

Urban health: Comparing Canadian and American shopping malls: Lessons for health-promoting sprawl mitigation

This comparative study of two shopping malls in North America examines the impact of sprawl on public health, with the aim of identifying a number of lessons for future healthy urban design

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Back in 2002, Smart Growth America released a widely cited report, *Measuring sprawl and its impact*.¹ In an update to that report, the same organisation has released *Measuring sprawl 2014*,² which features a ranking of the most sprawling US cities. In total, 221 metropolitan areas and 994 counties were examined, with each area and county assigned a numerical rank (higher being better) on a 'sprawl index' on four principal factors: density; mix of land uses; relative strength of 'activity centres' and downtown cores; and the configuration and interconnectedness of street networks.

This latter report made use of an expanded methodology to document development patterns in the intervening years. Once again, sprawl was found to correlate with a higher rate of obesity, traffic fatalities, ozone pollution, vehicle miles travelled, and the pervasiveness of physically inactive lifestyles. Sprawl was

also linked to having fewer transportation options and higher combined costs of housing and transportation.² The World Health Organization (WHO), conscious of these trends, now advocates sustainable, health-promoting redevelopment and smart-growth strategies.³ Residents of compact metro areas live longer, healthier lives, with lower BMI (Body Mass Index) levels, and experience fewer NCDs (non-communicable diseases), including lower rates of diabetes. An average American in a more compact county has a life expectancy three years longer than a counterpart in a less compact county.⁴ These findings are based on correlations, not causative effects, and yet render a remarkably consistent narrative. Not only can communities limit the proliferation of unmitigated sprawl through specific public policy, the benefits of compactness are real and life-affirmative.

The most recent enclosed shopping mall built in the US opened in 2006; by 2025 it is predicted that half of all enclosed malls in

the country will no longer be used in their current retail capacity.⁵ This trend is playing out, to a certain extent, in Canada as well. The harmful effects of sprawl are becoming apparent in communities of all sizes, from Toronto, the nation's largest metropolitan area, to booming oil towns to the north, such as Fort McMurray. A national organisation, the Council for Canadian Urbanism, was recently formed to focus on the consequences of sprawl in relation to its numerous deleterious effects on human and environmental health.⁶

Societal consequences of the automobile continue to be felt in both countries but, as it turns out, for a number of reasons, it can be insightful to compare and contrast the phenomenon of sprawl between Canada and the United States. For one, Canadian urbanisation patterns tend to emulate European planning precedent, often, to a much greater extent. This has resulted in public policy over the past 40 years resulting in higher population densities,

- Infrastructure**
- Public Health in the Everyday Milieu (A1)
- Competing Discourses (A2)
- Sprawl and the Medically Underserved (A3)
- Food Deserts and Sprawl (A4)
- Children, the Aged, and Sprawl (A5)
- Reverse Infrastructural Decline (A6)
- Landtrusting (A7)
- Cyberbia (A8)
- Smart Grids (A9)
- Subterranean Utilities (A10)
- TOADS and Sprawl (A11)
- LULUs and Sprawl (A12)
- Cell Tower Epidemic (A13)
- Greenfielding (A14)
- Redfielding (A15)
- Water and Sprawl (A16)
- Water Typologies (A17)
- Transform Water Edges (A18)
- Recycle Stormwater (A19)
- Brownfields as Energy Farms (A20)
- Sidewalks and Sprawl (A21)
- Pedestrians (A22)
- Street Furniture (A23)
- Bike Culture (A24)
- Social Media Parks (A25)
- Light Rail/Intermodal Transit (A26)
- Celebrate Public Health Achievements (A27)

