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Perspectives

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Leveraging built environment interventions to equitably promote health during and after COVID-19 in Toronto, Canada

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Summary

A key public health response to the COVID-19 pandemic is the mandate to stay home and practice physical distancing. In Canada, with essential activities such as grocery shopping, outdoor exercise and transportation, people need to be able to safely navigate dense, urban spaces while staying at least two metres or six feet apart. This pandemic has exacerbated the health inequities across neighbourhoods in cities like Toronto, Canada which are often segregated along racial and income lines. These inequities impact who has access to urban infrastructure that promotes health and quality of life. Safety in a time of COVID-19 goes beyond just exposure to the virus, it is complicated by notions of who belongs where, and who has access to what resources. The built environment has a role in maintaining and promoting physical and mental health during this pandemic and beyond it. This paper puts forwards three considerations for built environment interventions to promote health equitably: (i) addressing structural determinants of health and embedding anti-racist intersectional principles, (ii) revisiting tactical urbanism as a health promotion tool and (iii) rethinking community engagement processes through equity-based placemaking. This paper outlines four built environment interventions in Toronto, Canada that seek to address the challenges in navigating urban space safely in the short term, including street design that prioritizes pedestrians, protected cycling infrastructure, access to inclusive green space and safe, affordable housing. Longer-term strategies to create health-promoting urban environments that are equitable are discussed and may be valuable to other cities with similar urban equity concerns.

Key words: built environment, health equity, social determinants of health, structural determinants of health, anti-oppression

INTRODUCTION

A key public health response to the COVID-19 pandemic has been the mandate to stay home and when outside, to practice physical distancing. In Canada, for essential outdoor activities such as grocery shopping, transportation and exercise, the public is required to stay at least two metres or six feet apart. The current

unequal design of built environments in urban centres like Toronto makes it challenging to safely maintain and adhere to these distancing guidelines in some neighbourhoods. As the pandemic continues and until a vaccine is equitably rolled out, people need to be able to safely navigate dense, urban spaces. The built environment has a role to play in maintaining and promoting health during this pandemic and beyond it.

While the immediate impacts of the COVID-19 pandemic have been devastating, public health has a responsibility to consider the coexisting and long-term health ramifications. Although preventing the transmission of the virus is a priority, other concurrent health concerns include promoting physical and mental health during this time and minimizing the negative health outcomes that may arise due to increased stress and isolation, reduced physical activity and the added impact for those with pre-existing health conditions (Alonzi *et al.*, 2020). There are calls to address increasing mental health concerns due to the pandemic (Khanlou, 2020; Yanping *et al.*, 2020).

Health promotion has often concentrated on individual behaviour change whereby an individual's decisions impact their health. With the COVID-19 pandemic, there is an understandable need to focus public health recommendations on actions and behaviours where the onus is on the individual: self-assessment for symptoms, staying home, proper handwashing, wearing face masks, maintaining physical distancing and other individual responsibilities (Van den Broucke, 2020). Concurrently, there is a need to make explicit connections to the structural causes of health inequities that are beyond an individual's control (Schulz *et al.*, 2020).

This paper aims to take a critical look at the opportunities and tensions of built environment interventions during the pandemic, with examples from Toronto, Canada. While several interventions could be explored, this paper will focus on four aspects of the built environment that may be leveraged to promote physical and mental health both during and after COVID-19. Urban interventions and approaches have socio-spatial ramifications and a main objective of the paper is to highlight the role of the built environment in promoting health equity.

HEALTH INEQUITIES AND COVID-19

The City of Toronto is divided into 140 neighbourhoods with a rapidly rising population of ~2.9 million. Half of Toronto's population was born outside of Canada and around 51.5% of the population identified as visible minorities (City of Toronto, 2018a). In recent decades, Toronto has been increasingly polarized by income and neighbourhoods are divided along income and racial lines (Hulchanski, 2011). After the second world war, in response to a need for housing, high-rises were built to house middle- and high-income residents on the periphery of the city, outside the downtown core (McClelland *et al.*, 2011). However, over time, the resulting 'tower neighbourhoods' came to be where many low-income households moved and where immigrants arrived and settled, forming 'vertical poverty' areas with mostly racialized immigrant populations (United Way Toronto, 2011). This is demonstrated in neighbourhoods like St. James Town and Thorncliffe Park. These spatial trends have resulted in neighbourhoods that are predominantly racialized and sometimes referred to as 'ethnic enclaves' or 'racially identified spaces' [(Ford, 1994), p. 1844]. Racialized immigrants with high levels of education are often underemployed or unemployed due to being caught in a vicious cycle of needing 'Canadian experience', resulting in the racialization of poverty (Block and Galabuzi, 2011). These tower neighbourhoods like St. James Town have been disproportionately impacted by COVID-19 due to several factors.

Multiple crises have created a 'perfect storm' in exacerbating the inequities underlying COVID-19. Racialized and low-income populations are disproportionately impacted during this pandemic due to multiple crises caused by determinants of health such as poverty, precarious employment, inadequate or unaffordable housing, lack of access to medical care and structural racism (Khanlou *et al.*, 2020). The pandemic has highlighted who has the privilege to adhere to public health guidelines and make decisions that are protective against contracting COVID-19, such as the option to continue working and doing so from home. In the USA, people who work in essential services like production, transportation, front-line of grocery stores and supply chains tend to be racialized or people of colour (Schulz *et al.*, 2020). Similarly in Canada, racialized workers are overrepresented in several essential and front-line industries including personal support workers, nurses, retail workers, cleaners and warehouse employees (Statistics Canada, 2006). For people in jobs deemed essential, several factors increase potential exposure to COVID-19 including access to personal protective equipment and to testing (especially in the early months of the pandemic) and ability to commute to work safely (e.g. taking public transit versus driving a private vehicle). Other factors that may disproportionately affect households includes access to government supports such as financial supports and healthcare (based on immigration and citizenship status), options to self-isolate or quarantine without coming into contact with others (due to close living quarters), fewer resources to stockpile food and minimize visits to grocery stores (Schulz *et al.*, 2020).

