URBAN HABITAT

Discussion Paper:
The Impact of the Built Environment on Mental Wellness

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The physical landscapes of places and the sociocultural context in which people live and build communities have direct and indirect effects on mental wellness. An individual's quality of life is attributable to various factors related to the built environment, ranging from long commute patterns and exposure to smog, to the presence or absence of natural areas and public green spaces. For this reason, the link between the built environment and the physical, mental, and social well-being of residents is a growing interest among public health professionals and land use planners.

Urban Habitat is an advocacy organization that works across the nine-county Bay Area on housing, land use, and transportation policies to create a just and connected region. We reviewed existing research on the link between the built environment and mental wellness through a race and class lens to explore how our work can more explicitly help improve the health and mental wellbeing of low-income communities and communities of color. In the course of this discussion paper, we:

- Explore the legacy of exclusionary land use practices and how zoning continues to harm low-income communities and communities of color

- Highlight the connections between elements of the physical environment—housing, transportation, and greening—to positive and negative cognitive health

- Share how perceptions of safety, neighborhood change, and gentrification affect feelings of belonging, depression, and community solidarity

- Offer policy strategies on public engagement, displacement mitigation, and neighborhood design that help residents prosper in place

- Highlight the interdisciplinary nature of planning and public health and the need to work more collaboratively moving forward

We recognize that each community has unique needs. Our hope is to help facilitate a conversation to understand the links between built and social environments and mental wellness, and to identify solutions that lead to equitable places for all residents, and in particular for low-income communities and communities of color.

The Legacy of Poor Planning

Modern-day planning emerged in the early 20th century during a time of mass migrations of Black Americans and European immigrants to the industrial North where production and manufacturing was booming. Most of this new labor force lived in crowded tenements in close proximity to open sewage, smokestack factories, and poor sanitation conditions.

Early efforts to address burgeoning urban problems were rooted in public health concerns. Urban planning surfaced as a practice that viewed the city as a built environment concerned with community development and social welfare issues. Zoning, or the designation of land for specific uses, helped promote the health, safety, morality, and general welfare of communities. Unfortunately, it also created exclusionary places through design, form, and function. Zoning regulations located toxic refineries, meat processing plants, and incinerators in impoverished neighborhoods, and established a culture of top-level decision-making and social engineering that led to power imbalances among wealthier and underserved populations.

Historically, exclusionary policies like redlining and racial housing covenants legally prevented Black, Latino, and Asian families from living in integrated and better-resourced neighborhoods, most of which were located in newly emerging suburbs. In *The Color of Law*, researcher Richard Rothstein details that when the United States faced a housing shortage in 1933, the federal government began a program, "explicitly designed to increase - and segregate - America's housing stock… under the New Deal. This housing program amounted to a 'state-sponsored system of segregation'."[1] The Federal Housing Administration, created in 1934, refused to insure mortgages in and near Black neighborhoods, while simultaneously subsidizing mortgages for White middle- and lower-middle-class families to move into suburban communities, a practice known as redlining. Additionally, none of the new homes in these mass-produced subdivisions could be sold to Black individuals. This rule of law segregated societies by race and class, limited upward mobility, and became a barrier to wealth accumulation for Black families for decades to come. With very limited options, communities of color were forced into inner-city public housing projects and substandard private housing. Such examples point to both the psychological effects of housing discrimination and the physical creation of divergent worlds, both separate and unequal.

Today, low-income populations and communities of color remain in disinvested and disconnected areas, a direct result of past plans and practices. Over the years, the rapid growth of cities and suburbs without the concurrent expansion of housing affordability, social services, transit access, and living wages has only widened social and economic inequality.

Existing Literature on the Built Environment and Mental Wellness
There is a longstanding relationship between the built environment and mental wellness, and recent studies show that certain types of interventions can have either positive or negative impacts on people across race, gender, and class. While there is some literature that establishes a direct link between the built environment and mental wellness, this area of work is limited. Policy interventions and investments should center the needs of marginalized communities who continue to bear the burden of bad planning decisions.