- Ecological Architecture**
- Modernism and Public Health (B1)
- Ruins and Selective Entropy (B2)
- Reprise and the Community Center (B3)
- Nomadic Healthcare (B4)
- Modular Infill Buildings (B5)
- Civic Space at the Heart (B6)
- Walkability (B7)
- Architectural Legibility (B8)
- Bridging (B9)
- Multigenerationality (B10)
- Echo Housing (B11)
- Heliotropic Tectonics (B12)
- Historic Preservation (B13)
- Vertical Intervention (B14)
- McMansion Epidemic (B15)
- Ungate Communities (B16)
- Fluid Facades (B17)
- Light Manufacturing Interwoven (B18)
- Electrocharging Stations (B19)
- Indigenous Public Health Traditions (B20)
- Mall Transfusion**
- Demise of the Megachain (C1)
- Small Box/Big Box Dialectics (C2)
- Deconstruction Strategies (C3)
- Transparency (C4)
- Deconstruct Parking (C5)

- Terracing (C6)
- Spacesharing (C7)
- Edge Sites as Coral Reefs (C8)
- Soft Surfaces (C9)
- Fast Food Restaurants (C10)
- Sitesharing (C11)
- Landmarks and Anomalies (C12)
- Vertical Gardens (C13)
- Roofscaping (C14)
- Suburban Agrarianism**
- Suburban Farmers' Markets (D1)
- Microfarming (D2)
- Agrarian Stoa (D3)
- Infill Agrarianism (D4)
- Suburban Composting (D5)
- Cisterming (D6)
- Horticultural Education (D7)
- Implementation**
- Transfusion Zone Diagnostics (E1)
- LEED and Sprawl Mitigation (E2)
- Geomap Resourcing (E3)
- Stakeholder Engagement (E4)
- Gaming and Simulation (E5)
- Foster Innovation (E6)
- Incremental Transfusion (E7)

Figure 1: Design Considerations 1-75



Figure 2: Gentilly Shopping Centre, New Orleans, 1949

manifesting in the form of vertical versus strictly horizontal development, combined with a generally greater belief in public mass transit compared with the US. That said, the goal of the present discussion is twofold: first, to examine an American and a Canadian suburban shopping mall from the standpoint of each one's current existing (or non-existing) health-promoting physical attributes; and, second, to apply a baseline set of design considerations to each in order to identify if lessons can be gleaned from comparative analysis.

The research methodology was qualitative and immersive. Literature on the subject was reviewed with a subsequent content analysis, as well as field documentation of a total of six mall/district case studies (two of which are reported below), including their history, interviews and focus groups with mall users, nearby residents and merchants, and subsequent recommendations for their improvement from the perspective of promoting users' greater degree of outdoor physical activity, and hence, healthier lifestyles. This work was inspired, in part, by work carried out at the US Centers for Disease Control and Prevention.⁷ This earlier work (which included the New Orleans case study reported on p61) provides the basis for the comparative assessment (below).

As for interdependencies between built form and health, the term sprawl machine is used here to denote a condition whereby the proliferation of sprawl is, in fact, a systemic phenomenon – self-perpetuating as it spreads across landscapes in seemingly random spatial manifestations.⁸ Sprawl machines have consumed rural landscapes for many decades but, more

recently, have begun to appear within urban neighbourhoods experiencing gentrification across North America. These aggregations are semi-coordinated, having initially risen up along roadways and at interstate interchanges, and adjacent to or in place of older shopping malls in diverse contexts, consisting of a usual cast of characters: fast-food franchises, hotels, big-box retailers of every stripe, eg Pet Smart, Wal-Mart, cineplexes, electronics stores, and Starbucks drive-thru's – all loosely dispersed amid the asphalt surroundings.

The research methodology consisted of a review of the history of suburbanisation from the late 19th century to the present, with a focus on the role of the automobile in sprawls' ontology, as well as an examination of the recent globalisation of sprawl machines based on case studies in China, India and the Middle East. This was followed by the creation of a compendium of 75 planning and design considerations, grouped into five thematic categories: infrastructure (A1-A27); ecological architecture (B1-B20); mall transfusion (C1-C14); suburban agrarianism (D1-D7); and implementation (E1-E7). This lexicon was developed from the aforementioned literature review, and from fieldwork carried out by this author at shopping malls and their district contexts in Chicago, Atlanta, Charleston, South Carolina, and post-Hurricane Katrina New Orleans (figure 1).