Individuals have limited control over many of the systemic issues and structural determinants that may influence their health outcomes. However, to a large extent, the pandemic response has assumed individual agency, especially regarding the capacity of the individual and household. 'Stay-at-home' directives that facilitate physical distancing for everyday activities such as working from home and homeschooling exacerbate inequities through an assumption of access to private resources. This assumes, at the minimum, access to safe and suitable housing alongside other assets such as gardens, home offices, vehicles and vacation homes. Access to both outdoor and indoor public amenities, including playgrounds, parks, libraries and workspaces serves to mitigate social disparities by providing communal space. Consequently, the shutdown and decentralization of public services due to the pandemic contributes to worsening these inequities.

CONSIDERATIONS FOR CREATING EQUITABLE BUILT ENVIRONMENTS

COVID-19 is highlighting and exacerbating the existing structural issues that cause health inequities across neighbourhoods. This pandemic brings into stark relief how the way we design cities is inherently inequitable and steeped in systemic racism and marginalization. There are three overarching considerations for how the urban built environment can be re-imagined and leveraged to equitably promote physical and mental health. In discussing each of the interventions that follow, the paper considers: (i) addressing structural determinants of health and embedding anti-racist, intersectional principles, (ii) revisiting tactical urbanism as a health promotion tool and (iii) rethinking community engagement processes through equity-based placemaking. These equity-focused considerations may serve as lenses for critical reflection as they build on health promotion's long-time commitment to social justice and equity, creating supportive environments and strengthening community action (Ottawa Charter for Health Promotion, 1986). Health promotion can benefit from the critical scholarship and practice in disciplines such as critical race theory, geography, disability studies, feminist and gender studies (Bassett, 2015).

Addressing the structural determinants of health and embedding an anti-racist intersectional approach

There is a need to move deeper and beyond the social determinants of health to address the structural determinants of health and name systems of oppression (Rai, 2017; Ndumbe-Eyoh, 2018; Schulz *et al.*, 2020). Schulz and Northridge's (Schulz and Northridge 2004) framework on the social determinants of health and environmental health promotion outlines the relationships between the built environment, social contexts and health disparities. This framework takes a socio-ecological approach and identifies macro-level, meso-level (community) and micro-level (interpersonal) factors that impact individual and population health outcomes. The social determinants of health such as housing, food insecurity, employment conditions, poverty, access to healthcare and education all contribute to health and quality of life (Mikkonen and Raphael, 2010). Macro-level factors include historical conditions, political and economic orders and unequal distributions of opportunities and resources (Schulz and Northridge, 2004). These macro-level factors can be conceptualized as the structural determinants of health causing structural inequities (National Academies of Sciences *et al.*, 2017). These structural determinants of health are the root causes of differential health outcomes between populations and comprise interlocking systems of oppression such as colonialism, racism, sexism, ableism, classism, xenophobia, homophobia and transphobia (Czyzewski, 2011; Rai, 2017). These structural and systemic drivers of health overlap, do not operate in isolation and can compound (Crenshaw, 1989). Crenshaw (Crenshaw, 1989) cautions against single-issue thinking in her framework on intersectionality and this lens helps conceptualize how multiple oppressions influence how the built environment impacts different groups.

One example of how these structural determinants of health work in intersecting ways to create inequitable built environments is historical housing policies in North America. The impact of systemic racism and discrimination as structural determinants is evident through policies and practices such as redlining which have kept Black people in the USA from owning property and building wealth (Perry, 2019). Redlining was the discriminatory process where the Home Owners' Loan Corporation in the USA outlined areas in red that were deemed to be 'high-risk' or 'hazardous' and of lower property value, and contributed to the denial of loans and higher interest rates for people in these areas, which had a greater proportion of Black residents (Mitchell and Franco, 2018). This history of racial segregation of neighbourhoods and its influence on socioeconomic inequality, through enabling separate and unequal education and work opportunities, leaves a legacy today. Predominantly, white areas have had significantly higher housing appreciation rates, have been sought-after and had higher real estate demand even

when they had similar housing quality, education and crime rates as predominantly Black and racialized neighbourhoods (Delgado and Stefancic, 2017; Howell and Korver-Glenn, 2020). The ongoing issue of neighbourhood inequalities in housing values is also caused by contemporary appraising practices which factor in neighbourhood racial makeup and are based off previous sale prices (which were inequitably valued) thereby perpetuating racial inequities (Howell and Korver-Glenn, 2020).