Housing
The Alameda County Public Health Department and Behavioral Health Care Services write in their report, "Improving Housing and Health for All in Alameda County: The Opportunity is Now," that:

> "At the individual level, housing instability is associated with mental health problems (such as depression and anxiety/stress), hypertension and the destruction of protective health factors such as social bonds. At the communal level, displacement and neighborhood instability contributes to community fragmentation and social network disruption."[2]

The Alameda County study found that residents paying 50% or more of their income towards rent have an increased likelihood of being hospitalized from hypertension and severe mental disorders. Additionally, 91% of residents in the county who live in very high-poverty neighborhoods are people of color, and these racial residential patterns have been, "shaped by past and present housing and economic policies that lead to inequitable neighborhood conditions, which in turn heavily shape health outcomes, cumulatively affecting life chances."[3]

In his book *Evicted: Poverty and Profit in the American City*, Matthew Desmond argues that the loss of neighborhood networks and the pervasiveness of homelessness resulting from evictions is especially damaging for single women and young children. He writes, "if incarceration had come to define the lives of men from impoverished black neighborhoods, eviction was shaping the lives of women. Poor black men were locked up. Poor black women were locked out."[4] Desmond and Rachel Kimbro's research on evictions shows that involuntary displacement can have multiple negative consequences for families – poorer health, higher levels of stress, depreciating school performance in young children, diminishing desire for communal interactions – and those side effects can persist for years, especially among young low-income mothers of color.[5] Kimbro says that effective eviction-prevention initiatives could, "go a long way toward addressing these enduring problems… directing eviction-prevent aid upstream potentially could lower healthcare costs incurred downstream."

In explaining how the built environment can affect mental health, Gary W. Evans writes that poor housing quality (structural defects and hazardous maintenance) and residential crowding (a certain number of people per room) appears to increase psychological distress and feelings of fear, panic, and even fatalism, if problems persist.[6] Evans finds that certain types of architecture

in distressed neighborhoods can cause cognitive fatigue from what he terms "stress-design elements," especially among low-income mothers with young children. For example, limited daylight exposure due to shadows from surrounding tall buildings can cause increased levels of loneliness.

The clear connections between housing security and mental wellness is particularly significant given the current housing affordability crisis. The Urban Displacement Project at the University of California, Berkeley estimates that almost 450,000 low-income renter households in the San Francisco Bay Area live in neighborhoods that are at risk of gentrification or displacement, undergoing displacement, or in advanced stages of gentrification.[7] In other words, we can assume that more than half of the Bay Area faces a growing risk of displacement, while few affordable units are available to rent or in the construction pipeline. In the same region, more than 50% of renters are people of color, and more than 60% of Black and Latino households are cost-burdened, meaning they pay more than 30% of their income towards rent.[8] Without effective policy interventions like rent control and just-cause for eviction, hundreds of thousands more Bay Area residents will struggle to pay rising rents and risk losing their homes, especially as wages remain stagnant, which will also have implications for their mental wellbeing.

Transportation and Street Networks
Most U.S. cities are designed for driving and prioritize cars. Studies have shown that physical activity has a strong and positive influence on mental well-being[9] and that residents who live in neighborhoods requiring car dependency have reduced physical activity and increased obesity rates.[10] In addition, poorly designed and confusing development patterns frequently result in longer daily commute times and commute-related stress.

The Toronto Public Health Department cites that the availability and affordability of transit has an impact on low-income residents' ability to "access important goods and services such as food, health care, employment, and recreation, all of which impact their health [and well-being]."[11] The agency concludes their study by asserting the clear need to address these barriers through improving transit accessibility, reducing costs, and improving their data collection standards to enable transit planning that meets the needs of low-income residents. In addition, a study on the role of universal free bus passes for older citizens in London suggests that, "where good public transport is available as a right, and bus travel is not stigmatized, it is experienced as a major contributor to wellbeing."[12] And, in a survey examining how the universal provision of free bus travel affects younger Londoners sense of independent mobility, participants reported a higher level of social engagement and a greater feeling of confidence and personal freedom due to decreased travel costs and less financial reliance on their parents.[13] Similarly, a report from Turin, Italy, found decreased levels of anxiety and depression among older residents who lived in close proximity to high quality bus and rail systems.[14]