Design considerations A1-A27 address: the role of public health in the everyday environment (A1); the need to sort out competing theoretical discourses, eg the debate between landscape urbanism and new urbanism viewpoints (A2); the plight of the medically underserved within sprawl

developments, eg the chronic problem of food desertification in inner-urban neighbourhoods (A3-A4); the effects of sprawl on children and adolescents (A5); and the need to reinvest in deteriorating civic and physical infrastructure to foster healthful outdoor activity (A6). Additional design considerations in this category focused on: sprawl reclamation strategies, such as converting excess pavement to green space (A7-A8, A14-A15); smart power grids and utility systems (A9-A10); the unaesthetic impact of intrusive landmarks (A12-A13); water and its extensive affordances (A16-A19); brownfield conversion strategies (A20); amenities for pedestrians and cyclists (A21-A25); the importance of light rail and intermodal transit networks (A26); and the display of public health achievements in the medium of built form as symbols of higher health status attainment (A27).

Design considerations B1-B20 centre on: reappraising the role of architecture within sprawl machines – namely, modernism – and its oft-dystopic manifestations in post-WWII suburbia; the demise of the enclosed retail mall; and the repurposing of dead malls (B1-B3). Additional considerations focus on: transportable prefabricated health centres as infill development within diffuse land parcels, to add density and to help meet the unmet needs of the medically underserved (B4-B7); design strategies to address the banal aesthetics of big-box retail outlets (B8); pedestrian/cycling bridges over traffic clogged arteries as a means to foster health-promoting physical activity (B9); infill housing strategies (B10-B11); clean-energy grids (B12); preservation and repurposing of historic buildings and places (B13); and

the virtues of density versus singular horizontal development (B14).

Further issues addressed in this thematic category centre on: the McMansion epidemic (the proliferation of oversized luxury houses seen as incongruous to their neighbourhood, or large generic, mass-produced houses) and the attendant gentrification of neighbourhoods vis-à-vis the tear-down phenomenon and the trend towards gated suburban enclaves (B15-B16); transparent spaces and connections to the outdoors in relation to outdoor health-promoting activities (B17); rewriting zoning laws to promote health

and light manufacturing relative to health (B18); electro-charging stations (B19); and the rediscovery of health-affirming places to swim, walk and cycle (B20).

A third category of design considerations consists of: strategies to cope with the decline of many big box and mega-chains in an age of expanding online shopping (C1-C3); the unmasking or dissection of massive windowless big boxes and enclosed malls (C4); and reclaiming massive expanses of pavement through a mixture of their demolition and adaptive use (C5).

A fourth category addresses: the rise of suburban agriculture and design strategies

that allow traditions such as these to flourish amid the once asphalt surroundings, including farmers' markets; microfarming; livestock areas; the reprise of the ancient stoa as fresh food market; composting and cisterns; and places for horticultural education (D1-D7).

A fifth category of design considerations focuses on strategies to transfuse and reinvigorate dead and dying shopping malls and adjacent sprawl development by means of: reinvented zoning laws; LEED certification and similar green-build protocols; innovative apps with recent geomapping software; the engagement of stakeholders via gaming

and simulation techniques in order to foster health-promoting innovations; and, finally, coherent redevelopment strategies that facilitate a suburban shopping mall and its associated district's higher 'health promotion quotient' (E1-E7).