In Canada, we see similar demarcations that create racialized geographies, notably reserves for Indigenous peoples across Canada and in the case of Africville in Halifax, Nova Scotia, a primarily Black neighbourhood which was deemed an urban 'slum' (Nelson, 2000). Migration and settlement patterns have resulted in 'spatial distinctions, where separate racialized inner-city ghettos exist in contrast to predominantly white suburban areas' (Gosine and Teelucksingh, 2008: 49). As Schulz and Northridge (Schulz and Northridge, 2004) outline, spatial concentrations of poverty impact the resources available for community infrastructure like the built environment (a meso-level factor). This relationship between community investment and neighbourhood infrastructure (e.g. parks, public transportation, housing) influences the environments that individuals live in. The differential access to public resources such as residences, schools and recreation facilities between neighbourhoods continues to impact health and well-being.

Colonialism and its far-reaching and ongoing impact on the health and lives of Indigenous people is clear (Allan and Smylie, 2015). Furthermore, Toronto is situated on Indigenous land and while this paper discusses current built environment interventions, it is necessary to recognize that this settler urban space has a history and enduring injustices that demand attention. These structural determinants (i.e. colonialism, white supremacy, capitalism) uphold spatial injustices for marginalized groups, specifically, those who are Black and Indigenous (Lipsitz, 2007). Accordingly, we cannot separate the issue of racism from public health and health promotion responses within the context of urban space. In 2018, the Canadian Public Health Association released a position statement acknowledging the impact of racism on the health of individuals and populations along with calls to action to all governments and health agencies in Canada (Canadian Public Health Association, 2018).

Multiple social and spatial factors (both visible and invisible) impact how a person experiences and navigates public urban spaces (Pitter, 2020). We must consider who feels safe in urban spaces at this time, and how the design and planning of urban infrastructure contribute to the exclusion of certain groups of people. Safety in a time of COVID-19 goes beyond just exposure to the virus, it is complicated by notions of who belongs where, and who has access to what resources.

Revisiting tactical urbanism as a health promotion tool during COVID-19

This pandemic has seen an increase in tactical urbanism, both sanctioned and unsanctioned, driven by grassroots initiatives and implemented by public organizations. Tactical urbanism is attributed to urbanist and planner Mike Lydon, and refers to low-cost, small-scale temporary approaches to reconfigure the urban environment to meet people's needs, often without governmental involvement (Mould, 2014). This community-led approach to intervening on the built environment through the concept of DIY (do-it-yourself) urbanism lends itself well to the quick turnaround times necessary in times of crisis and in response to rapidly shifting situations like with the COVID-19 pandemic. Mould (Mould, 2014) argues for how tactical urbanism has been co-opted by governments as a means of pushing neoliberal agendas that may undermine equity initiatives. Therefore, taking a critical approach to this concept is necessary and will be discussed further in the paper. Notably, Toronto has had a high number of pilot projects rather than a commitment to more permanent solutions. Tactical urbanism allows for rapid changes with low budgets. Many built environment initiatives are often seen as high cost, large-scale projects with a significant investment of resources of money, time and labour. There is an opening for dialogue about retrofitting our existing environments and to reconsider our priorities regarding how initiatives are designed, approved and put into place. Current urban environments often prioritize capitalist accumulation over human needs, health and well-being (Mould, 2014).

Tactical urbanism actions in Toronto and other cities have ranged greatly in response to COVID-19. Stickers, placards and other signage affixed to sidewalks and the sides of buildings now designate where to queue up the appropriate distance apart both outside and within grocery stores, retail and apartment buildings. Prior to the pandemic, this prolific ordering of space would have been confusing but now serves to coordinate how users navigate the urban environment. This signage serves to safely enact physical distancing guidelines and is now immediately recognizable and accepted as a reminder of changing times. Artists and organizations are thinking

about how to mitigate social isolation and distancing during this time through community-engaged public art initiatives. These initiatives range from using streetscapes as public galleries to animating storefronts of business that have had to close due to the pandemic to engage people safely at a distance (Toronto Arts Council, 2020). A collection of online and drive-through art activations recognize the role that arts and culture play during a pandemic and how urban spaces can be reconfigured and transformed to build community, raise awareness, build solidarity and contribute to the livelihoods of artists and creative entrepreneurs in the gig economy who may experience higher employment precarity.

While many of the interventions implemented at this time are conceptualized as temporary and in response to the pandemic, the question of how to permanently incorporate valuable changes remains. Many of these initiatives are envisioned and led by community organizations and grassroots initiatives and have been expedited through governmental approval processes given the current policy window. One example is the temporarily enhanced pedestrian and cycling infrastructure in downtown Toronto described below. It is important to facilitate the safe navigation of cities while mitigating the spread of the virus, and groups are advocating for longer-term change noting the vital role of active transportation in the economic and social recovery of Toronto (Longfield, 2020).

Rethinking community engagement processes through equity-based placemaking

Pitter (Pitter, 2020) states 'an equity-based placemaking approach explicitly acknowledges that urban design is not neutral; it either perpetuates or reduces urban inequities' (9). Key components of equity-based placemaking include acknowledging complex socio-political histories and how it impacts how people navigate space, identifying and addressing power imbalances through the process, developing plans and programming that address competing interests between different user groups and co-creating public spaces with people (Pitter, 2020).

An intentional and critical approach to equitable-placemaking should allow for centring the voices and experiences of those most marginalized (Crenshaw, 1989). Social factors and aspects of identity such as race, gender, ability, socio-economic status and age influence how people interact with the physical environment (Lipsitz, 2007). Racialized people, especially Black and Indigenous people, are more likely to face harassment, surveillance, discrimination and violence in public spaces. As such, Black, Indigenous and people of colour are more likely to make choices about how to use public space based on these realities (Rishbeth *et al.*, 2018). To avoid further stigmatizing certain neighbourhoods and populations, it is vital to avoid victim-blaming and instead address the underlying structural issues that cause these inequities and health disparities.

