

Choice Architecture at Scale: Reimagining the Built Environment as a Population Health Intervention

Andrew L. McCart, PhD, FACHE¹, Deven R. McCart, DNP, RN BSN², Ashley V. Parks, DrPH, MPH, MBA, MTech, MCHES, CPH, CPHQ, CHFP, CLSSBB, CPHRM, PMP³

¹Associate Professor, Health Care Management Department of Nutrition and Health Care Management
Beaver College of Health Sciences Appalachian State University Boone, NC USA 28608

²Theory Faculty International College of Health Sciences, Boynton Beach, Florida, USA.

³Online Flight Path HCM Program Director, Assistant Professor Department of Nutrition and Health
Care Management Appalachian State University

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ABSTRACT

Background: Chronic diseases such as obesity, diabetes, cardiovascular disease, and depression continue to impose substantial health and economic burdens worldwide. Traditional public health interventions have frequently emphasized individual responsibility through education and behavior change programs, yet environmental conditions often influence health behaviors more than knowledge alone. The built environment, including transportation systems, housing, food access infrastructure, parks, schools, and workplaces, represents a critical but underutilized determinant of population health.

Purpose: This article proposes a policy-oriented framework for leveraging the built environment as a large-scale form of choice architecture capable of making healthy behaviors the default option across communities.

Conceptual Framework: Drawing upon the Social Ecological Model, behavioral economics, population health theory, and health equity literature, the article develops the Healthy Defaults Framework. The framework identifies five domains through which built environments influence health behaviors: accessibility, convenience, safety, social norms, and equity. These domains provide a practical structure for designing and evaluating health-promoting environments across multiple policy sectors.

Discussion: The framework is applied to key built environment domains, including transportation systems, food environments, parks and green space, housing, schools, and workplaces. Policy levers at the federal, state, local, and cross-sector levels are examined as mechanisms for implementation. The article proposes a multidimensional evaluation model linking built environment investments to process metrics, behavioral changes, health outcomes, and economic outcomes. Special attention is given to health equity, historical patterns of disinvestment, and strategies to prevent unintended consequences such as displacement and green gentrification.

Conclusions: Public health improvements may be achieved more effectively by redesigning environments rather than attempting to persuade individuals to make healthier choices. By embedding healthy defaults into community design, policymakers can promote healthier behaviors, reduce chronic disease burden, advance health equity, and generate long-term value. Future research should test the framework and evaluate its effectiveness across diverse populations and settings.

Keywords: built environment; population health; health policy; behavioral economics; choice architecture; social determinants of health; health equity; urban planning; prevention; public health.

INTRODUCTION

Chronic diseases remain the leading causes of morbidity, mortality, disability, and healthcare expenditures in the United States and other high-income countries. Conditions such as obesity, type 2 diabetes, cardiovascular disease, and depression continue to increase, creating substantial challenges for healthcare systems, policymakers, employers, and communities. According to the Centers for Disease Control and Prevention, six in ten American adults live with at least one chronic disease and four in ten live with two or more chronic conditions (CDC, 2024). These trends have intensified interest in preventive strategies that address the upstream determinants of health rather than focusing primarily on treatment after disease onset.

Historically, public health interventions have emphasized individual responsibility through health education and behavior change initiatives. While these approaches have achieved some success, evidence suggests that knowledge alone is often insufficient to sustain healthier behaviors. Environmental factors such as food access, transportation options, neighborhood safety, housing quality, and opportunities for physical activity significantly influence health outcomes and daily decision-making (Marmot et al., 2008; Sallis et al., 2015). Recent estimates suggest that medical care accounts for only a fraction of overall health outcomes, while social, economic, and environmental conditions exert a substantially greater influence on population health, reinforcing the need for upstream policy interventions (Magnan, 2017; National Academies of Sciences, Engineering, and Medicine, 2017). Consequently, interventions focused solely on individual behavior may overlook the structural conditions that shape long-term health trajectories.

The built environment has emerged as a critical determinant of population health. Broadly defined, it includes the physical settings in which people live, work, learn, travel, and recreate, including transportation systems, housing, schools, workplaces, parks, and food access infrastructure. Research demonstrates that these environmental conditions influence physical activity, dietary behaviors, mental health, social connectedness, and chronic disease risk (Frumkin, Frank, & Jackson, 2004; Giles-Corti et al., 2016). Recent international evidence further demonstrates that healthy urban design simultaneously improves physical activity, chronic disease prevention, environmental sustainability, and health equity, reinforcing the built environment as a foundational public health intervention (Giles-Corti et al., 2022). Communities designed around walkability, active transportation, and healthy food access can promote healthier behaviors, whereas environments characterized by automobile dependence and limited recreational opportunities may contribute to adverse health outcomes.

Behavioral economics provides an additional lens for understanding these relationships. Research on choice architecture suggests that individuals often select options that are most accessible, convenient, and require the least cognitive effort (Thaler & Sunstein, 2008). From this perspective, the built environment functions as a large-scale system of choice architecture that influences daily decisions regarding transportation, nutrition, recreation, and social engagement.

Public health has made substantial progress in identifying the behavioral risk factors associated with chronic disease. Far less progress has been made in redesigning the environments that systematically shape those behaviors. Consequently, many prevention strategies continue to rely on individuals making repeated healthy decisions within environments that often reward the opposite. This mismatch between public health goals and environmental design may help explain why improvements in knowledge have not consistently translated into sustained improvements in population health. This persistent gap suggests that improving population health requires more than changing individual behavior; it requires redesigning the environments in which health-related decisions are routinely made.

This article argues that public health policy should move beyond encouraging healthier choices toward designing environments that systematically promote them. To address this gap, we introduce the Healthy Defaults Framework, a policy-oriented framework that extends social determinants of health and behavioral economics theories by providing a practical model for designing, implementing, and evaluating health-promoting environments. The framework identifies five domains through which the built environment influences health behaviors: accessibility, convenience, safety, social norms, and equity. Together, these domains provide a practical model for designing, implementing, and evaluating policies that improve population health while

advancing health equity. The Healthy Defaults Framework operationalizes prevention by redesigning the environments that shape everyday health behaviors.

Theoretical Foundations

Understanding the relationship between the built environment and population health requires an interdisciplinary framework that integrates public health, behavioral science, urban planning, and policy analysis. Three complementary perspectives provide a useful theoretical foundation for examining how environmental design influences health outcomes: the Social Ecological Model, Behavioral Economics and Choice Architecture, and Population Health Frameworks. Together, these perspectives suggest that health behaviors are shaped not only by individual choices but also by the social, organizational, environmental, and policy contexts within which those choices occur.

Social Ecological Model

The Social Ecological Model (SEM) provides one of the most widely used frameworks for understanding the multiple factors that influence health behaviors and outcomes. Building upon the work of Bronfenbrenner (1979) and subsequent public health scholars, the model recognizes that health is shaped by interactions among multiple levels of influence, including individual, interpersonal, organizational, community, and policy factors (Bronfenbrenner, 1979; McLeroy et al., 1988; Sallis et al., 2008).

At the individual level, health behaviors are influenced by knowledge, beliefs, attitudes, and personal preferences. At the interpersonal level, family members, peers, and social networks shape behavior through social norms and support systems. Organizational influences emerge through institutions such as schools, workplaces, and healthcare organizations that establish routines, incentives, and environmental conditions affecting health. Community-level factors include neighborhood design, transportation infrastructure, access to parks and recreational facilities, food availability, and social cohesion, all of which have been linked to health behaviors and outcomes (Frumkin et al., 2004; Sallis et al., 2016). Finally, policy-level influences encompass zoning regulations, transportation funding decisions, housing policies, environmental regulations, and public health legislation that shape the broader contexts within which individuals make health-related decisions (Rudolph et al., 2013).

The built environment operates simultaneously across multiple levels of the Social Ecological Model. For example, a walkable neighborhood with connected sidewalks, mixed-use development, and accessible parks not only provides individuals with opportunities for physical activity but also facilitates social interaction, influences organizational practices, shapes community norms, and reflects broader policy decisions regarding land use and transportation planning (Frank et al., 2004; Giles-Corti et al., 2016). Research has consistently demonstrated that walkable communities are associated with higher levels of physical activity, increased active transportation, and lower rates of obesity and chronic disease (Frank et al., 2004; Sallis et al., 2016). Conversely, environments characterized by automobile dependence, limited recreational opportunities, and poor food access can create structural barriers that discourage healthy behaviors regardless of individual intentions (Frumkin et al., 2004).

The SEM suggests that sustainable improvements in population health are most likely when interventions address multiple levels simultaneously rather than focusing exclusively on individual behavior change (McLeroy et al., 1988; Sallis et al., 2008). Consequently, built environment policies may serve as particularly powerful public health interventions because they influence entire populations through persistent environmental conditions rather than relying solely on individual motivation or compliance. By modifying the contexts in which health behaviors occur, built environment interventions have the potential to generate long-term, population-wide improvements in physical activity, nutrition, mental wellbeing, and overall health outcomes (Giles-Corti et al., 2016; Marmot et al., 2008).