Case studies: New Orleans and Toronto

This baseline set of criteria was then applied in an identical manner to two suburban malls: one located in the Gentilly section of New Orleans, Louisiana, in the US (hence referred to as Gentilly Commons); and a second mall located in Toronto, Ontario, in Canada, in an area north of downtown (hence referred to as East York Town Centre). In each case study, a profile of its urban fabric – tissue samples – were recorded/documentated based on: 15-year demographic trends; patterns of decay/renewal; land uses; housing; local commercial services; pervious and impervious surfaces; walking catchment areas; cycling amenities; figure-ground relationships; landscape, water elements and parks; primary and secondary roads; sidewalks; bike lanes; public transit; and the presence or absence of healthcare facilities.

Four of the 20 base maps created of each case-study mall or district are presented. The New Orleans 'catalyst site' base map depicts a mall, the first section of which opened in 1949 in a part of the city midway between the Vieux Carre' and Lake Pontchartrain, with subsequent additions in the 1950s and early 60s (figure 2). Its housing types were documented: housing close to the mall comprised modest, one and two-level, post-WWII, single-family, wood-frame dwellings (figure 3). Two cemeteries and two distinct residential neighbourhoods were close to the mall, which itself is a collection of nondescript one-level 'strip centre' retail storefronts with, at the present time, no clear organisation or focal point, and where most glass storefronts directly face the blank backsides of other retail structures.

Next, the 75 design considerations were applied in a transfusion (reinvigoration) of this tired, dying open-air mall and its immediate district – a neighbourhood that sustained seven feet of toxic floodwater in Katrina's aftermath. The aim was to create a pedestrian-scaled town centre – Gentilly Commons. The current vehicular epicentre would be retained as such and, additionally, the transfused mall and district would

consist of: a community wellness health centre and a Romanesque spa/pool; an urban farm co-operative; outdoor sports amphitheatre; community performing arts venue; retail arcade; fresh foods market; and indoor sports recreation centre. Various design considerations are indicated in red in an annotated axonometric perspective (figure 4). The indoor recreation centre, outdoor spa/pool, and outpatient primary-care clinic are anchored by a full-service grocery store, the roof of which functions as a curvilinear public green with bike and pedestrian paths. Three of the original six strip mall structures are retained and re-adapted within a six-step redevelopment plan, reconstituting the mall and the newly created public green as a new civic centre.

Learning from East York Town Centre: the virtues of density and compactness

The history of the East York Town Centre, in Toronto, is strikingly dissimilar from that of the Gentilly district. Located six miles north of downtown, East York's eastern edge sits adjacent to the Don Mills Valley

Parkway. It, too, is a post-WWII community, developed from the mid-1960s. Ebenezer Howard's Garden City had heavily influenced the nearby Newtown suburb of Don Mills, developed between 1952-1965.⁹ The borough of East York town planning council was established at that time, guided by federal housing policy, resulting in the construction of numerous high-rise housing blocks in the immediate vicinity adjacent to this once open-air mall (since enclosed and expanded). Its housing blocks, up to 30 storeys in height, continue to be replicated to the present day across the Greater Toronto Area (GTA). The district adjoins a green belt along its southern and eastern edges, and an industrial belt to the west. The urban tissue analysis for East York yields a spatial narrative of abundant open green space, compactness, mixed land uses, verticality, ample opportunities for walking and cycling, and public transit options via Overlea Boulevard.

A dense land-use pattern affords ample access to nature. Residential and commercial zones appear to overlap at times, fostering pedestrian and cycling activity (figure 5).