Studies have found that bicycle paths and walking trails improve mental health through enabling physical activity and exercise.[15] These findings suggest that walkability and bikeability,

especially in areas near parks and open spaces, are valuable neighborhood components. Residents are more likely to have higher levels of mental wellness, improved quality of life, and are more physically active.[16]

City infrastructure constructed with "social friction" in mind, a transportation planning practice of placing visible obstacles for drivers to navigate around to limit distractions and fatalities, has led to safer roadways and a growth in pedestrian culture. Leigh Gallagher argues that more places should build narrower lanes, add more stop lights, crosswalks, and tree canopies, and install other elements of "social friction."[17]

Among urban designers, there is a growing opinion that the social and economic wellbeing of cities depends on how efficiently and equitably their street networks function for all residents. In an interview with *Next City,* Danish architect Frank Gehl describes successful cities as places where people stop and enjoy the social drama of everyday experiences. Streets are where people live and shop, sit in sidewalk cafes and watch passersby, and are sites of public gatherings.[18] They serve as a great benefit for local economic development, social harmony, and individual mental wellness. In addition, a healthy network of public spaces, parks, accessible transportation options, and sidewalks can lead to a decrease in traffic congestion and greenhouse gas emissions, and better mental health.

Environment
Many communities in the United States are visibly segregated by land use, and often, low-income residents live in closer proximity to hazardous facilities than their more affluent counterparts. Policy discussions about chemical emissions from incinerators and waste management buildings are often framed in the context of physical health. However, hazardous waste facilities emit byproducts that are adverse to mental health as well.[19]

In a study that combines mental health sociology and environmental inequality research, Liam Downey and Marieke Van Willigen find that living near industrial activity has a strong correlation with perceptions of neighborhood disorder, feelings of personal powerlessness, and depression.[20] The authors seek to measure if residential proximity to industrial activity causes stress, and if those same individuals experience worse mental health conditions than those who do not live near industrial activity. Many of the residents the researchers talked to are from lower-income communities of color. While not omitting the possibility that residential proximity to industrial activity has physiological effects that adversely impact mental health, they argue that this proximity is harmful because many individuals view industrial activity more negatively than most individual-level factors usually included in mental health research, associating it with chaos.[21]

In Kendra Pierre-Louis's latest piece for *The New York Times*, the writer demonstrates that people of color and White populations who live in racially segregated communities are exposed to higher levels of pollution than those living in more integrated areas.[22] In turn, there is less

civic engagement and decision-making power among these communities when it comes to influencing municipal land use decisions in their neighborhoods. Pierre-Louis goes on to detail that since at least the 1980s, Black and Latino communities have had higher levels of pollution than White communities, even when controlling for income, and that middle-income Black people experience higher levels of pollution than low-income White people.[23] According to Dr. Brandon M. Terry, assistant professor of African and African-American Studies at Harvard University, "in a community where there are really stark racial tensions it's going to be really difficult to organize a large enough group to fight back against exploitative industries or corporations that don't want to do their fair share to take care of environmental hazards."[24]

The California Healthy Places Index by the Public Health Alliance of Southern California explores various community conditions, including the built environment that predict life expectancy.[25] Their statewide map shows that residents who live in areas with high PM2.5 exposure levels – tiny atmospheric particulate matter that are no larger than 2.5 microns in diameter and are byproducts of industrial uses – experience higher risk of heart and lung disease, shorter life expectancy, and more frequent visits to the emergency room. In a study of air pollution effects on individual psychological distress, the authors find that exposure to PM2.5 is positively associated with increased psychological distress and that there are differential impacts by race and gender.[26] The California Healthy Places Index reveals that 75% of cities with high traffic density and a large amount of impervious surface cover (such as roads, parking lots, and driveways) also had high concentrations of adult populations with poor mental health.[27]

Black communities are exposed to 1.54 times more fine particulate matter than the average U.S. resident, while Latino communities are exposed to 1.2 times more matter. People below the poverty line are exposed to 1.35 times more particulate matter than the national average. Again, there is a high environmental impact on low-income communities and communities of color, and specifically, there are unequal protections for and burdens on Black families when it comes to pollution.[28]

Perceptions of Safety
Another contributor to mental wellbeing is how safe an individual feels in his or her neighborhood. Fear of crime has been negatively correlated with mental and physical health in the literature.[29] Thus, interventions in the built environment that improve public safety or the perception of public safety warrant a discussion.