A critique of the processes for public and community engagement is that they can be tokenistic and lack meaningful engagement (Zhuang, 2021). Several issues of exclusion have been highlighted in these community engagement processes including prioritizing those who have the capacity and resources to attend (times, locations, lack of childcare, transportation costs, unpaid or minimal compensation for participation and work, etc.) and excluding those most marginalized. Another element that is exacerbated during COVID-19 is the reliance on digital communication which overlooks the equity issues of digital access for online consultations. Many grassroots initiatives and community organizations are doing direct work on the frontlines to support people and address local issues. The people doing this work often have established relationships and a more nuanced understanding of community issues. This necessary work may conflict with their participation in relevant municipal and other meetings and processes, which need to be flexible and responsive in scheduling. There is a need to reformat and re-envision planning processes, taking into consideration community practices.

The City of Toronto's decision in June 2020 in response to the call to defund the police highlights the disconnect between what communities call for and the decisions being made (Boisvert, 2020). The recent murders of George Floyd, Ahmaud Arbery, Breonna Taylor and many others in the USA have ignited further protests and the Black Lives Matter movement has highlighted the extent of anti-Black racism. This anti-Black racism exists in Canada as well. In Toronto, Regis Korchinski-Paquet and D'Andre Campbell were two young people who were experiencing mental health concerns and were no longer alive after interactions with the police, who were called in for support. A recent report by the Ontario Human Rights Commission found that a Black person was nearly 20 times more likely to be fatally shot by Toronto Police compared to a White person (Ontario Human Rights Commission, 2018b). Despite making up ~8.8% of Toronto's population, Black people made up about '30% of police use-of-force cases resulting in serious injury or death' and '60% of deadly encounters with police' (Ontario Human Rights Commission, 2018a). In response to the urge by communities to defund the police and redirect resources to community services, a

proposed budget cut of 10% to the police budget was not approved (Boisvert, 2020). The 'business-as-usual' approach perpetuates anti-Black and anti-Indigenous racism and requires rethinking city processes if there truly is to be a commitment to hearing from and engaging with communities.

BUILT ENVIRONMENT INTERVENTIONS IN TORONTO, CANADA

This paper outlines four areas where built environment interventions have been implemented in Toronto's response to COVID-19, with context, challenges and questions for the next steps. While these interventions are aligned with evidence to promote healthy urban environments, they do not cover every possible intervention and are not intended to be considered a panacea nor do they necessarily highlight the most appropriate response. Rather, the interventions and approaches outlined are intended to contribute to the critical discussion on creating equity-oriented health-promoting cities beyond COVID-19.

Reconfigured streets to prioritize pedestrians and active transportation

In response to COVID-19, Toronto launched the *ActiveTO* initiative to reconfigure public streets and prioritize active transportation (like walking and cycling) in three ways: creating quiet streets, closing major roads and expanding the cycling network (City of Toronto, 2020c). These initiatives facilitate safer active transportation in public space for exercise, leisure, occupational reasons and in commuting to work or grocery shopping (Saelens *et al.*, 2003). The high-density downtown core and tower neighbourhoods of Toronto make it particularly challenging to physically distance. By late June 2020, the City of Toronto implemented sidewalk widening across 12 locations in Toronto (varying from 2.9 to 12.9 km).

The *Quiet Street* initiative promotes shared space of streets to encourage users who walk, run or bike to use the roads more safely, alongside slow, local vehicles, facilitated by temporary barricades, but there is limited evidence of the effectiveness of such initiatives. The initiative delivers '65 kilometres of Quiet Streets along 32 neighbourhood routes' identified by the City through factors like population density, traffic volumes, equity and access (City of Toronto, 2020e). The *Major Road Closure* program (weekends from 6 am to 11 pm) of three major routes in downtown Toronto align with the principles of Open Streets to allow for pedestrians and cyclists to safely stay active. This intervention has shown promising results including helping people stay active (The Centre for Active Transportation and Park People, 2021). The implemented interventions are intended to work in conjunction and provide for a synergy of responses, in the hopes that the cumulative effect mitigates issues arising from the pandemic lockdowns.

Both during and beyond the pandemic, Toronto can implement street design strategies that align with *Complete and Open Streets* principles to facilitate safer active transportation and outdoor recreational activities. In recent decades, many have advocated for different approaches to street design, planning and land use in cities to promote active transportation that in turn promotes physical and mental health (Frank *et al.*, 2006). Complete Streets, a relatively new concept in design and planning in North America, refers to the creation of streets that accommodate multiple modes of travel prioritizing safety and accessibility, often alongside social and environmental goals (Hui *et al.*, 2018). In comparison, Open Streets refers to temporarily opening streets to people while closing streets to vehicles, encouraging physical activity in dense urban settings (Hipp *et al.*, 2017). There have been Open Streets programmes in over 121 cities in North America, including in Toronto (Hipp *et al.*, 2017). Some other built environment options include strategically considering wider sidewalks, traffic flow and calming, greater street connectivity, street lighting, age-friendly features (children, seniors), access to resources and facilities through the appropriate land mix (Hassen and Kaufman, 2016). These initiatives require sustained government investment to develop permanent solutions, as opposed to temporary options to manage a crisis.