Behavioral Economics and Choice Architecture

Behavioral economics provides important insights into how environmental conditions influence human decision-making. Unlike traditional economic theories that assume individuals make fully rational choices, behavioral

economics recognizes that decisions are often shaped by cognitive limitations, habits, environmental cues, and contextual factors (Kahneman, 2011; Thaler & Sunstein, 2008). These principles are particularly relevant to public health because many health-related behaviors occur within environments that either facilitate or constrain healthy choices.

Default Effects

Individuals frequently accept default options because doing so requires less cognitive effort than actively selecting alternatives. Research has demonstrated that default enrollment strategies significantly increase participation in retirement savings programs, organ donation systems, and other health-related behaviors (Johnson & Goldstein, 2003; Madrian & Shea, 2001). Similar principles can be applied to community design, where the default transportation mode, food environment, or recreational opportunity influences population behaviors and health outcomes.

Nudging

A nudge is an environmental modification that predictably influences behavior without eliminating alternatives or significantly altering economic incentives (Thaler & Sunstein, 2008). Examples include prominently placed stairways, pedestrian-friendly streetscapes, healthy food placement strategies, and active transportation infrastructure. Evidence suggests that carefully designed environmental nudges can influence physical activity, dietary choices, and other health behaviors while preserving individual freedom of choice (Marteau et al., 2011).

Friction Costs

Friction costs refer to the effort, inconvenience, time, or complexity associated with a behavior. Individuals are generally more likely to engage in behaviors requiring less effort and less likely to engage in behaviors requiring greater effort (Thaler & Sunstein, 2008). Communities that reduce friction for walking, cycling, public transit use, or healthy food purchasing may increase participation in these behaviors at the population level. Conversely, environments that require substantial time, cost, or inconvenience to engage in healthy activities may discourage healthy choices even among motivated individuals (Sallis et al., 2016).

Decision Fatigue

Individuals make numerous decisions throughout the day, and as cognitive resources become depleted, they increasingly rely on habits, defaults, and environmental cues (Baumeister et al., 1998; Kahneman, 2011). Consequently, environmental design becomes particularly important because people often follow established pathways that require the least cognitive effort. Built environments that make healthy choices more automatic may therefore be more effective than interventions that depend upon repeated conscious decision-making.

Environmental Cues

Physical surroundings continuously communicate behavioral expectations and influence individual choices. Sidewalks encourage walking, bicycle infrastructure supports cycling, and parks promote recreation and social engagement. Conversely, environments dominated by parking lots, multilane roadways, and limited public spaces may reinforce automobile dependence and sedentary lifestyles (Frumkin et al., 2004; Giles-Corti et al., 2016). Environmental cues therefore function as signals that shape both individual behavior and broader social norms.

From a public health perspective, behavioral economics suggests that health behaviors often reflect the path of least resistance. Rather than relying solely on education or persuasion, policymakers can improve health outcomes by creating environments that reduce friction associated with healthy behaviors and increase opportunities for active living and healthy decision-making. In this context, the built environment functions as a large-scale choice architecture system capable of influencing population health over extended periods (Thaler & Sunstein, 2008; Sallis et al., 2016).

Population Health Frameworks

Population health frameworks provide a complementary perspective by emphasizing the social, economic, environmental, and policy factors that influence health outcomes across communities. Rather than focusing exclusively on clinical care or individual risk factors, population health approaches seek to improve health outcomes for entire populations while reducing disparities among groups (Kindig & Stoddart, 2003). Several principles of population health are particularly relevant to built environment policy.

Upstream Determinants of Health

Population health scholars distinguish between upstream and downstream determinants of health. Downstream interventions typically focus on treating disease after it occurs, whereas upstream interventions address the social and environmental conditions that contribute to disease development (Braveman & Gottlieb, 2014). The built environment represents a critical upstream determinant because it shapes opportunities for physical activity, healthy eating, social interaction, transportation access, and environmental exposure throughout the life course (Marmot et al., 2008).

Prevention Orientation

Population health frameworks emphasize prevention rather than treatment. Investments in walkable neighborhoods, healthy housing, public transportation, and green spaces have the potential to prevent chronic disease before medical intervention becomes necessary. Such approaches align with the growing shift toward value-based care and prevention-oriented healthcare systems that seek to improve outcomes while controlling healthcare costs (Kindig, 2007; Hood et al., 2016).

Community-Level Intervention

Population health strategies frequently target communities rather than individuals. Community-level interventions offer the potential to affect large populations simultaneously, producing broader and more sustainable impacts than interventions focused solely on individual behavior change. Built environment policies exemplify this approach because they alter conditions affecting entire neighborhoods, cities, and regions (Frumkin et al., 2004; Giles-Corti et al., 2016).

Health Equity Focus

A defining characteristic of modern population health frameworks is the emphasis on health equity. Access to safe housing, transportation, green space, healthy foods, and recreational opportunities is often distributed unevenly across communities. Historical patterns of segregation, redlining, disinvestment, and inequitable development have contributed to persistent health disparities (Marmot et al., 2008; Williams et al., 2019). Consequently, population health approaches emphasize equitable access to health-promoting environments as a central policy objective.

Health Behaviors Shaped by Environmental Context

Taken together, population health frameworks suggest that improving health outcomes requires addressing the structural conditions that shape health behaviors and opportunities. Built environment interventions are particularly well suited to this objective because they influence upstream determinants, support prevention, operate at the community level, and provide opportunities to advance health equity.

Collectively, the Social Ecological Model, Behavioral Economics, and Population Health Frameworks provide a strong theoretical foundation for understanding how the built environment influences health. These perspectives converge on a common conclusion: health behaviors are not merely products of individual choice but are profoundly shaped by environmental contexts and policy decisions. Consequently, public health policy should increasingly focus on designing environments in which healthier choices become the default choices.

The Built Environment as a Health Policy Tool

The built environment represents one of the most powerful yet underutilized public health policy instruments available to governments, healthcare systems, and community leaders. Unlike traditional health interventions that focus primarily on individual behavior change, built environment policies influence the conditions under which health-related decisions are made. Transportation networks, food systems, housing developments, parks, schools, and workplaces collectively shape daily routines and determine whether healthy behaviors are convenient, accessible, and sustainable. From a policy perspective, these settings function as forms of large-scale choice architecture capable of creating healthier default options across entire populations (Thaler & Sunstein, 2008; Giles-Corti et al., 2016).

Transportation Systems

Transportation infrastructure has historically been designed to maximize automobile mobility and economic development. Following World War II, urban planning in many countries increasingly prioritized highway construction, suburban expansion, and automobile-oriented land use patterns (Frumkin et al., 2004; Jackson, 2003). While these approaches improved transportation efficiency and economic growth, they often reduced opportunities for routine physical activity by making walking and cycling less practical or less safe. As a result, transportation systems have become closely linked to sedentary lifestyles, obesity, chronic disease, and environmental degradation (Frank et al., 2004).

A healthy default transportation model seeks to make active transportation the most convenient and attractive option for routine travel. Key policy interventions include connected sidewalk networks, protected bicycle lanes, transit-oriented development, traffic-calming measures, and mixed-use community design that integrates residential, commercial, and recreational destinations within walkable distances. These approaches reduce dependence on automobiles while increasing opportunities for incidental physical activity throughout the day (Sallis et al., 2016; Giles-Corti et al., 2016).

Research consistently demonstrates that walkable communities are associated with higher physical activity levels, lower obesity rates, improved cardiovascular health, and greater social interaction (Frank et al., 2004; Sallis et al., 2016). More recent international evidence further demonstrates that compact, walkable urban design is associated with lower greenhouse gas emissions, improved quality of life, and greater urban resilience, highlighting the multiple co-benefits of transportation policies that prioritize active mobility (Giles-Corti et al., 2022). In addition to health benefits, active transportation policies contribute to environmental sustainability by reducing vehicle emissions, improving air quality, and supporting climate resilience. By redesigning transportation systems around people rather than vehicles, policymakers can create environments where physical activity becomes a routine component of daily life rather than a separate activity requiring additional time and effort.

Food Environment

The food environment represents another critical domain through which public policy can influence population health. Many communities, particularly those experiencing economic disadvantage, face challenges related to food deserts and food swamps. Food deserts are characterized by limited access to affordable, nutritious foods, while food swamps are areas saturated with calorie-dense, nutrient-poor food options (Walker et al., 2010; Cooksey-Stowers et al., 2017). Both conditions can contribute to poor dietary quality, obesity, and increased risk of chronic disease.

Traditional public health approaches have often relied on nutritional education and individual responsibility to improve dietary choices. However, behavioral economics suggests that food purchasing decisions are strongly influenced by convenience, availability, pricing, and environmental cues (Thaler & Sunstein, 2008; Marteau et al., 2011). Consequently, public policy interventions that alter food environments may be more effective than education alone. The growing Food Is Medicine movement similarly reflects a shift away from relying

exclusively on individual dietary counseling toward creating healthcare, community, and policy environments that make healthy eating more accessible and sustainable (American Heart Association, 2023).