Research indicates that rates of crime and perceptions of crime are both related to aspects of the built environment. For example, it has been suggested that orienting housing toward the street and reducing the prevalence of abandoned buildings will have a positive impact on crime reduction. Such guidelines and other recommendations regarding housing layout, land use, territoriality, and physical maintenance were suggested by the Crime Prevention Through Environmental Design (CPTED) strategy. Some of the communities that followed CPTED suggestions did see reductions in crime.[30] While these studies show a connection between the

structure of the built environment and public safety (or perception of safety), the research field does not unanimously agree on its efficacy.[31] In particular, one study noted a surprisingly low change in perception of safety after use of CPTED measures. Knowing whether an initiative is targeting actual safety or perception of safety is an important distinction. Additionally, modifications to the built environment will only part of the public safety solution, regardless of how effective they are.[32]

It is also important not to conflate the relationship between perception of safety and mental health with the "broken windows" theory, which promotes close surveillance of communities with built environment indicators seen as facilitating criminal activity. This approach has led to over-policing in low-income communities and communities of color, which has resulted in disproportionate criminalization rates in such communities when compared to neighborhoods that are more affluent.

Social Cohesion
Social cohesion can have a number of different definitions, but at its most basic, it can be described as "a kind of glue holding society together,"[33] and refers to the strength of our connections to neighbors and those we encounter in our communities. Another definition emphasizes the importance of "shared norms and values, social solidarity, social control, social networks, and the feeling of belonging to each other through a common identity and a strong bonding with the place where one lives."[34] Thus, social cohesion is also about shared ownership and a sense of being part of a greater community whole.

In her book *Root Shock*, Dr. Mindy Thompson Fullilove discusses the impact of neighborhood revitalization on social cohesion and mental health by explaining the ways in which low-income communities of color are dependent on their social networks. When residents are displaced, either directly through government interventions or indirectly by market speculation, their social networks are deeply damaged. As a result, they experience "root shock" – the sensation of being torn apart of their support system – which has a profound impact on mental health.[35]

In Eric Klinenberg's popular 2013 *New Yorker* piece, "Adaptation: How Can Cities be Climate Proofed,"[36] he argues that during a 1995 Chicago heat wave, social cohesion played an important role in whether elderly community members lived or died. The Auburn Gresham neighborhood, for example, is full of sidewalks, stores, restaurants, and community organizations that bring people into contact with friends and neighbors, while a demographically similar community, Englewood, has lost much of the same kind of infrastructure over the years. One resident of Englewood noted in the article, "Now we don't know who lives across the street or around the corner. And old folks are apprehensive about leaving their homes."

Death rates for Auburn Gresham were much lower than rates in Englewood. Klinenberg posits that the primary reason for this discrepancy, despite similar rates of poverty, crime, and elderly individuals, is that Auburn Gresham's stronger sense of social connection led community

members to check-in on elderly individuals who might otherwise be isolated and have no one to rely on during the heatwave. This remarkable comparison illustrates the relationship between the built environment and social cohesion, which then affects health and wellbeing.

Researchers have drawn several connections between levels of social cohesion and health. Some of the studies relate specifically to physical health, such as those showing a correlation between a decreased rate of social cohesion and an increased prevalence of heart disease.[37] Other studies suggest that good social relations can reduce the physiological response to stress,[38] showing that there are mental health benefits to social cohesion as well as physical benefits. In addition, some researchers argue that designing facilities to encourage social interaction in communities could improve mental health.[39]

This view seems to resonate with New Urbanism, a planning practice that aims to promote a sense of community created through conscious neighborhood design.[40] New Urbanism principles highlight the importance of dense neighborhoods and human scale design aesthetics.[41] It is clear that for several communities, particularly those with strong ethnic identities, the physical infrastructure of neighborhoods can be a source of strong attachment and of social cohesion.[42] However, the New Urbanist framework promoting sense of place does not always explicitly include low-income people and people of color. We see this as a key area of importance for the nexus of land use and mental health.