Neighbourhoods outside the downtown core with higher proportions of racialized and low-income residents, and less public infrastructure and investment have had limited interventions to date. The neighbourhoods in northwest Toronto have had some of the highest burdens of COVID-19, highlighting the pre-existing high rates of systemic social and economic disadvantage and racialization in this area. At the time of writing, it is not clear whether these recent built environment interventions address the needs of people equitably across Toronto's 140 neighbourhoods. Many of the neighbourhoods outside the downtown core have street infrastructure that is not conducive to safe walking and cycling. It is important to consider mobility freedom including for those living with physical disabilities and to consider the inclusion of ramps and appropriate turning radiuses. This accessibility is crucial to consider even for temporary initiatives. Without explicit equity and anti-racist

lenses, these temporary provisions may worsen inequities between neighbourhoods.

Streets are not neutral spaces and their designs and uses reflect the ideas that planners, decision-makers prioritize. Streets are also public spaces for civil and community action with protests highlighting the voices of those often silenced. The ongoing Black Lives Matter protests in cities across North America and around the world underscore the struggle for equitable and just city streets. Masked protestors have found ways to use and reconfigure protest spaces to maximize safety from the virus while highlighting the other invisible threat of racism.

Protected and expanded cycling infrastructure

One of the initiatives of *ActiveTO* is the expansion of the cycling network. Cycling infrastructure has been shown to promote physical activity in urban settings, supporting many of the daily essential activities necessary during a pandemic like transportation, grocery shopping and exercise (Saelens *et al.*, 2003). The City of Toronto expanded the cycling network with on-street bike lanes along major routes in Toronto, with the accelerated installation of ~25 km of new bikeways. This approval increases Toronto's on-street cycling lanes to ~40 km (City of Toronto, 2020a). This initiative was accelerated through cycling advocacy groups that have been working on expanding pilot bike lane projects for several years.

The *ActiveTO* initiative is being tracked by Cycle Toronto, a not-for-profit member-supported organization, based on the type of intervention (e.g. bike lane or cycle track), status (e.g. existing or proposed) and timeline (e.g. temporary or permanent) (Cycle Toronto, 2020). This mapping allows for a better understanding of which initiatives the City of Toronto considers temporary and a short-term fix as opposed to valuable in the long term. While government support has allowed for this rapid implementation during the pandemic, it is important for the public and community organizations to hold government accountable to the long-term goals and vision for public infrastructure.

Many of the pre-existing issues for cyclists have continued with this expansion of the cycling network, including vehicles improperly crossing into bike lanes and at intersections resulting in serious injuries and deaths. These issues were perpetuated when quick expansion meant temporarily repurposing existing curb lanes along main corridors in the city. Toronto's Vision Zero Road Safety Plan was implemented in 2017 to eliminate deaths and serious injuries from road traffic to zero by 2021 (Fridman *et al.*, 2018). Since then, there have still been several deaths and injuries on the roads. One of the ongoing issues is the safety of cyclists when there is no physical separation between bicycles and vehicles. Bike lane infrastructure safety exists on a spectrum with complete physical separation on one end and painted lines (or sharrows) on the other. Bollards and other intermittent barriers are a middle-of-the-way option but still not ideal. A best practice for 'share the road' initiatives includes infrastructure that separates cyclists from vehicles and not all new bike lanes in the COVID-19 response are equally safe.

More suburban neighbourhoods often have less mixed-use neighbourhoods that are car-oriented with less cycling infrastructure and destinations farther away. This makes it less likely for people to use bicycles as a means of transport (Saelens *et al.*, 2003). When it comes to cycling infrastructure, there is a divide between neighbourhoods in the downtown core versus the suburbs. Toronto's suburban neighbourhoods tend to have a higher proportion of racialized and lower-income communities with many advocating for better transportation infrastructure in these neighbourhoods (Hulchanski, 2011). During and beyond COVID-19, protected and expanded cycling infrastructure networks in under-resourced neighbourhoods serve as one tool in the built environment toolkit to promote health.

Access to quality, inclusive urban green space

Urban green spaces such as parks and ravines have been one of the most contested spaces in the response to COVID-19. Early in the pandemic, the City of Toronto introduced a by-law restricting the use of parks and park infrastructure, including playgrounds. Given the city-wide closing of services and events, people have been turning to urban green spaces to spend time outdoors. The pandemic is exacerbating inequities around access to quality green space, a potentially scarce resource depending on the neighbourhood.

Urban green spaces are a potential health-promoting resource that is inequitably distributed across neighbourhoods in Toronto (Gascon *et al.*, 2015). When considering the links between urban green space and mental health and well-being, there are several key aspects of green space to consider: quantity, quality and access (Hassen, 2016). Quality refers to factors such as amenities, biodiversity and tree cover, while access considers how easy it is to walk or bike to the destination (underscoring the importance of active transportation infrastructure) (Hassen, 2016). Accessibility involves addressing how different people move and navigate

green spaces. An often-overlooked component of green spaces is whether it is meeting the needs and serves the communities that use it. This requires meaningful engagement processes to work with and learn from residents.