A healthy default food environment can be supported through zoning policies that encourage grocery store development, incentives for healthy food retailers, expansion of farmers markets, urban agriculture initiatives, and nutrition-focused retail placement strategies. Examples include locating fruits and vegetables in highly visible store locations, limiting unhealthy food options near schools, and supporting local food systems that increase access to fresh produce. These interventions may improve dietary quality by reducing barriers to healthy food consumption while increasing the visibility and accessibility of nutritious options. Population-level outcomes may include reductions in obesity prevalence, lower rates of type 2 diabetes, improved cardiovascular health, and decreased healthcare expenditures associated with diet-related chronic diseases (Afshin et al., 2019; Mozaffarian et al., 2018).

Parks and Green Space

Access to parks, green spaces, and recreational infrastructure has emerged as a significant determinant of both physical and mental health. Historically, urban development has often prioritized commercial and residential expansion over the preservation of public green space. As population density increases, ensuring equitable access to recreational environments becomes increasingly important for public health (Wolch et al., 2014; World Health Organization, 2023). Healthy default strategies include the development of accessible parks, urban greenways, community gardens, recreational trails, playgrounds, and multifunctional public spaces that encourage physical activity and social interaction. These investments create opportunities for exercise while simultaneously supporting mental wellbeing and community engagement.

A growing body of evidence links green space exposure to increased physical activity, reduced psychological stress, improved mood, lower rates of anxiety and depression, and enhanced overall wellbeing (Twohig-Bennett & Jones, 2018). Parks and recreational areas also contribute to social cohesion by providing gathering spaces that foster community interaction and collective engagement (Jennings & Bamkole, 2019; Wolch et al., 2014). From a policy perspective, investments in green infrastructure represent a preventive health strategy capable of generating benefits across multiple dimensions of health simultaneously.

Housing Policy

Housing policy influences health through multiple pathways, including neighborhood safety, environmental quality, social stability, transportation access, and opportunities for physical activity (Krieger & Higgins, 2002; Taylor, 2018). Historically, housing decisions have often been treated separately from public health policy despite substantial evidence linking housing conditions to health outcomes. A healthy housing framework emphasizes mixed-income communities, walkable neighborhood design, access to transportation and community resources, environmental sustainability, and safe residential environments. Such approaches recognize that housing should not be evaluated solely based on affordability or availability but also on its capacity to support healthy living.

Mixed-income developments and integrated neighborhood planning may help reduce health disparities by expanding access to quality schools, employment opportunities, recreational facilities, and healthcare resources (Braveman & Gottlieb, 2014; Marmot et al., 2008). Walkable residential communities increase opportunities for routine physical activity, while safer neighborhoods encourage outdoor recreation and social engagement. Improved housing quality also reduces exposure to environmental hazards such as poor air quality, excessive noise, and unsafe living conditions (Krieger & Higgins, 2002; Taylor, 2018). By incorporating health considerations into housing policy, governments can address upstream determinants of health while simultaneously promoting equity and community wellbeing.

School Design

Schools represent one of the most influential built environments for children and adolescents. Because students spend a substantial portion of their formative years in educational settings, school design can significantly shape

lifelong health behaviors and attitudes (Story et al., 2009). Traditional school planning often prioritizes educational functionality while giving limited consideration to health-promoting design features. A healthy default approach integrates active transportation infrastructure, recreational spaces, healthy food availability, and classroom environments that encourage movement and engagement.

Examples include safe walking and cycling routes to school, accessible playgrounds and athletic facilities, nutrition-supportive cafeteria designs, outdoor learning spaces, and classroom layouts that reduce prolonged sedentary behavior. These features increase opportunities for physical activity while reinforcing healthy habits during critical developmental periods (Institute of Medicine, 2013; Story et al., 2009). The long-term benefits of health-oriented school design extend beyond childhood. Research suggests that early exposure to healthy environments contributes to lifelong patterns of physical activity, nutrition, and overall wellbeing (Marmot et al., 2008; Story et al., 2009). Consequently, school design should be viewed not merely as an educational investment but also as a long-term population health strategy.

Workplace Design

Workplaces represent another important setting in which environmental design can influence health behaviors. Modern employment environments are frequently associated with prolonged sitting, limited physical activity, workplace stress, and social isolation (Owen et al., 2010). Given that adults spend a significant proportion of their waking hours at work, workplace design offers substantial opportunities for health promotion. Healthy default workplace policies seek to integrate movement, wellness, and social engagement into daily work routines. Examples include active workstations, stair-first architectural design, walking meetings, accessible fitness facilities, natural lighting, biophilic design elements, and flexible spaces that encourage collaboration and movement (Neuhaus et al., 2014; Shrestha et al., 2018).

Behavioral economics suggests that employees are more likely to engage in healthy behaviors when those behaviors are embedded within normal workflows rather than requiring additional effort or separate participation in wellness programs (Thaler & Sunstein, 2008; Marteau et al., 2011). For example, prominently positioned stairways may increase physical activity more effectively than educational campaigns encouraging stair use. Evidence indicates that health-supportive workplace environments can reduce sedentary behavior, improve employee wellbeing, enhance job satisfaction, and increase productivity (Allen et al., 2017; Shrestha et al., 2018). Employers may also benefit through reduced absenteeism, lower healthcare costs, and improved workforce performance. As healthcare expenditures continue to rise, workplace design represents an increasingly important policy lever for promoting population health among working-age adults.

Collectively, transportation systems, food environments, parks, housing, schools, and workplaces illustrate how the built environment can function as a comprehensive public health policy tool. Rather than relying solely on individual behavior change, these settings can be intentionally designed to make healthier choices more accessible, convenient, and socially normative. By embedding health-promoting defaults into the physical environments people encounter each day, policymakers can create sustainable conditions that support improved population health outcomes at scale.

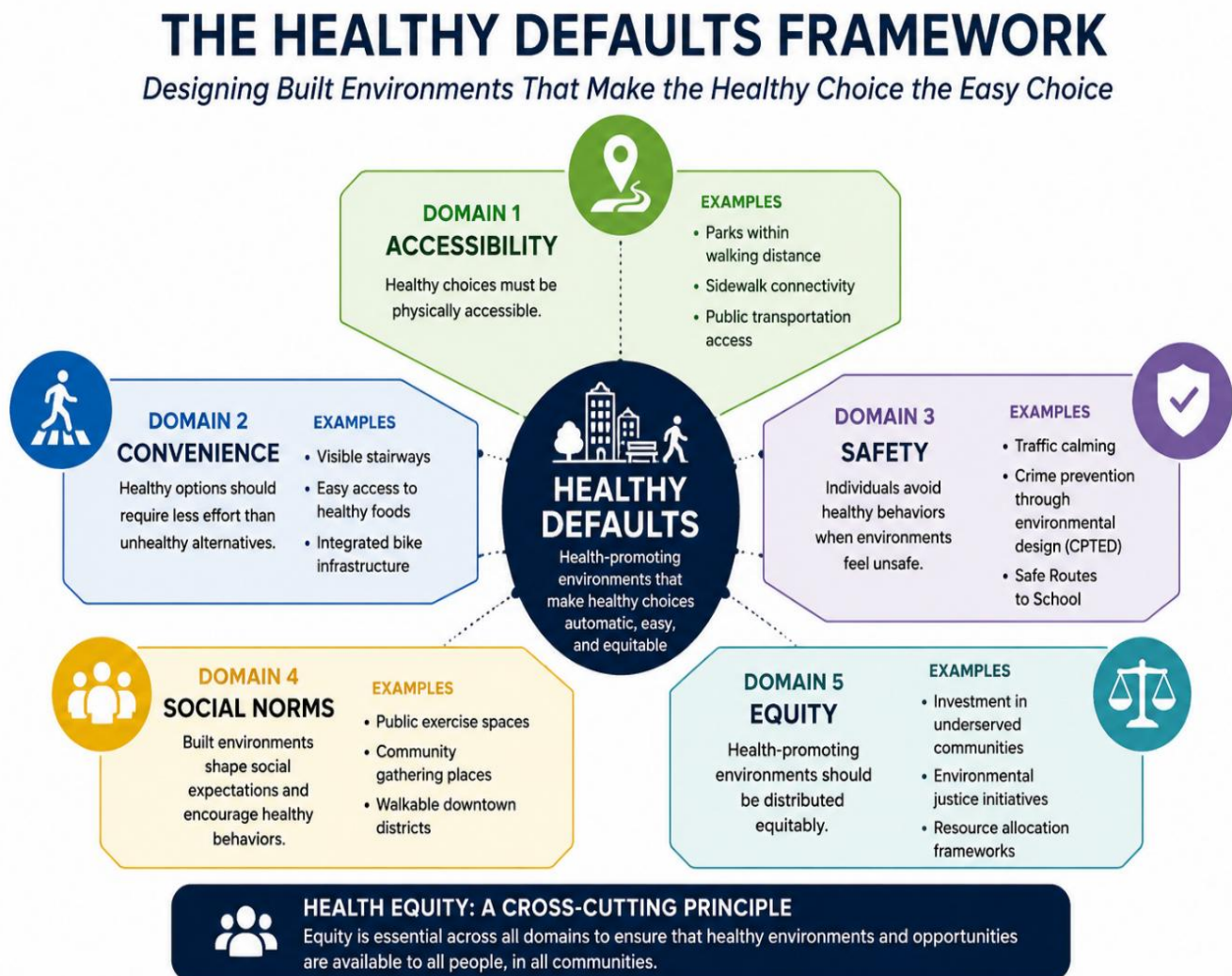
A Healthy Defaults Framework for Public Health Policy

The preceding discussion suggests that the built environment functions as a form of large-scale choice architecture capable of influencing health behaviors across entire populations. However, policymakers often lack a practical framework for translating this concept into actionable planning and policy decisions. To address this gap, this article proposes a Healthy Defaults Framework that identifies five foundational domains through which the built environment can systematically promote healthier behaviors: accessibility, convenience, safety, social norms, and equity. Together, these domains provide a policy-oriented model for evaluating and designing environments that make healthy choices the easiest and most likely choices.