Greening
A study of greening and health in Wisconsin found that increased public green space was linked to improved mental health, in both rural areas and denser urban environments. Higher levels of neighborhood green space were correlated with reduced symptoms of depression, anxiety, and stress, even after controlling for a number of confounding factors.[43] Whereas the positive correlation with physical health seemed to be mainly explained by an increase in recreational walking, there may be "restorative effects" of the natural environment that explain the higher correlation with mental health.[44]

Agricultural therapy is a preventive measure that mental health service programs are researching to connect individuals with stress-induced disorders to the natural landscape. According to horticultural therapist John Beirne, "[horticultural therapy] is the process of using nature, plants, and gardening as a structured and goal-driven vehicle toward wellness. Clients also develop skills that are transferable to the workplace, including responsibility, cooperation and follow-through."[45] Community gardens have the added benefit of greening blighted areas, providing healthy and affordable nutrition in food deserts, and reducing greenhouse gas emissions along the way. One study of a greening program in Philadelphia found that vacant lots, which received a greening intervention of new plants and trees, were associated with reductions in gun assaults. Results were consistent across four sections of the city.[46]

Moreover, open and green spaces provide such clear health benefits that medical professionals are prescribing park visits to refresh our brains.[47] *CityLab* compiled case studies to detail how urban nature is favorable to public health and mental wellness. Its wide-ranging list includes remedies for depression, and specifies how having access to more green space contributes to life satisfaction, helps with mental focus, and decreases tension and hyper-anxiety. People living in public housing whose views overlook greenery are better able to de-escalate personal situations compared to those looking onto an empty common area.[48]

It should be noted that greening interventions often illicit concerns about gentrification. One prime example is the High Line in New York City. Since opening in 2009, some argue that it serves as a major tourist attraction instead of being a community amenity for local residents. Less than seven percent of the High Line's users are Black and Latino, even though it is near two public housing projects occupied by majority non-White populations. Manhattan neighborhoods in close proximity to the High Line saw property values soar by 103% between 2003 and 2011.[49] In cities like Washington, D.C. and Chicago, where revitalization projects may drive up rents, advocates are drawing up equitable development plans and community benefit agreements so that existing low-income residents can benefit from investments instead of being priced out of their communities.

Policy Strategies

Planning and health policy decisions directly affect personal health, community well-being, climate resiliency, and the economy.[50] This is why decision-makers must ensure that the most impacted communities – those living on the margins and at the intersections of income inequality, housing insecurity, and racism – are leading the solutions best-suited to their needs. Land use planning can be an empowering tool that planners and public health professionals use to help residents reimagine and revitalize their neighborhoods. Below are just a few approaches to creating a built environment that promotes health and mental wellness for all.

Meaningful Community Engagement

For decades, policymakers, elected officials, and community agencies have focused on outcomes without a meaningful public process. However, dynamic community engagement and decision-making by residents helps achieve buy-in, builds trust, and promotes common understanding. A meaningful public participation approach invites people to develop relationships early in the process to encourage faster and smoother implementation of shared ideas. To ensure marginalized communities are able to attend meetings, conveners should consider investing in the following resources and processes:

- Hold meetings during evenings and weekends, and in different locations to capture the geographical diversity and the breadth of public opinion on critical issues;
- Provide language interpretation and childcare;
- If possible, release a calendar of events in advance;
- Administer surveys in impacted communities to reach residents who are unable to attend meetings.[51]

Residents experiencing particular problems can best articulate the challenges they confront and their communities' needs, and know which solutions will be most effective. As a prerequisite of equitable planning, practitioners must advocate for community-oriented strategies that encourage civic engagement, develop social capital, and incorporate resident priorities into actionable policy strategies. Civic engagement also has the co-benefit of increasing residents' mental wellbeing. In their study, "Democracy: the forgotten determinant of mental health," Wise and Sainsbury show that greater direct democratic rights, expanded opportunities for political participation, increased political participation, and increased local government autonomy are associated with higher levels of happiness and/or life satisfaction.[52] Promoting meaningful community engagement means moving decision-makers and government officials to use a more interconnected and intersectional approach, one that unifies issues around land, race, class, and ecology in a just way.

