

Land Development Regulations

LAND DEVELOPMENT REGULATIONS

Also called: land development ordinances, codes, or policies

Regulations that consist of zoning codes, subdivision regulations, and unified development ordinances or codes. They are guided by long-term development plans.[9,35]

Examples of land development regulations are below.

ZONING CODE

Also called: zoning ordinances or regulations

Divides a community into separate geographic areas, districts, or zones. The code determines what can or cannot be built and the height, bulk, and placement of structures on the land.[11,36]

Examples of zoning codes and zoning approaches are listed below.

EUCLIDIAN ZONING CODE

Also called: traditional zoning code

Approach to zoning that divides communities into single land use districts.[11,36]

POLICY EXAMPLE: **Wheaton, Illinois's** zoning ordinance consists of various single use districts including an Institutional District, Office and Research District, Retail Core Business District, and multiple Residential Districts.[37]

ZONING CODE REFORMS

"Newer" approach to zoning which specifically support mixed land use and pedestrian-oriented community design features.[11,36]

Examples of zoning code reforms are listed below.

FORM-BASED CODES

Regulates physical form of buildings, streets, and blocks, and separation of land use.[39] Based on pedestrian accessibility and the character and scale of the surrounding buildings.[35,39]

POLICY EXAMPLE: **Little Elm, Texas** adopted a form-based code to establish a pedestrian-oriented Town Center District.[40] The intent of the district is to provide a comfortable space for pedestrians that includes street furniture and other features; to construct buildings close to sidewalks and streets; encourage shared parking; have public parks and plazas serve as a focal point for multi-modal mixed-use environments; and to design streets, access lanes, and buildings such that they provide connectivity for bicyclists, pedestrians, and automobiles.

TRANSECT-BASED CODES

A code that is comprised of six zones ranging from a natural environment zone (T1) through an urban core zone (T6).[41] Each transect provides a template with ranges of building and housing types, street types, and civic spaces to accommodate diverse land use types.

POLICY EXAMPLE: **Cotati City, California** adopted a zoning code that provides standards that determine the type of development allowed in each zone.[42] Districts are organized as transects which enables this land use code to allocate aspects of urban design, development, and land use based on zone density and intensity, which determine the position of the zones within the rural (open space, conservation areas) to urban (downtown commercial area) transect.

SMARTCODE

A model form and transect-based code with land development patterns and regulations for seven transects.[11] Communities can customize the SmartCode to suit their individual needs and contexts.

POLICY EXAMPLE: **Fitchburg, Wisconsin** adopted a SmartCode district with five transects (T1 through T5) to promote a pedestrian-oriented and mixed-use environment.

ZONING DISTRICTS

Geographical areas regulated by a local government's jurisdiction within a zoning code.[35]

Examples of zoning districts include residential, institutional, office, commercial, open space, etc.

PEDESTRIAN-ORIENTED DISTRICTS

Also called: POD

Creates an environment conducive to pedestrian activity in proximity to locations of specialty retail, entertainment, restaurants, and other residential uses.[46]

POLICY EXAMPLE: **San Jose, California** added a pedestrian-oriented commercial shopping district that supports bicycling and transit within their Alum Rock Neighborhood Business District.[48]

TRANSIT-ORIENTED DISTRICTS

Also called: TOD

Districts near transit stops that are compact, higher density, and that provide a mixture of land uses.[46]

POLICY EXAMPLE: **San Antonio, Texas** has a TOD and specific development standards that foster "a more intense built-up environment" to promote walking and transit usage.[49]

TRADITIONAL NEIGHBORHOOD DISTRICTS

Also called: TND

Districts that emulate the style of walkable features that occurred in urban neighborhoods from 50 to 100 years ago.[35] TNDs stress a walkable "human" scale, mixed-use developments with different housing types, and neighborhood centers with civic uses.[35]

POLICY EXAMPLE: **Columbus, Ohio** adopted regulations for TNDs that are supported in four zoning districts that are organized as transects: neighborhood edge, neighborhood general, neighborhood center, and town center.[51] The purpose of these transects are to foster pedestrian activity and provide everyday activities within easy walking distance.