The framework as depicted below in Figure 1 draws upon principles from behavioral economics, population health, urban planning, and health equity research. Rather than focusing solely on individual motivation or

education, it emphasizes environmental conditions that shape behavior automatically through daily interactions with physical and social surroundings.

Figure 1. The Healthy Defaults Framework



Domain 1: Accessibility

The first principle of a healthy default environment is accessibility. Individuals cannot consistently engage in healthy behaviors when opportunities to do so are physically unavailable or geographically distant. Access represents a foundational prerequisite for behavior change because even highly motivated individuals face substantial barriers when health-promoting resources are difficult to reach (Sallis et al., 2016; Braveman & Gottlieb, 2014). Accessibility encompasses the proximity, availability, and connectivity of health-promoting resources within communities. Examples include parks located within walking distance of residential areas, connected sidewalk networks, accessible public transportation systems, grocery stores offering healthy food options, and recreational facilities distributed throughout neighborhoods.

Research consistently demonstrates that access to parks, walkable destinations, active transportation infrastructure, and healthy food retailers is associated with higher levels of physical activity, healthier dietary behaviors, and improved health outcomes (Sallis et al., 2016; Giles-Corti et al., 2016; Walker et al., 2010). From a policy perspective, accessibility shifts the focus from encouraging healthy choices to ensuring that healthy choices are realistically available. Accordingly, policymakers should evaluate built environment initiatives based on their capacity to expand equitable access to health-promoting opportunities across entire populations (Braveman & Gottlieb, 2014; Marmot et al., 2008).

Domain 2: Convenience

While accessibility is necessary, convenience often determines whether healthy options are routinely selected. Behavioral economics suggests that individuals frequently choose options requiring the least effort, time, and cognitive energy (Thaler & Sunstein, 2008; Kahneman, 2011). Consequently, healthy behaviors become more likely when they are integrated into everyday routines and require minimal additional effort. Convenience can be enhanced through environmental designs that reduce friction associated with healthy behaviors. Examples include highly visible stairways in public buildings, healthy foods placed prominently within retail settings, bicycle infrastructure integrated into transportation networks, and mixed-use developments that allow residents to accomplish daily tasks without relying on automobiles. Research on choice architecture demonstrates that environmental cues and reduced friction can substantially influence behavior without restricting individual freedom of choice (Marteau et al., 2011; Thaler & Sunstein, 2008).

Traditional public health approaches often encourage individuals to overcome environmental barriers through willpower and self-discipline. In contrast, the Healthy Defaults Framework seeks to eliminate unnecessary barriers altogether. When walking is easier than driving, when healthy foods are easier to obtain than unhealthy alternatives, and when physical activity is embedded into daily routines, healthier choices become more probable without requiring constant conscious effort (Frank et al., 2004; Sallis et al., 2016). Convenience therefore represents one of the most powerful yet underappreciated determinants of health behavior and should be a central consideration in public health policy development.

Domain 3: Safety

Accessibility and convenience alone are insufficient if individuals perceive environments as unsafe. Safety serves as a critical mediator between environmental opportunities and actual behavior. Even well-designed parks, sidewalks, and recreational facilities may remain underutilized when concerns about traffic, crime, violence, or environmental hazards are present (Foster & Giles-Corti, 2008). Safety encompasses both objective and perceived dimensions. Objective measures include traffic injury rates, crime statistics, infrastructure quality, and environmental hazards. Perceived safety reflects residents' beliefs regarding whether spaces are secure, welcoming, and suitable for use. Research has demonstrated that both objective and perceived safety significantly influence physical activity, active transportation, and outdoor recreation behaviors (Foster & Giles-Corti, 2008; Sallis et al., 2016).

Several policy interventions can enhance environmental safety. Traffic-calming strategies such as reduced speed limits, pedestrian crossings, and protected bicycle lanes improve transportation safety and support active transportation. Crime Prevention Through Environmental Design (CPTED) principles emphasize lighting, visibility, maintenance, and natural surveillance to reduce crime and improve perceptions of safety (Cozens & Love, 2015). Programs such as Safe Routes to School create environments where children can safely walk or bicycle to educational facilities. Evidence indicates that safer neighborhoods are associated with increased physical activity, greater community engagement, improved mental health, and enhanced quality of life (Foster & Giles-Corti, 2008; World Health Organization, 2023). Consequently, public health policymakers should recognize safety as a prerequisite for successful healthy default environments.

Domain 4: Social Norms

The built environment influences not only individual behaviors but also collective expectations regarding what behaviors are normal, desirable, and socially acceptable. Social norms emerge through repeated observation of how others interact with shared spaces and community resources (Cialdini & Goldstein, 2004). Communities that visibly support physical activity, recreation, and social engagement communicate powerful messages regarding expected behaviors. Public exercise spaces, walking trails, bike-friendly streets, community gardens, outdoor gathering areas, and vibrant public plazas create opportunities for residents to observe and participate in health-promoting activities. Over time, these environments help establish social norms that reinforce healthy behaviors (Jennings & Bamkole, 2019; Giles-Corti et al., 2016).

Walkable downtown districts provide a useful example. In communities where walking is common and visible, residents often perceive walking as a routine and socially accepted mode of transportation. Conversely, automobile-dominated environments may reinforce norms that discourage active transportation and limit social interaction. Research in environmental psychology and public health suggests that social norms can significantly influence physical activity, transportation choices, and community engagement (Cialdini & Goldstein, 2004; Sallis et al., 2016). The influence of social norms is particularly important because behavioral change often occurs through social diffusion. When healthy behaviors become visible and normalized within communities, individuals may be more likely to adopt and sustain those behaviors themselves. Public health policy should therefore consider how environmental design contributes not only to physical opportunities but also to the social expectations that shape behavior.

Domain 5: Equity

Equity serves as the foundational principle that connects and strengthens all other domains of the Healthy Defaults Framework. Historically, health-promoting infrastructure and environmental investments have been distributed unevenly across communities. Patterns of residential segregation, redlining, disinvestment, and inequitable urban development have contributed to substantial disparities in access to parks, transportation, healthy foods, safe housing, and environmental quality (Marmot et al., 2008; Nardone et al., 2020; Williams et al., 2019). As a result, communities experiencing the greatest health burdens often have the fewest opportunities to engage in healthy behaviors. Addressing these inequities requires intentional policy action rather than assuming that health-promoting resources will naturally emerge through market forces alone (Braveman & Gottlieb, 2014).

An equity-focused approach includes targeted investment in underserved communities, environmental justice initiatives, equitable transportation planning, affordable housing development, and resource allocation strategies that prioritize areas experiencing the greatest health disparities. Health impact assessments and equity assessments can help policymakers evaluate whether proposed developments are likely to reduce or exacerbate existing inequities (Rudolph et al., 2013). The Healthy Defaults Framework argues that health-promoting environments should not be viewed as amenities available only to affluent communities but as essential public goods necessary for population health. Consequently, equity should function as a guiding principle in all built environment decisions and investments. By prioritizing equitable access to health-promoting environments, policymakers can simultaneously improve population health outcomes and reduce longstanding health disparities (Marmot et al., 2008; Williams et al., 2019).