Partnership between Health and Planning

Leading experts in environmental psychology encourage making health an explicit part of planning. Dr. Nancy Wells, whose research highlights the effects built environments have on physical and mental health, details how planning decisions significantly influence neighborhood configuration, land-use mix, road arrangements, housing design, retail location, park layouts, traffic density, and air and water quality.[53] Wellness advocates need to be firmly involved in comprehensive planning processes. A health perspective is always germane to zoning, land use, and transportation discussions, but is rarely present in meetings on these topics. As advised by the Centers for Disease Control and Prevention and the Atlanta Regional Health Forum, this requires local boards of health and mental health professionals to engage in community education and coalition building around planning issues and to insist that health measures be included in plan evaluation.[54]

Early discussions of land use issues are an opportune time to address environmental health considerations and to conduct an analysis of existing development patterns and their effects on marginalized communities using health impact assessments (HIAs). Developed in the 1990s, HIAs are defined as a combination of methods and tools by which a policy, program, or project may be judged in regards to its potential effects on the health of a population and the distribution of those effects. With an explicit focus on equity, HIAs use a multidisciplinary approach to reveal strategies that reduce health disparities through data analysis and directly working with affected populations. By bringing to light specific information and raising awareness among decision-makers, health consequences are assessed in advance to optimize outcomes.[55]

Support Tenant Protections

Housing that is a safe, habitable, and affordable sanctuary that fosters socially supportive relationships is an internationally recognized right that should be accessible to everyone.[56] In pursuance of this right, the Right to the City Alliance's Homes for All Campaign advocates five pillars of housing justice. These include true affordability relative to household incomes; accessibility for historically marginalized populations in socially diverse geographic areas; long-

term stability and protection from displacement for families; health, sustainability, and quality of good housing; and community control of housing through democratic structures and processes.[57] Because impacted communities lead multi-issue lives, people are making the explicit connection between the right to housing and the struggles for workers' rights, immigrant justice, climate justice, equitable development, and transportation equity, with housing stability holding the physical and emotional core of their identities as workers, students, parents, immigrants, and faith congregants.

Rent control and just-cause eviction policies are two of the best short-term harm-reduction solutions to the displacement crisis in the Bay Area. Across the state, tenant-led movements are pushing for these policies through the ballot and at local city councils for the first time in more than 30 years. According to a recent poll conducted by the UC Berkeley Institute of Governmental Studies, more than 50% of California voters have considered moving because of high housing costs, 60% support local rent control, and 50% support a multi-billion dollar statewide bond to build affordable housing.[58] Alongside a push to preserve and build more affordable housing, these high impact policies help keep people in their homes, allow families to develop and maintain roots in the community, and increase democratic participation without the constant fear of displacement.

Planning for Equity

Many environmental inequities can be traced back to poor land use planning. For this reason, planners need to understand the public health impacts of land use decisions as much as public health practitioners need to understand how land use and zoning account for individual and community health. Similarly, addressing social equity should be a guiding principle in both fields. The American Planning Association defines social equity as "the expansion of opportunities for betterment that are available to those communities most in need, creating more choices for those who have few." The California Planning Roundtable cites that with social equity, everyone has the ability to enjoy the benefits of a healthy and prosperous community with access to housing, transportation, jobs, commerce, political representation, and positive physical environmental conditions.[59]

In California, every city is required to adopt a long-range planning and visioning document, known as a general plan, which details the current and future growth trends of a community. General plans include seven obligatory elements – housing, open space, land use, safety, mobility, conservation, and noise – and can adopt additional elements as needed. Typically, these plans cover a thirty-year span and include physical, social, environmental, and economic goals. In 2016, the California State Legislature passed Senate Bill 1000 (SB 1000). SB 1000 requires "cities and counties that have disadvantaged communities to incorporate environmental justice (EJ) policies into their General Plans, either in a separate EJ element or by integrating related goals, policies, and objectives throughout the other elements… upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018."[60] Currently, SB 1000 applies to cities with disadvantaged communities, low-income areas disproportionately affected

by environmental pollution and other hazards that can lead to negative health effects. However, this equitable approach to general plans should be undertaken by all cities in order to reduce physical and mental health risks, improve air quality, expand green spaces, and remove barriers to fresh food access, among other benefits resulting from prioritizing environmental justice and economic prosperity.