NEW URBANISM DISTRICTS

Districts that follow the New Urbanism planning and development approach that promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities.[44]

POLICY EXAMPLE: **Dunnellon, Florida** adopted a Neighborhood Business Residential (NBR) zoning district that contains New Urbanism elements that provide opportunities for property owners and developers to achieve innovative site design with land uses including residential, professional office, retail, recreation, open space, and civic uses in close proximity to one another to promote walking.[45]

Additional Land Development Regulations

SUBDIVISION REGULATIONS

Control the division of land to accommodate different land uses by including standards for street and lot layouts and public improvements.[19,35]

POLICY EXAMPLE: **Nashville and Davidson County, Tennessee** joint subdivision regulations utilize transects to characterize development patterns for the rural through urban areas in their jurisdiction.[52] They have adopted a specific set of regulations for creating walkable subdivisions that apply to certain urban transects in their community which include design that promotes connectivity as well as block length, sidewalk, and street pattern provisions that increase pedestrian access.

UNIFIED DEVELOPMENT ORDINANCES

Also called: UDO or UDC (unified development codes)

Single document that combines zoning, subdivision, and other regulations which streamline the development process and eliminates inconsistences within regulations and long-term plan.[19,35,53]

POLICY EXAMPLE: **Fayetteville, North Carolina** adopted a UDO that contains regulations related to the development review and approval process, regulations for specific zoning districts, subdivision design, and general development standards.[54] Relevant sections that promote walkability focus on sidewalk location and configuration as well as development standards for commercial, office, and mixed-use developments.

PLANNED UNIT DEVELOPMENTS

Also called: PUDs

Permits more flexibility in design such as building placement, vehicle and pedestrian circulation facilities, and location of open space. PUDs can include a mix of land uses, housing-types, and densities.[35]

POLICY EXAMPLE: **Dexter, Michigan** zoning ordinance contains development regulations for PUDS that may be applied in any zoning district.[55] The PUD incorporates design elements such as landscaping, lighting, coordinated signage, pedestrian walks, and pathways.

OVERLAY ZONING

Additional regulations that are applied over underlying zoning districts.[35] Communities can adopt mixed-use, pedestrian, and transit-oriented overlays to establish additional regulations that promote pedestrian activity.

POLICY EXAMPLE: **Olympia, Washington** adopted a Pedestrian Street Overlay District to implement additional pedestrian-oriented provisions in numerous areas within the community.[56] The overlay contains regulations for setbacks, pedestrian plazas, building architectural standards, and parking lot standards that contribute to making these areas pedestrian-friendly.

Additional Land Development Policy Approaches

SMART GROWTH

Development approach that allows for the adoption of policies and models that encourage a mix of building types and uses, diverse housing and transportation options, and community engagement to create pedestrian friendly communities.[57]

POLICY EXAMPLE: **Vermont Agency of Transportation** revised the state standards, which provide transportation staff and other partners with direction for roadway transportation projects, to include Smart Growth approaches for planning and designing their transportation network.[59]

DESIGN GUIDELINES

Written and illustrated design information that connects general planning policies and implementation guidelines.[35]

POLICY EXAMPLE: **San Mateo, California** adopted a *Sustainable Streets Plan* in 2015 that includes street design guidelines that are to be used by municipal and private sector designers when building, reconstructing, or repaving streets in San Mateo.[60] The city's design guidelines include recommendations based on different street typologies and the context of the area.

DEVELOPMENT INCENTIVES

Tools that provide land developers with additional development capacity in exchange for a public benefit.[35] Incentives can be financial such as reduced development fees; tax credits/exemptions; in-kind, where payments are made in the form of goods or services rather than cash; permitting, which expedites the review process for a project; or density increasing bonuses.

POLICY EXAMPLE: **Livonia Town, New York** zoning code includes an incentive zoning provision for developers that provide physical, environmental, and cultural amenities in support of the town's Comprehensive Plan. The allowable amenities specifically include the provision of trail linkages.[63] Allowable incentives include increases in dwelling unit density, increases in lot coverage, and changes in setback or height standards.[63]

Other Land Development Terms

BULB-OUT

Also called: curb extension

See curb extension below.

See curb extension example below.