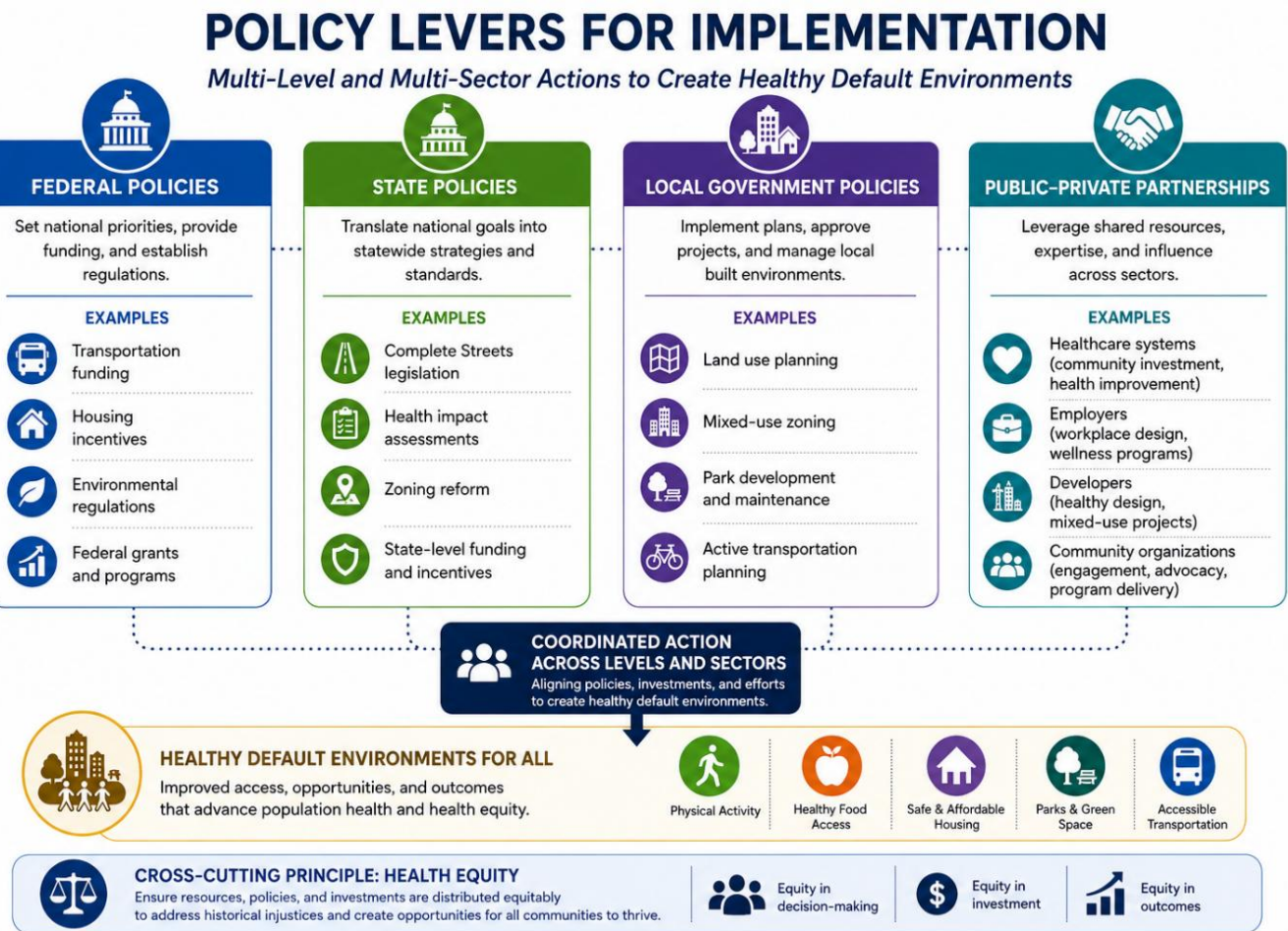
Integrating the Healthy Defaults Framework

The five domains are mutually reinforced rather than independent. Accessibility without convenience may result in underutilization. Convenience without safety may discourage participation. Safety without supportive social norms may limit adoption. Finally, improvements that fail to address equity may inadvertently widen existing health disparities. Effective built environment policies should therefore seek to maximize all five domains simultaneously. Communities that provide accessible, convenient, safe, socially supportive, and equitable opportunities for healthy living are more likely to achieve sustained improvements in population health outcomes. By applying these principles systematically across transportation, housing, food systems, schools, workplaces, and public spaces, policymakers can create environments that make healthy choices the default choices.

Policy Levers for Implementation

Although the Healthy Defaults Framework provides a conceptual model for designing health-promoting environments, implementation ultimately depends upon public policy. Decisions regarding transportation infrastructure, land use, housing development, environmental quality, and community investment are largely determined through policy processes operating at federal, state, and local levels as depicted in Figure 2. In addition, collaboration among public, private, and nonprofit stakeholders is often necessary to achieve meaningful and sustainable change.

Figure 2. Policy Levers for Implementation of a Healthy Defaults Framework



Federal Policies

Federal policy exerts substantial influence on the built environment through funding mechanisms, regulatory authority, and national policy priorities. Transportation investments shape regional mobility systems, housing programs influence residential development patterns, and environmental regulations affect air quality, water quality, and exposure to environmental hazards (Rudolph et al., 2013; Braveman & Gottlieb, 2014). Historically, federal transportation funding has favored highway construction and automobile-oriented development, contributing to suburban expansion and automobile dependence throughout much of the twentieth century (Jackson, 2003; Frumkin et al., 2004). More recently, increasing attention has been directed toward investments supporting active transportation, public transit, and multimodal transportation systems designed to accommodate diverse mobility needs (Giles-Corti et al., 2016).

Federal housing incentives can similarly encourage developments that integrate health-promoting design features such as walkability, mixed-income housing, and access to community resources (Taylor, 2018). Environmental regulations administered through federal agencies also contribute to healthier built environments by reducing exposure to air pollution, water contamination, and other environmental hazards that disproportionately affect vulnerable populations (Braveman & Gottlieb, 2014; Marmot et al., 2008). Because federal policies establish broad funding and regulatory frameworks, they represent powerful mechanisms for promoting healthy default environments at scale.

State Policies

State governments play a critical role in translating national priorities into regional implementation strategies. State-level policy tools include transportation planning, public health legislation, environmental regulation, housing policy, and land-use governance (Rudolph et al., 2013). One increasingly prominent strategy is

Complete Streets legislation, which requires transportation systems to accommodate all users, including pedestrians, cyclists, transit riders, older adults, and individuals with disabilities. Such policies shift transportation planning away from exclusive automobile dependence and toward more inclusive mobility systems that support active transportation and population health (Smart Growth America, 2023; Giles-Corti et al., 2016).

States may also require Health Impact Assessments (HIAs) for major development projects. HIAs evaluate the potential health consequences of proposed policies, plans, and infrastructure investments before implementation, allowing policymakers to identify opportunities to maximize health benefits and minimize unintended harms (National Research Council, 2011). By incorporating health considerations into planning decisions, HIAs operationalize the principle that health should be considered across multiple sectors rather than solely within healthcare systems. Zoning reform represents another important state-level policy tool. Restrictive zoning regulations often contribute to urban sprawl, automobile dependence, housing shortages, and socioeconomic segregation (Levine, 2006). Reform efforts that encourage mixed-use development, increased housing density, and transit-oriented communities can create environments more supportive of walking, cycling, public transit use, and social interaction (Ewing & Cervero, 2010).

Local Government Policies

Local governments have perhaps the most direct influence on the built environment because they are responsible for many day-to-day planning and development decisions affecting residents. Municipal governments determine how land is used, where infrastructure investments occur, and how community resources are distributed. Land-use planning determines how communities grow and how residential, commercial, institutional, and recreational spaces are organized. Mixed-use zoning policies encourage the integration of housing, employment, retail, and recreational opportunities, thereby supporting walkability and reducing automobile dependence (Ewing & Cervero, 2010; Frank et al., 2004). Communities designed around mixed-use principles often experience higher levels of physical activity and active transportation because destinations are located within accessible distances.

Local governments also influence population health through investments in parks, trails, greenways, recreational facilities, and public transportation systems. Active transportation planning can create connected networks of sidewalks, bicycle infrastructure, and pedestrian-friendly streets that facilitate routine physical activity while improving safety and accessibility (Sallis et al., 2016; Giles-Corti et al., 2016). Because local governments operate closest to communities, they are uniquely positioned to incorporate resident input, address neighborhood-specific needs, and ensure that health considerations are integrated into planning decisions. Community engagement processes, participatory planning models, and neighborhood-level assessments can help ensure that built environment interventions reflect local priorities and advance health equity (Rudolph et al., 2013).

Public-Private Partnerships

Many determinants of the built environment fall outside the direct control of government agencies. Consequently, successful implementation of healthy default policies often requires collaboration among healthcare organizations, employers, developers, nonprofit organizations, academic institutions, and community stakeholders (Rudolph et al., 2013). Healthcare systems increasingly recognize the importance of addressing social determinants of health and are investing in community development initiatives that improve housing, transportation access, food security, and neighborhood conditions (Hood et al., 2016; Braveman & Gottlieb, 2014). Employers can support healthy environments through workplace design, transportation benefits, and community partnerships. Developers influence neighborhood design through site planning, land-use decisions, housing development, and infrastructure investments. Community organizations contribute local knowledge, resident engagement, cultural insight, and implementation support that can improve project effectiveness and sustainability. These partnerships create opportunities to align public health objectives with economic development, healthcare delivery, and community revitalization efforts. By leveraging the resources and expertise of multiple sectors, public-private partnerships can accelerate the adoption of healthy default environments while enhancing long-term sustainability and community impact (Rudolph et al., 2013).

Taken together, federal, state, local, and cross-sector policy mechanisms provide a comprehensive pathway for operationalizing the Healthy Defaults Framework. The challenge for policymakers is not whether opportunities exist to improve the built environment, but rather how to coordinate policy actions across multiple sectors and levels of government to create healthier, more equitable communities. Consistent with Health in All Policies principles, achieving meaningful population health improvements will require sustained collaboration among public health agencies, planning organizations, transportation authorities, housing agencies, healthcare systems, and community stakeholders (World Health Organization, 2014; Rudolph et al., 2013).

Measuring Population Health Impact

A central challenge in built environment and public health policy is demonstrating that environmental investments produce meaningful improvements in population health. Policymakers, healthcare leaders, and community stakeholders increasingly seek evidence that investments in transportation infrastructure, housing, parks, food systems, and community design generate measurable health and economic benefits (Giles-Corti et al., 2022). Consequently, a comprehensive evaluation framework is necessary to assess whether healthy default policies achieve their intended outcomes.