In the long term, creating equitable, health-promoting public green space requires identifying and addressing why specific groups feel unsafe and are perceived as not 'belonging' through explicitly tackling those structural determinants of health described above. These complex interactions in public space are highlighted during crises like the pandemic and one example is the incident in Central Park in New York in May 2020 where Christian Cooper, a Black man who was birdwatching was reported to the police under false pretences. Taking an equity-based placemaking lens means anticipating and accounting for power differentials and socio-spatial contexts as more people seek public, green space during this pandemic. On the weekend of 23–24 May 2020, Trinity Bellwoods Park (a gentrified part of Toronto) was overrun with people not abiding physical distancing guidelines. The lack of bylaw enforcement and police involvement in this instance compared to disproportionate over-policing, fining and criminalizing of racialized and low-income residents in other neighbourhoods demonstrates how some communities continue to be prioritized and shielded during COVID-19 (Yasin, 2020). Instead, Trinity Bellwoods Park was the first park in Toronto to have 2.4-metre white circles painted on the grass, 3 metres apart to facilitate the safe use of green space; an example of an intervention implemented by the City with the nimbleness characteristic of tactical urbanism.

Table 1 compares two adjacent neighbourhoods in downtown Toronto, Rosedale-Moore Park and North St. James Town, across several neighbourhood indicators including the quantity of green space, housing, household income, the proportion of visible minorities and immigrants, and the number of COVID-19 cases. Although some of the indicators only serve as proxies for the interventions explored in this paper, they provide an overview of the underlying social and environmental inequities between neighbourhoods. St. James Town is in Toronto's downtown core and is one of Toronto's most racially diverse neighbourhoods (67% visible minority) with 51.6% identifying as immigrants. This dense, tower neighbourhood has ~44,321 people per km^2 (possibly underestimated). In contrast, the adjacent neighbourhood of Rosedale Moore-Park is one of Toronto's most affluent neighbourhoods with a predominantly white population (18% visible minority), with 26.7% identifying as immigrants and a population density of just 4,500 people per km^2, almost 10 times less than that of St. James Town (City of Toronto, 2018d). While trends across Toronto's 140 neighbourhoods warrant further exploration, this comparison can help to gain a more granular understanding of the structural factors for the substantial disparities in COVID-19 cases between these two adjacent areas.

St. James Town has the lowest amount of green space per person of all the neighbourhoods in Toronto and has a high number of COVID-19 cases, making timely and community-driven interventions urgent and necessary (Brockbank, 2020). Tactical urbanism initiatives are typically generated at the grassroots level and in St. James Town, the St. James Town Community Co-operative has several ongoing innovative initiatives addressing pressing neighbourhood issues like food insecurity, poverty and underemployment, through engaged community action (St. James Town Community Co-op, n.d.). There can often be a discrepancy between community-identified needs and government action when it comes to urban responses. For instance, the City's Parks, Forestry and Recreation department is working to create a more park-like setting on top of a public housing's underground parking garage (Brockbank, 2020). Meanwhile, community members have been trying to push forward the development of a community-owned sustainable food hub through repurposing existing underused public housing space to address multiple community concerns. This misalignment begs the question about what is lost when grassroots efforts are not supported by government agencies or partially taken up in different ways. Public green spaces have also been a resource for those experiencing homelessness during the pandemic, despite government concern and pushback, which is discussed further in the final intervention.

Affordable, safe and long-term housing

While many are facing increased housing concerns due to the confluence of unemployment due to COVID-19, for those experiencing homelessness, housing is an immediate and urgent need. While the other three interventions in this paper focus on outdoor infrastructure, the issue of affordable housing and homelessness addresses access to indoor housing and shelter. Housing prices in Toronto are among the highest in North America (City of Toronto, 2018a). Safe and affordable long-term housing requires crucial rethinking in the immediate term and revisiting an urgent long-term affordable housing strategy for all. The legacy of discriminatory housing policies contributes to present-day distributions of

Table 1: Comparison of indicators between two adjacent neighbourhoods in Toronto

Indicators	Rosedale-Moore Park	North St. James Town
Neighbourhood cases of COVID-19*	39 cases	204 cases
The cumulative confirmed and probable COVID-19 cases since the beginning of the outbreak that have a valid postal code. *as of 28 September 2020 (City of Toronto, 2020b)		
Neighbourhood metrics	**Rosedale-Moore Park**	**North St. James Town**
Neighbourhood equity score (out of 100)	83.78	47.55
Composite indicator of 15 neighbourhood outcomes related to economic opportunities, social development, participation in decision-making, physical surroundings, and healthy lives. Used to identify Toronto's priority neighbourhoods for the Toronto Strong Neighbourhoods Strategy 2020 (City of Toronto, 2014)		
Walk Score	84	93
Measures walkability on a scale of 1 to 100 based on walking routes to destinations such as grocery stores, schools, parks, restaurants and retail (City of Toronto, 2018d)		
Public green space at neighbourhood level	**Rosedale-Moore Park**	**North St. James Town**
Area (m^2) of public green space per capita	41.26 m^2	0.73 m^2
Calculated using City of Toronto Open Data Portal and 2016 Statistics Canada data (N. Brockbank, personal communication, 25 June 2020)		
Tree cover	2 557 866.4	61 616.2
Total area (in m^2) of tree foliage cover identified using satellite imaging (City of Toronto, 2018d)		
Housing indicators at neighbourhood level	**Rosedale-Moore Park** (City of Toronto, 2018b)	**North St. James Town** (City of Toronto, 2018c)
Renter households	45%	90%
The percentage of households where no member of the household owns their dwelling		
Unaffordable housing—renter households	46%	45.1%
The proportion of households spending more than 30% of their total income on shelter costs		
Unaffordable housing—owner households	18.2%	34.2%
The proportion of households spending more than 30% of their total income on shelter costs		
Unsuitable housing	5%	23%
The percentage of private households in dwellings with insufficient bedrooms according to their size and composition		
Neighbourhood demographics	**Rosedale-Moore Park** (City of Toronto, 2018b)	**North St. James Town** (City of Toronto, 2018c)
Population density	4500 people per square km	44 321 people per square km
Median household income	$106 740	$41 016
The median total income for private households		
Neighbourhood % visible minority	18.1%	66.9%
The percentage of people in private households who belong to a visible minority group, i.e. persons, other than		