CONNECTED TRANSPORTATION NETWORK

The extent to which a transportation system provides service to the maximum number of transit stops through integrated routes and transfer facilities.[46,110]

POLICY EXAMPLE: **Aurora, Colorado's** Urban Street Standards requires bus routes and stop locations to be coordinated with the Regional Transportation District (RTD) and city staff. Bus routes should be spaced at every half mile and street intersections on routes are required to be wide enough for bus access.[16]

CONNECTIVITY

Also called: street connectivity, bike/pedestrian connectivity, neighborhood connectivity

Refers to the extent to which a road or path is connected and the directness or indirectness between destinations.[17,111,112]

POLICY EXAMPLE: **Spokane, Washington** adopted a *Comprehensive Plan* containing policies that promote street connectivity and increase pathway networks for pedestrians through a grid pattern design and short block lengths.[34,35]

CURB EXTENSION

Also called: bulb-out, knuckles, intersection narrowings, neckdowns, safe crosses

A section of sidewalk extending into the roadway at an intersection or midblock crossing that reduces the crossing width for pedestrians and may help reduce traffic speeds.[46,110]

POLICY EXAMPLE: **Aurora, Colorado's** Urban Street Standards require midblock crossings with curb extensions at locations where high density of pedestrians or bicyclists cross streets. Midblock crossing are applied to limited locations and commonly occur in areas with pedestrian attractions on both sides of the roadway, combination of street-facing retail shops and on-street parking, and blocks of 600-feet or greater.[16]

MULTIMODAL

The availability of multiple modes of travel, such as automobiles, public transportation, walking, and biking, within a corridor.[17]

POLICY EXAMPLE: **Rainier Avenue, Seattle** was a priority corridor within Seattle's Vision Zero commitment, the Seattle Department of Transportation redesigned Rainier Avenue South, a portion of the four mile corridor.[99] The improvements consisted of reducing four automobile travel lanes to two, shortened crosswalk distances for pedestrians, and adding a transit lane to help improve transit times.

PEDESTRIAN FACILITIES

Also called: buffers

Refers to pathways and features that separate pedestrians from automobile traffic.

POLICY EXAMPLE: **Louisville, Kentucky's** Land Development Code requires a minimum sidewalk width of seven feet. That includes a pedestrian zone, which is a portion of the sidewalk specifically for passage of pedestrians. It also includes a streetscape zone, which is the portion of the sidewalk between the curb line and pedestrian zone that allows for street features such as lights, trees, signage, bike racks.[46]

SEGREGATED LAND USE

Also called: single land use

Separate communities into single-use districts or zones such as residential-only, commercial-only, rather than mixed land uses.[9]

See Euclidian zoning example above.

SINGLE USE DEVELOPMENT

Single use developments are common in communities with traditional, Euclidian zoning whereby areas of a community are zoned solely for one type of use such as residential or commercial purposes.

See Euclidian zoning example above.

MIXED-USE DEVELOPMENT

Mixed-use allows for multi-purpose development and typically includes residential, commercial/retail, and eating establishments all in one development. Mixed-use development can be allowed as part of a traditional zoning district such as a planned unit development district or a pedestrian-oriented district or a zoning code may have a separate district that is specifically a mixed-use district or zone.

POLICY EXAMPLE: **St. Lucie County, Florida's** Land Development Regulations requires each neighborhood to contain a mixture of lot types and diverse housing options with at least one Mixed-Use or Retail Building Lot and at least three Civic Building Lots.[46]

SPEED TABLE

Also called: flat top speed humps, trapezoidal humps, speed platforms, raised crosswalks, or raised crossings

Speed tables elevate the entire crosswalk area to the level of the adjacent curbs, thus slowing vehicular traffic.[110,113]

See traffic calming example below.

SPRAWL

Also called: unplanned development on farmland or on open space in communities surrounding cities

Unplanned development of open land typically in suburban areas outside of the central city. Sprawl is often associated with the movement of people from the central city to outlying suburban areas surrounding a city and with the loss of farmland and open space in the suburban areas.[17,114,115]

POLICY EXAMPLE: Smart Growth America recognizes **Knoxville, Tennessee** as one of the most sprawling metro areas in the United States.[38] In an effort to reduce the negative impacts of suburban sprawl, the city's Traditional Neighborhood Development District includes guidelines for diverse housing options and a variety of land uses such as open space, commercial, office, and civic uses.[39]

STREET FURNITURE

Examples of street furniture include: benches, street lighting, fountains, planter boxes, sculptures

Objects and items placed on sidewalks and roadways that make streets amenable to walking.