Because built environment interventions often influence health through complex and indirect pathways, measurement should occur across multiple levels. Public health scholars increasingly advocate for multilevel evaluation frameworks that capture changes in environmental conditions, health behaviors, health outcomes, and economic performance (Kindig & Stoddart, 2003; Giles-Corti et al., 2022). Accordingly, this article proposes a four-tiered evaluation model consisting of process metrics, behavioral metrics, health outcomes, and economic outcomes.

Process Metrics

Process metrics evaluate the extent to which health-promoting environmental changes have been implemented. These measures assess whether communities are successfully creating the infrastructure and conditions necessary to support healthy behaviors. Although process metrics do not directly measure health outcomes, they serve as important leading indicators of future behavioral and health improvements (World Health Organization, 2023).

Examples of built environment process measures include:

- Miles of sidewalks constructed or maintained
- Percentage of streets with pedestrian infrastructure
- Protected bicycle lane coverage
- Public transportation accessibility
- Park access rates
- Walkability scores
- Number of recreational facilities per capita
- Availability of healthy food retailers
- Farmers market accessibility
- Housing quality indicators

For example, the proportion of residents living within a ten-minute walk of a park has become a commonly used measure of recreational access and environmental equity (Trust for Public Land, 2023). Similarly, transportation planners often evaluate sidewalk connectivity and bicycle infrastructure coverage to assess opportunities for active transportation and community mobility (Giles-Corti et al., 2016). Process metrics are particularly valuable because they can be measured relatively quickly following policy implementation and may provide early evidence that environmental conditions are changing in ways consistent with health promotion objectives (World Health Organization, 2023).

Behavioral Metrics

Behavioral metrics assess whether environmental changes influence the health-related behaviors that ultimately contribute to improved population health. These measures represent an intermediate link between environmental conditions and health outcomes. One of the central assumptions of the Healthy Defaults Framework is that well-designed environments encourage healthier behaviors by reducing friction and increasing convenience (Thaler & Sunstein, 2008). Consequently, behavioral changes should be expected before substantial improvements in disease outcomes become evident.

Key behavioral indicators include:

- Physical activity levels
- Walking frequency
- Bicycle use
- Recreational activity participation
- Active commuting rates
- Public transportation utilization
- Sedentary behavior measures
- Fruit and vegetable consumption
- Dietary quality indices
- Community participation and social engagement

Physical activity can be measured through self-report surveys, wearable devices, smartphone applications, or population surveillance systems such as the Behavioral Risk Factor Surveillance System (BRFSS). Active commuting rates, including walking, bicycling, and public transit use, provide additional insight into whether transportation infrastructure is influencing daily behaviors (Sallis et al., 2016). Dietary behaviors may be assessed through food purchasing patterns, nutritional surveys, and consumption data. Research suggests that improved healthy food access is associated with healthier dietary patterns and increased consumption of fruits and vegetables, although outcomes vary across communities and policy contexts (Walker et al., 2010; Afshin et al., 2019). Behavioral metrics are especially important because they help identify whether built environment interventions are influencing the mechanisms through which health outcomes are expected to occur (Giles-Corti et al., 2016).

Health Outcomes

The ultimate objective of healthy default policies is to improve population health outcomes. Health outcome measures assess whether changes in environmental conditions and health behaviors translate into reductions in disease burden, improvements in wellbeing, and enhanced quality of life.

Key health indicators include:

- Obesity prevalence
- Body mass index (BMI) distributions
- Type 2 diabetes incidence and prevalence
- Hypertension rates
- Cardiovascular disease incidence
- Stroke rates
- Physical fitness measures
- Mental health indicators
- Depression and anxiety prevalence
- Self-reported health status
- Life expectancy

Obesity remains one of the most frequently studied outcomes because of its strong association with physical activity, nutrition, and environmental conditions. Numerous studies have demonstrated relationships between walkability, active transportation infrastructure, and obesity prevalence (Frank et al., 2004; Sallis et al., 2016). Cardiovascular disease outcomes are also particularly relevant because physical inactivity represents a major modifiable risk factor. Communities that support routine physical activity through active transportation and recreational opportunities may experience lower rates of cardiovascular disease, hypertension, and related chronic conditions over time (Sallis et al., 2016; Giles-Corti et al., 2016).

Mental health outcomes deserve increasing attention within built environment research. Access to parks, green space, and community gathering places has been associated with lower stress levels, improved psychological wellbeing, reduced symptoms of depression and anxiety, and enhanced social connectedness (Twohig-Bennett & Jones, 2018; Jennings & Bamkole, 2019). As a result, population health evaluations should incorporate measures of both physical and mental health. Because many chronic diseases develop over extended periods, health outcomes often require longitudinal evaluation and sustained monitoring (Kindig & Stoddart, 2003).

Economic Outcomes

While health improvement remains the primary objective of built environment interventions, economic outcomes are often critical for securing policy support and sustaining long-term investment. Decision makers frequently require evidence that investments in healthy infrastructure generate financial returns in addition to health benefits (Roux & Pratt, 2013). Economic evaluation can occur at multiple levels, including healthcare systems, employers, communities, and governments.

Key economic measures include:

- Healthcare expenditures
- Hospital utilization
- Emergency department utilization
- Chronic disease treatment costs
- Absenteeism
- Workforce productivity
- Property values
- Economic development indicators
- Cost-effectiveness ratios
- Return on investment (ROI)

Healthcare spending represents one of the most important outcomes because chronic diseases account for a substantial proportion of healthcare expenditures in the United States and other developed nations (CDC, 2024). Investments that reduce obesity, diabetes, and cardiovascular disease may generate long-term cost savings through reduced healthcare utilization and lower treatment costs (Roux & Pratt, 2013). Employers may experience benefits through reduced absenteeism, improved employee productivity, and enhanced workforce wellbeing. Communities may also realize broader economic gains through increased property values, business development, tourism, and improved quality of life that attracts residents and employers (Litman, 2022).

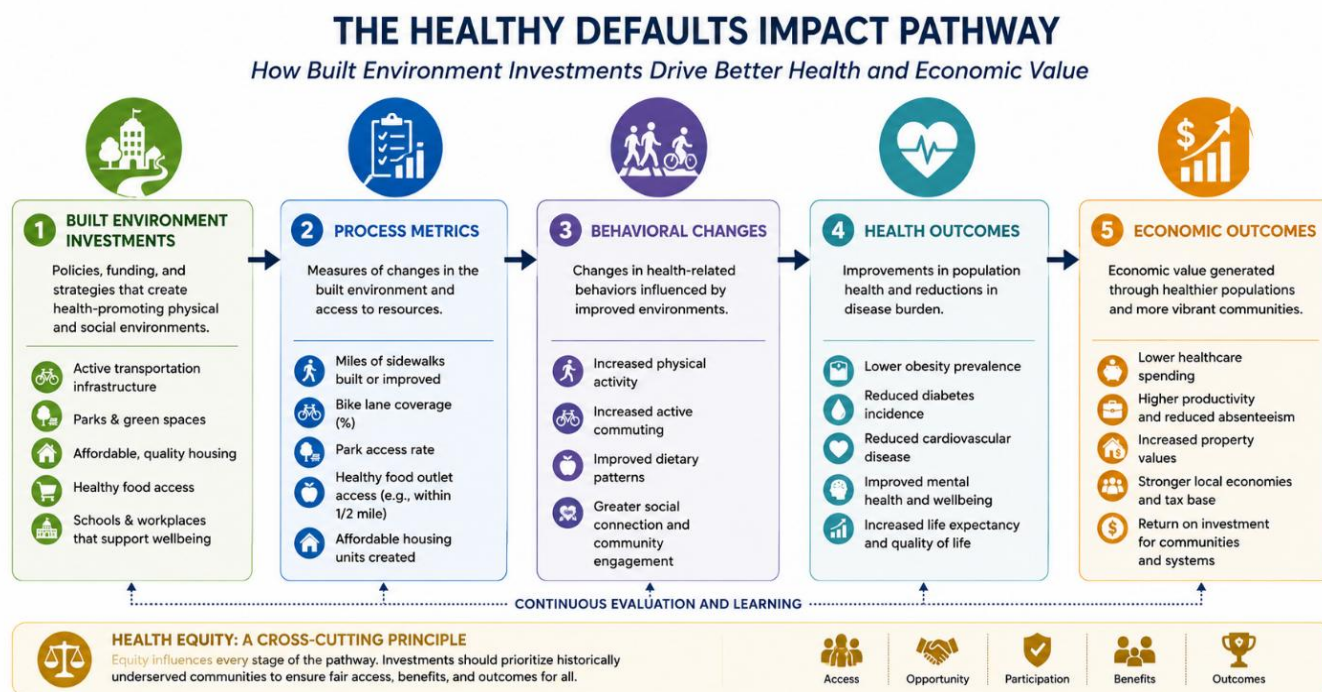
Return on investment analyses provide a particularly useful mechanism for comparing the costs of environmental interventions with the financial benefits generated through improved health outcomes. Although some benefits may require years to fully materialize, evidence increasingly suggests that investments in active transportation, green infrastructure, and healthy community design can produce substantial economic returns alongside measurable health improvements (Roux & Pratt, 2013; Litman, 2022).