(continued)

Table 1: (Continued)

Indicators	Rosedale-Moore Park	North St. James Town
Aboriginal peoples, who are non-Caucasian in race or non-white in colour		
Neighbourhood % immigrants The percentage of people who are, or who have ever been, a landed immigrant or permanent resident	26.7%	51.6%

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ownership, capital and access to the housing market. As described in the section on the structural determinants of health, historical discriminatory policies have generated deep inequities in housing and health outcomes and present significant challenges to address. The solutions to the housing crisis in Toronto remain largely outside of individual agency due to structural constraints.

Real estate prices indicate that the average selling price in Rosedale-Moore Park is currently $2.1 million, compared to $776K in St. James Town (Zolo, 2019). As illustrated in Table 1, St. James Town has 90% renter households compared to just 45% in Rosedale-Moore Park. During the pandemic, there were disparities and delays in government assistance offered to renters compared to homeowners (e.g. mortgage deferrals), which resulted in an increased burden on renters.

St. James Town has 19 high-rise buildings, four of which are social housing run by the Toronto Community Housing Corporation, one of the largest provisions of public housing in the city. Unaffordable housing is 34% in St. James Town compared to 18% in Rosedale-Moore Park, for those who own their property. This metric increases among renter households in both neighbourhoods. Unsuitable housing is 23% in St. James Town compared to just 5% in Rosedale Moore-Park and speaks to the higher numbers of occupants within a household and density in St. James Town (City of Toronto, 2018b,c).

As depicted in Figure 1, Rosedale-Moore Park is made up predominantly of detached, single-family homes with private backyards and abundant green space with well-maintained, connected streets and sidewalks conducive to walking and cycling. The neighbourhood does not need quiet street initiatives during the pandemic as the existing infrastructure facilitates safe, distanced exercise and active transportation compared to the dense, tower neighbourhood of St. James Town.

Decades of reducing funding to social services have had a heightened impact on those most marginalized during a time of crisis like a pandemic. Inadequate social services and an under-resourced shelter system have resulted in multiple outbreaks at Toronto shelter sites since the beginning of the pandemic. Over 628 people in Toronto's shelter system tested positive for COVID-19 since mid-March (City of Toronto, 2020b). When the key preventative measure to COVID-19 is to stay at home, this underscores the structural issues for those experiencing homelessness, addiction and mental health challenges. There have been deaths due to overdoses that may have otherwise been prevented if not for COVID-19 (Macdonell, 2020). The City's response to offer hotel rooms to those experiencing homelessness has been limited, temporary and insufficient to meet needs.

One example of tactical urbanism is the set-up of tents by individuals and community organizations in public spaces, including parks, for people experiencing homelessness. This do-it-yourself approach to finding safer shelter during the pandemic has resulted in several small and large encampments (some with over 70 people) in public spaces. As the weather warmed up in April 2020, more people experiencing homelessness began moving into tents in outdoor public spaces. In June and July 2020, the heatwave in Toronto was an additional challenge to those living outside. The municipal government has been intervening and forcing people out of tents and camps set up in public spaces throughout the pandemic. While the City repeatedly clears encampments, people are returning to these spaces highlighting the struggle for the basic human right to shelter. This example of tactical urbanism highlights the question of which temporary interventions are deemed 'acceptable' (as opposed to city-sanctioned temporary initiatives described above) and who is prioritized when it comes to making decisions about public spaces like parks. Centring those who are most marginalized requires addressing the needs of those experiencing homelessness. There are limitations to temporary housing solutions. The appropriate response is immediate affordable and safe housing, alongside a long-term plan to address