POLICY EXAMPLE: **San Diego, California's** Planned District chapter of their Municipal Code requires benches to be made of wood or iron, positioned to allow socializing, and prohibits advertising.[46]

TRAFFIC CALMING

Examples of traffic calming devices include: bulb-out, curb extensions, traffic circles, roundabout, rotary, speed humps/tables, and speed humps

Physical changes to streets to slow the flow and speed of automobile traffic. Traffic calming devices include curb extensions, traffic circles, and speed humps.[46,110,116]

POLICY EXAMPLE: **San Antonio, Texas's** Unified Development Code includes provisions that establish standards for permitted traffic calming devices, such as bulb-outs, roundabouts, speed tables, and median islands, for streets with long blocks and wide streets cross sections.[38]

Other Local Policy Strategies

COMPLETE STREETS

A Smart Growth initiative that directs local planning, transportation, and/or public works department members to design and create streets that are safe and accessible for all users.[88]

POLICY EXAMPLE: **Reading, Pennsylvania** adopted a Complete Street executive order that prioritizes pedestrians and applies to all phases of development for any city-owned transportation facilities. It applies to the planning, programming, design, acquisition, subdivision and land development, new construction, engineering, reconstruction, operation, repair, and maintenance of roads.[89]

SAFE ROUTES TO SCHOOLS OR PARKS

Initiatives that encourage and enable children to walk or bike safely to/from schools and parks.[91,92]

POLICY EXAMPLES: **Eugene and Springfield, Oregon** established Safe Routes to School programs, funded by the Oregon Department of Transportation Safe Routes to School grant, to promote safe walking and biking to schools in both communities.[95] Each program developed maps that include recommended walking routes to school to promote safe walking and biking.

Miami-Dade County, Florida created a *Parks and Open System Master Plan* to promote safe and equitable access to parkland within the county. They identify specific design interventions to promote Safe Routes to Parks such as wayfinding signage and installing sidewalks, crosswalks, and bikeways.[96]

VISION ZERO

Multidisciplinary campaign that promotes collaboration among local traffic planners and engineers, police officers, policy makers, and public health professionals to prevent traffic fatalities and severe injuries as well as create healthy and safe environments through a Vision Zero commitment.[117]

POLICY EXAMPLE: **San Francisco** identified action strategies for safe streets, safe people, and safe vehicles within their *Two- Year Commitment Action Strategy.*[97] These strategies include implementing 13 miles of safety improvements for prioritized streets, new technologies and data sources, such as electronic citations and electronic stops to improve data collection, automated speed enforcement, Safe Routes programming, and other policy strategies that address safety and research.

AMERICAN DISABILITY ACT (ADA) TRANSITION PLANS

Local government entities with 50 employees or more are required to perform self-evaluations to identify physical barriers to accessibility for people with disabilities. If structural changes are needed to comply with ADA they must develop Transition Plans that identify structural improvements to improve access.[100]

POLICY EXAMPLE: **Garden City, Georgia** adopted an *ADA Transition Plan* to comply with Title II of the ADA.[101] The city performed an assessment to conduct an inventory of sidewalk conditions and locations. Additionally, they examined any maintenance issues such as vegetation overgrowth obstructing sidewalks, other natural or man-made obstructions, any structural damage to sidewalk materials, and if erosion created unsafe conditions along sidewalk segments. As part of their action plan the city implemented a sidewalk improvement plan and provided ADA Transition Plan training for all city staff.

POLICIES TO PROMOTE ALTERNATIVE FORMS OF TRANSPORTATION

Policies that can be adopted to encourage people to take alternative modes of transportation. For example polices can be adopted to incentivize public transit through subsidized transit passes or policies can be adopted to limit off-street parking to encourage people to seek alternative modes of transportation.

POLICY EXAMPLE: **Chico, California** adopted parking standards within their land use and development code that helps reduce automobile travel by reducing off-street parking if the site is within some of their mixed-use districts, if the project will reduce vehicular travel, or if the site is served by public transit, bike facilities, or features that support pedestrian access.[102]

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