Collectively, process metrics, behavioral indicators, health outcomes, and economic measures provide a comprehensive framework for evaluating the effectiveness of healthy default policies. By measuring outcomes across multiple levels, policymakers can better understand how investments in the built environment influence health behaviors, population health, and long-term societal wellbeing.

Toward a Comprehensive Evaluation Framework

The Healthy Defaults Framework emphasizes that no single metric can adequately capture the impact of built environment interventions. Effective evaluation requires a multidimensional approach that links environmental investments to behavioral change, health outcomes, and economic performance. Figure 3 below presents a proposed evaluation pathway.

Figure 3: Healthy Defaults Framework Evaluation Pathway



This pathway reflects the causal logic underlying healthy default policies. Infrastructure investments create opportunities for healthier behaviors, healthier behaviors contribute to improved population health, and improved population health generates economic value for individuals, employers, healthcare systems, and communities. Future research should prioritize longitudinal evaluation designs, standardized measurement approaches, and equity-focused analyses that assess whether built environment interventions improve outcomes across all population groups. Such efforts will strengthen the evidence base for healthy default policies and support more informed decision-making among public health leaders, healthcare organizations, and policymakers.

Health Equity Considerations

Health equity must be a central consideration in any effort to leverage the built environment as a population health intervention. Although investments in transportation systems, parks, housing, food access, and community infrastructure have the potential to improve health outcomes, these benefits have historically been distributed unevenly across populations (Marmot et al., 2008; Williams et al., 2019). Patterns of segregation, discriminatory housing policies, infrastructure decisions, and uneven public investment have created substantial differences in access to health-promoting environments. As a result, many communities experiencing the greatest burden of chronic disease, environmental exposure, and socioeconomic disadvantage also have the fewest opportunities to engage in healthy behaviors (Braveman & Gottlieb, 2014; Williams et al., 2019).

An equity-focused approach to built environment policy recognizes that health outcomes are shaped not only by current environmental conditions but also by historical decisions that continue to influence neighborhood resources, opportunities, and quality of life (Marmot et al., 2008). Consequently, policies designed to create healthy default environments must intentionally address both present-day disparities and the historical forces that contributed to them.

Historical Inequities and the Built Environment

The relationship between the built environment and health equity cannot be fully understood without acknowledging the historical policies that shaped contemporary communities. Throughout the twentieth century, land use decisions, housing policies, transportation investments, and urban development practices often reinforced racial, economic, and geographic inequities (Rothstein, 2017; Williams et al., 2019). One of the most significant examples is the practice of redlining. Beginning in the 1930s, federal housing programs and lending institutions used maps that categorized neighborhoods according to perceived investment risk. Communities with higher proportions of racial and ethnic minority residents were frequently designated as hazardous for investment, limiting access to mortgages, homeownership opportunities, and economic development (Rothstein, 2017). Over time, these practices contributed to residential segregation, concentrated poverty, deteriorating housing conditions, and reduced public investment in affected neighborhoods.

The health consequences of redlining continue to be observed today. Research has demonstrated associations between historically redlined neighborhoods and lower life expectancy, higher rates of chronic disease, increased environmental exposures, reduced access to parks and green spaces, and poorer overall health outcomes (Nardone et al., 2020; Krieger et al., 2020). These findings highlight how policy decisions made decades ago continue to influence contemporary health disparities. Transportation infrastructure decisions have also contributed to inequitable health outcomes. During periods of rapid highway construction, major roadways were frequently routed through low-income and minority communities, resulting in neighborhood fragmentation, residential displacement, environmental pollution, and reduced community cohesion (Bullard et al., 2004; Rothstein, 2017). These projects often created physical barriers that limited access to employment opportunities, recreational resources, healthcare services, and other determinants of health.

Similarly, unequal infrastructure investment has contributed to persistent disparities in access to sidewalks, public transportation, parks, recreational facilities, healthy food retailers, and environmental amenities (Braveman & Gottlieb, 2014). Communities with fewer resources often experience lower levels of investment despite having greater health needs, reinforcing cycles of disadvantage and poor health outcomes. These historical examples demonstrate that built environments are not merely physical spaces but also reflections of policy choices that can either promote or undermine health equity.

Equity-Focused Planning

Addressing health disparities requires more than simply improving physical infrastructure. Effective built environment policies must incorporate equity considerations throughout the planning, design, implementation, and evaluation process. Equity-focused planning seeks to ensure that investments are responsive to community needs and that historically underserved populations receive meaningful benefits from development initiatives (Marmot et al., 2008; Rudolph et al., 2013).

Community Engagement

Community engagement serves as a foundational element of equitable planning. Residents possess valuable knowledge regarding neighborhood conditions, barriers to health, and local priorities. Engaging community members early and consistently throughout the planning process helps ensure that interventions align with lived experiences and address genuine needs rather than externally imposed assumptions (Israel et al., 2010). Meaningful engagement extends beyond traditional public meetings and includes outreach strategies that facilitate participation among historically marginalized populations. Such approaches may involve partnerships with community organizations, multilingual communication efforts, neighborhood advisory groups, and culturally responsive engagement practices (Minkler & Wallerstein, 2011).

Participatory Design

Participatory design expands community engagement by directly involving residents in shaping proposed projects and development initiatives. Rather than serving solely as stakeholders who provide feedback,

community members become active contributors to planning and design decisions. Participatory approaches have been used successfully in transportation planning, park development, neighborhood revitalization projects, and public space design (Sanoff, 2000). These methods often produce interventions that better reflect community preferences while strengthening trust between residents and public institutions. From a public health perspective, participatory design can improve the relevance, utilization, and sustainability of built environment interventions while promoting community empowerment and social cohesion (Minkler & Wallerstein, 2011).

Targeted Investments

Equity-focused planning also requires strategic allocation of resources. Equal distribution of resources may not be sufficient when communities begin with substantially different levels of infrastructure, opportunity, and health burden. Instead, targeted investments prioritize neighborhoods experiencing the greatest disadvantages and health disparities (Braveman & Gottlieb, 2014). Examples include expanding park access in underserved areas, investing in active transportation infrastructure within low-income communities, improving housing quality, increasing healthy food access, and enhancing environmental conditions in historically neglected neighborhoods. Targeted investments align with principles of distributive justice by directing resources toward communities with the greatest needs and the greatest potential for health improvement (Marmot et al., 2008).

Preventing Unintended Consequences

Although built environment improvements can generate substantial health benefits, policymakers must also consider potential unintended consequences. Well-intentioned development projects may inadvertently contribute to new forms of inequity if they increase property values, alter neighborhood demographics, or displace existing residents (Wolch et al., 2014).

Green Gentrification

One increasingly recognized challenge is green gentrification, a process in which investments in parks, greenways, recreational infrastructure, and environmental amenities increase neighborhood desirability and property values (Wolch et al., 2014; Anguelovski et al., 2019). While such investments may improve environmental quality and population health, they can also create financial pressures that make neighborhoods less affordable for long-term residents. Several cities have experienced rising housing costs following the development of major parks, trail systems, and waterfront revitalization projects. In these cases, populations intended to benefit from environmental improvements may ultimately be unable to remain in the community (Anguelovski et al., 2019).

Residential Displacement

Displacement occurs when rising housing costs, redevelopment projects, or changing market conditions force residents to relocate. Displacement can disrupt social networks, increase economic instability, reduce access to community resources, and negatively affect both physical and mental health (Fullilove, 2004). Because social cohesion and neighborhood stability are important determinants of health, displacement may undermine some of the very benefits that built environment interventions seek to achieve. Consequently, public health and planning professionals should evaluate potential displacement risks when designing community improvement initiatives.

Housing Affordability Challenges

Housing affordability represents another critical consideration. Investments that improve transportation access, recreational opportunities, environmental quality, and neighborhood amenities often increase demand for housing in affected areas. Without complementary housing policies, these improvements may contribute to rising rents and declining affordability (Taylor, 2018). Strategies to address affordability challenges include inclusionary zoning policies, affordable housing requirements, community land trusts, housing preservation programs, and targeted subsidies that help existing residents remain within improving neighborhoods.

Integrating these policies into built environment initiatives can help ensure that health benefits are shared broadly rather than concentrated among higher-income populations (Taylor, 2018).

Advancing Health Equity Through Healthy Default Environments

The Healthy Defaults Framework is fundamentally grounded in the principle that all individuals should have access to environments that support healthy living regardless of race, income, geography, or socioeconomic status. Achieving this objective requires acknowledging historical inequities, incorporating community voices into decision-making, directing investments toward underserved populations, and proactively addressing potential unintended consequences. Health equity should not be viewed as a separate component of built environment policy but rather as a guiding principle that informs all planning and development decisions. Communities that intentionally incorporate equity considerations into transportation, housing, food systems, parks, schools, and workplaces are more likely to achieve both improved population health and reduced disparities (Marmot et al., 2008; Williams et al., 2019). As healthcare systems increasingly recognize the importance of social and environmental determinants of health, equity-focused built environment strategies offer a promising pathway for addressing the root causes of persistent health inequities while creating healthier communities for future generations.