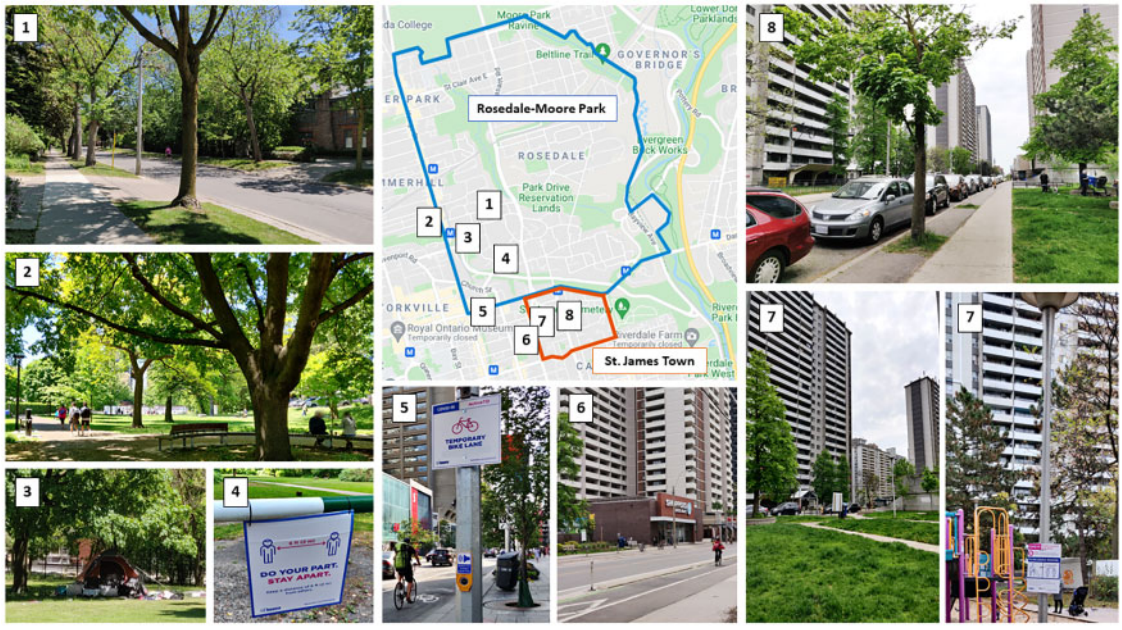

Fig. 1:Map and photographs of the adjacent neighbourhoods of Rosedale-Moore Park and St. James Town. Images: (1) Street in Rosedale-Moore Park, (2) Public park near Rosedale-Moore Park, (3) Tent in a public green space, (4) COVID-19 signage in public green space, (5) Temporary bike lane, (6) Permanent separated bike lane, (7) Public green space and playground in St. James Town and (8) Street and apartment buildings in St. James Town. Map was created using Google MyMaps and neighbourhood boundaries are based on Wellbeing Toronto (City of Toronto, 2018d).

structural issues that have resulted in the current housing crisis.

The City of Toronto has an accelerated plan to create up to 250 modular supportive housing units (City of Toronto, 2020d). This modular housing initiative has already had pushback from residents in the neighbourhoods for these sites. This NIMBYism (Not In My Back Yard) also highlights the need for facilitated community engagement processes through equity-based placemaking that addresses the concerns of multiple user groups while ensuring those who are marginalized are not further sidelined (Pitter, 2020). As the pandemic continues, the lack of safe shelter options and a clear strategy to provide housing creates compounded health disparities for those experiencing homelessness.

CONCLUSION

COVID-19 has demonstrated irrevocably that it is time to rethink our cities. This paper highlights how the built environment is part of an equitable recovery response to COVID-19. The three overarching ideas outlined in this paper are interrelated. It is not possible to create equitable and healthy built environments without addressing the structural determinants of health and taking an explicitly anti-racist and intersectional approach. It is not possible to rethink community engagement processes and strive for equity-based placemaking without critiquing what temporary tactical-urbanism style interventions are deemed acceptable (state-sanctioned) and which are forcibly removed by local governments. These considerations are a necessary step in fostering critical discussion and action in creating healthy built environments.

Similarly, the built environment interventions, challenges and equity considerations discussed in this paper are interconnected. Where there is safe and quality housing, there is often quality green spaces with well-maintained pedestrian and cycling infrastructure—all aspects that support quality of life, particularly during the pandemic. The reverse is often true in less resourced neighbourhoods. The inequitable design of neighbourhoods is the result of decades of structural factors such as under-resourcing and racializing policies. It is necessary to reflect critically on status quo processes and re-imagine our approaches to promoting physical and mental health through the built environment. As outlined in the Schulz and Northridge framework, there are limitations to individual agency and action in the face of structural, macro-level barriers, so particular attention

should be paid to addressing the intersecting systems of oppression at a structural level.

This pandemic has created an unexpected policy window for built environment interventions to be pushed forward in many cities. In Toronto, many public space initiatives are first introduced as temporary pilot projects—a strategy intensified during this pandemic. This paper highlighted how short-term emergency measures have spearheaded necessary initiatives, but with minimal commitment to long-term investment. This is short-sighted. Furthermore, these initiatives have had inequitable outcomes across different neighbourhoods and populations. Now is the time to envision and create spaces that permanently embed the principles of an equitable and just city.

As cities move through phased lockdowns and re-openings, ongoing monitoring and evaluation are needed to identify existing gaps in infrastructure, whose needs are not being met and whose voices are not being heard in these processes, including Black, Indigenous, Asian and racialized communities, people from low-income communities, living with disabilities, with addictions and mental health issues, experiencing homelessness, who are precariously employed and many others who live at the intersections of the structural determinants of health.

While Toronto is used as a case study, there are lessons to be gleaned for other jurisdictions in other urban centres across Canada, the USA and elsewhere. One of the longer terms issues is how to ensure that all communities and neighbourhoods in cities like Toronto are prepared to weather pandemics, where people can stay safe and promote their health and quality of life while in place. Underlying the examination of these interventions is the need for a more equity-based, intersectional anti-racist approach to healthy built environments, at multiple levels, that promotes physical and mental health for all.

To date, little attention has been paid to how health inequities are caused by the structural determinants of health. Future research, policy and practice in this area must critically engage with this framework to create equitable built environments. It is worth collecting publicly available data and metrics at a neighbourhood level on built environment interventions (both temporary and permanent) like street and cycling infrastructure to identify neighbourhood inequities. The development of health-promoting built environment theories and methodologies should explore and incorporate related critical disciplines like geography, critical race, disability and gender studies.

The inequitable burden on racialized and lower-income populations alongside other marginalized populations during this pandemic is undeniable. We cannot hope to create an equitable public health approach to our cities without addressing the pervasive racism that exists and grounding this work in intersectional approaches. To recover from this era of multiple pandemics, we need to design healthy cities that are rooted in principles of equity, anti-racism and anti-oppression.

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