Rethink Neighborhood Design

Active design is an emerging field in public health and planning circles. Public agencies are being compelled to integrate health and wellbeing into the development process due to growing scientific evidence that supports a causal relationship between design, development patterns, and mobility and community health outcomes.[61]

The Mueller master planned community in Austin, Texas, is a study in place management that utilizes smart growth principles to achieve social cohesion.[62] Architects and city staff were motivated by the idea that the built environment can create meaningful community spaces. With that goal in mind, they created a centralized design that included every single-family home having a porch, every row house a stoop, garage doors on the backside of lots, wider street networks to encourage more walking, flexible zoning codes, and socialization programs in public spaces. An antithesis to mid-century suburban sprawl, Mueller displays how a dense build-out that includes more sidewalks, greenways, and shared-use lanes can contribute to better health choices and positive attitudes due to increased community involvement. In 2014, a Texas A&M University research team conducted a wellness study for Mueller by surveying 229 residents' levels of activity before and after moving to the neighborhood. The team concluded that Mueller's layout, "led not only to more walking and biking by its residents, but also to greater social interaction and neighborhood cohesiveness."[63]

However, an unintended consequence of this approach is that it often occurs in homogenous (mostly White) communities within sub-regional jurisdictions. John Burnett, a NPR correspondent who chronicled the design of the mixed-income, mixed-use Mueller neighborhood, reports that the community experienced its fair share of racial incidents involving Black residents who felt unwelcome by some of their neighbors. Burnett writes that the close-knit community recognized there was a problem and promptly acted by hosting community meetings to open up frank dialogues about race. James Nortey, a 28-year-old Black attorney and the president of the Mueller Neighborhood Association, said, "by and large, there was a collective sense of both outrage, shock and honest, sincere sadness."[64]

In gentrifying neighborhoods, cities should balance beautification projects and design interventions with concerted efforts to maintain and grow pre-existing class, racial, and cultural diversity. Professor Lisa K. Bates argues that public investment decisions should foster this type of neighborhood stability over the long term, but also warns that place-making can cause or deepen gentrification pressures, which is important for policymakers to note when working in historically marginalized areas currently undergoing revitalization efforts. If city decisions

respond to new residents' anticipated needs instead of those of long-time residents, they can reinforce inequities and cause conflict among neighbors.[65]

Research Questions

The fields of land use and mental wellness are inherently related. Yet, there are still a number of questions that need to be answered regarding how these two fields can meaningfully work together. The list below outlines some of the questions that need further exploration:

- Besides the built environment interventions described above (such as greening), what are other tangible tools that can be used to improve mental wellness within neighborhoods?

- How can we meaningfully incorporate a focus on low-income communities and communities of color into place-making work, including New Urbanist and Smart Growth initiatives? What does meaningful and equitable social cohesion look like in practice?

- How can we ensure that existing low-income communities and communities of color are able to enjoy the benefits of improvements to the built environment?

- How can we facilitate increased engagement between the fields of mental health and planning? How can mental health experts better advocate for improved built environments and planners advocate for improved mental wellness? Can we look to examples like the Health in All Policies work to move policy that has positive impacts on mental wellbeing?

Conclusion

While we have uncovered the many intersections between the fields of land use and mental wellness, there is still much to be determined about land use interventions that could positively impact mental wellness. In particular, we need to better understand how low-income communities and communities of color can benefit from their neighborhoods being transformed into mentally healthy places without the risks of gentrification and displacement. Exploring the issues of community change and development through the lens of mental wellness highlights the interdisciplinary nature of work on our built and social environments and gives us insight into future collaborative pathways.

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