Future Directions

As healthcare systems increasingly embrace prevention, population health management, and value-based care, the built environment will play an expanding role in shaping health outcomes. Growing recognition of the social and environmental determinants of health has shifted attention toward community-level interventions capable of preventing disease before clinical treatment becomes necessary (Kindig & Stoddart, 2003; Braveman & Gottlieb, 2014). Emerging technologies, climate adaptation strategies, and cross-sector governance models offer new opportunities to create communities that are healthier, more resilient, and more equitable. Future public health efforts will likely move beyond traditional infrastructure investments and toward integrated systems that combine digital innovation, environmental sustainability, and health-focused policymaking (Giles-Corti et al., 2022).

Smart Cities and Digital Infrastructure

The emergence of smart city technologies provides new opportunities to understand and improve the relationship between the built environment and population health. Through the use of sensors, connected infrastructure, geographic information systems, and advanced analytics, communities can collect real-time information regarding transportation patterns, environmental conditions, and infrastructure utilization (Allam & Dhunny, 2019; Kitchin, 2014).

Sensor-Based Planning

Sensor networks can provide continuous monitoring of environmental conditions that influence health, including air quality, traffic flow, pedestrian activity, noise exposure, and urban heat levels. These data allow planners to identify environmental risks, evaluate infrastructure performance, and target investments where they may generate the greatest public health benefits (Batty et al., 2012). Increasingly, sensor-based monitoring systems are being incorporated into urban planning initiatives to support evidence-based decision making and improve community resilience.

Real-Time Mobility Data

Advances in mobile technology and transportation analytics allow policymakers to better understand how residents navigate their communities. Real-time mobility data can identify barriers to active transportation, reveal inequities in access to services, and support transportation planning decisions that improve walkability, connectivity, and public transit access (Giles-Corti et al., 2016; Kitchin, 2014). Such data may also help

communities evaluate the effectiveness of transportation investments and identify underserved populations requiring additional infrastructure support.

AI-Supported Urban Planning

Artificial intelligence offers significant potential for improving urban planning and public health decision-making. AI models can integrate demographic, environmental, transportation, healthcare, and economic data to predict the health impacts of development projects and policy interventions (Allam & Dhunny, 2019). These tools may help policymakers identify high-priority investments, forecast long-term health outcomes, optimize transportation systems, and allocate resources more effectively. As predictive analytics capabilities expand, AI-supported planning may become an increasingly important component of population health management. As these technologies become more widespread, policymakers must ensure that data governance frameworks address concerns related to privacy, transparency, algorithmic bias, cybersecurity, and equitable access to digital infrastructure (Mittelstadt et al., 2016). Failure to address these concerns could exacerbate existing inequities and undermine public trust in technology-enabled planning initiatives.

Climate and Health Integration

Climate change is increasingly recognized as one of the most significant public health challenges of the twenty-first century. Rising temperatures, worsening air quality, extreme weather events, changing disease patterns, and environmental degradation affect both physical and mental health (Watts et al., 2021). Consequently, future built environment policies must integrate climate resilience and health promotion objectives.

Heat Mitigation

Urban heat islands disproportionately affect densely developed communities and vulnerable populations, including older adults, children, low-income residents, and individuals with chronic illnesses (Watts et al., 2021). Strategies such as expanded tree canopies, green roofs, reflective surfaces, and cooling centers can reduce heat exposure while simultaneously improving environmental quality and community livability (World Health Organization, 2023). These interventions may also reduce heat-related morbidity and mortality while improving outdoor comfort and encouraging physical activity.

Sustainable Transportation

Transportation systems contribute significantly to greenhouse gas emissions and air pollution. Investments in public transportation, active transportation infrastructure, and transit-oriented development can generate dual benefits by reducing environmental impacts while increasing physical activity and improving cardiovascular health (Giles-Corti et al., 2016; Watts et al., 2021). Such strategies illustrate how environmental sustainability and population health objectives can be pursued simultaneously through integrated policy approaches.

Green Infrastructure

Green infrastructure, including urban forests, greenways, wetlands, rain gardens, and permeable surfaces, offers opportunities to improve environmental sustainability and public health simultaneously. Beyond stormwater management and climate adaptation, these investments support physical activity, reduce stress, improve mental health, enhance biodiversity, and strengthen community resilience (Twohig-Bennett & Jones, 2018; Jennings & Bamkole, 2019). Increasing evidence suggests that green infrastructure can serve as a multifunctional public health intervention capable of generating environmental, economic, and social benefits. Future public health planning should increasingly emphasize these co-benefits, recognizing that environmental sustainability and population health are closely interconnected goals (Watts et al., 2021).

Health in All Policies (HiAP)

Perhaps the most important future direction is the adoption of Health in All Policies (HiAP) approaches. Health outcomes are influenced by decisions made across transportation, housing, education, economic development,

environmental protection, and urban planning sectors. However, health considerations have traditionally been absent from many policy decisions outside healthcare and public health agencies (Rudolph et al., 2013; World Health Organization, 2014). Health in All Policies is a governance framework that systematically incorporates health considerations into policymaking across sectors. Under a HiAP approach, policymakers evaluate how proposed laws, regulations, development projects, and infrastructure investments may affect population health and health equity (World Health Organization, 2014).

Examples include:

- Assessing health impacts when developing transportation plans
- Evaluating housing policies for their effects on community wellbeing
- Considering physical activity opportunities during land-use planning
- Incorporating environmental health considerations into economic development initiatives

Health impact assessments, cross-sector planning committees, and collaborative governance structures can help institutionalize these practices (National Research Council, 2011). Importantly, HiAP encourages policymakers to view health not as the responsibility of healthcare systems alone but as a shared societal outcome shaped by decisions across multiple sectors (Rudolph et al., 2013).

Looking Forward

The future of public health and the built environment will likely be defined by greater integration among technology, sustainability, and policy. Smart city innovations can provide more precise information about community needs and behaviors. Climate-responsive infrastructure can improve both environmental and health outcomes. Health in All Policies approaches can ensure that health considerations become a routine component of decision-making across government and industry. Together, these developments support a transition from reactive healthcare systems focused primarily on treatment toward proactive systems designed to promote health before disease occurs (Kindig & Stoddart, 2003; Hood et al., 2016). As communities continue to confront chronic disease, climate challenges, and health inequities, the built environment will increasingly serve as a strategic platform for advancing population health, improving quality of life, and creating healthier futures for all residents.

CONCLUSION

The growing burden of chronic disease, rising healthcare expenditures, and persistent health inequities have renewed interest in upstream approaches to improving population health. Although traditional public health efforts have often emphasized education and individual responsibility, evidence suggests that health behaviors are strongly influenced by the environments in which people live, work, learn, and recreate (Marmot et al., 2008; Sallis et al., 2015). Consequently, sustainable improvements in population health require greater attention to the structural and environmental conditions that shape daily choices.

This article introduces the Healthy Defaults Framework as a practical model for translating theories of social determinants of health, behavioral economics, population health, and health equity into actionable public policy. The framework identifies five key domains, accessibility, convenience, safety, social norms, and equity, through which policymakers can design environments that make healthy behaviors more likely to occur. Rather than relying primarily on repeated efforts to persuade individuals to adopt healthier behaviors, the Healthy Defaults Framework emphasizes redesigning the environments that systematically shape those behaviors. Transportation systems, food environments, parks, housing, schools, and workplaces represent important opportunities to embed health promotion into everyday life. Viewed collectively, these settings represent opportunities to embed prevention into the places where people make everyday decisions, shifting public health from episodic intervention toward continuous environmental support. Moreover, because access to health-promoting

environments remains unevenly distributed, built environment policies can serve as important mechanisms for advancing health equity and addressing longstanding disparities.

Emerging technologies, climate-responsive planning, and Health in All Policies approaches provide additional opportunities to integrate health considerations into decision-making across sectors. As healthcare systems continue shifting toward prevention and value-based care, collaboration among public health agencies, healthcare organizations, planners, developers, employers, and community stakeholders will become increasingly important. Together, these developments create opportunities to align public health, urban planning, healthcare, environmental sustainability, and economic development around shared health and societal goals.

Ultimately, improving population health may depend less on repeatedly asking individuals to make healthier choices and more on designing communities in which healthier choices become the easiest choices. By embedding healthy defaults into transportation systems, housing, schools, workplaces, food environments, and public spaces, policymakers can operationalize prevention, reduce chronic disease burden, advance health equity, and create healthier, more equitable, and more resilient communities for future generations. The Healthy Defaults Framework offers a practical roadmap for translating prevention science into policy and for creating communities that make healthy living the easier and more accessible choice.

Conceptual Model for Future Research

As illustrated earlier in the article, the conceptual pathway proposed is: Policy Levers → Built Environment Design → Healthy Defaults → Health Behaviors → Population Health Outcomes → Economic and Societal Benefits. Health equity functions as a cross-cutting moderator throughout the framework. Future research should empirically test these relationships and evaluate the effectiveness of healthy default interventions across diverse communities and populations (Kindig & Stoddart, 2003; Thaler & Sunstein, 2008). Longitudinal studies, natural experiments, implementation science, systems science, and cross-sector policy evaluations will be particularly important for determining which combinations of healthy default interventions produce the greatest and most equitable improvements in population health.

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