Figure 3: Gentilly district residential typology

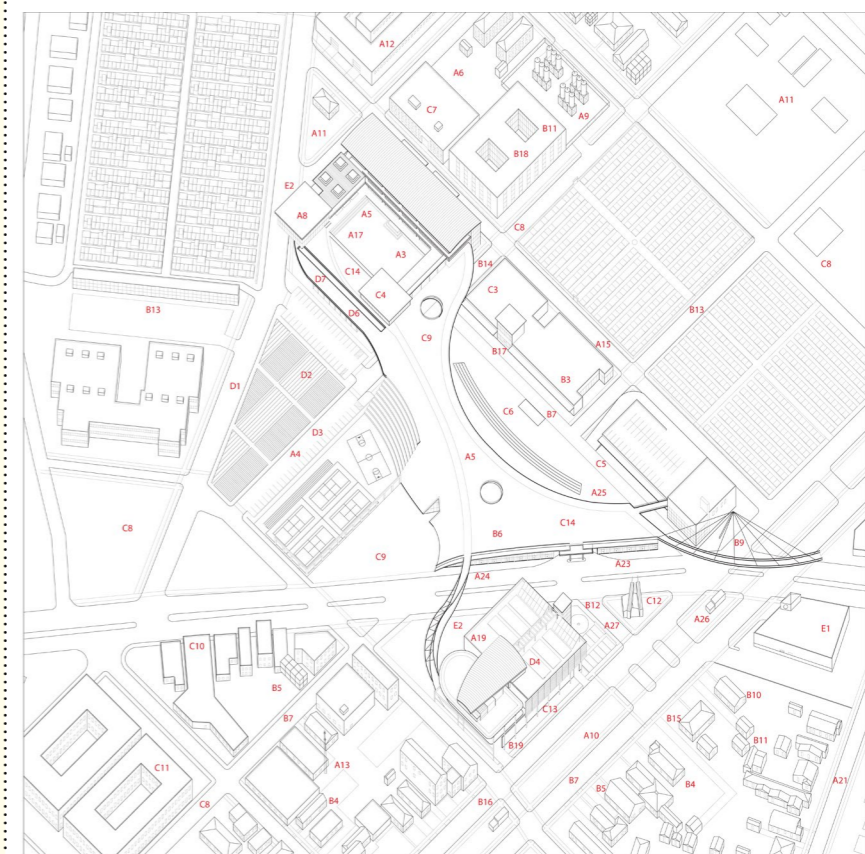


Figure 4: Axonometric – Gentilly Commons

S. Vanderber/A. Himeilick

S. Verderber/T.Boll



Figure 5: East York Commercial/Residential Typology

Health-promoting outdoor amenities are abundant, compared with the far more autonomous condition within the New Orleans mall/district – as East York houses numerous fresh food markets and places to gather and socialise. Here, the mall is closely connected to its context, eg an extensive sidewalk network, bike lanes, clearly marked pedestrian crossings, and opportunities to commune with nature, including a dramatic bridge that spans the Don River. There is much less need for expansive parking. Instead, tree-shaded green spaces with places to stop and sit are to be found throughout (figure 6).

An axonometric perspective of East York illustrates the close proximity between green spaces, mid-rise/high-rise housing clusters, and the mall. Unlike the extensive health-enhancing redevelopment deemed necessary in the US case study, here, instead, minor remediation is called for: When the design considerations 1-75 are overlaid relative to the interior and exterior conditions, this tendency is confirmed. Therefore, comparatively minor interventions are proposed with the aim of greater interconnectivity, centred on the mall and its adjoining parcels.

Here, four farming co-op parcels are created in what are, presently, paved parking areas. A fifth parcel within the mall parking lot becomes a wellness centre/outdoor pool with retractable roof, thereby promoting its all-weather use, with an adjoining primary-care clinic. The mall's roof would be transformed into a solar farm with additional co-op agriculture. A curvilinear walkway/bikeway would connect the ground plane, rising upward to a bridge crossing the district's main vehicular intersection, to link zones least connected at present (figure 7).

From a health-promotional perspective, East York Town Centre reveals a number of significant lessons:

- 45 years of provincial and municipal public policy has resulted in population density and land-use patterns that, in general, promote healthful, active lifestyles within the district;
- the provision of sidewalks, bike lanes, nature buffer zones, and bus transit routes provides conduits by which physical activity outdoors is fostered and sustained, and which necessitate fewer auto trips; and

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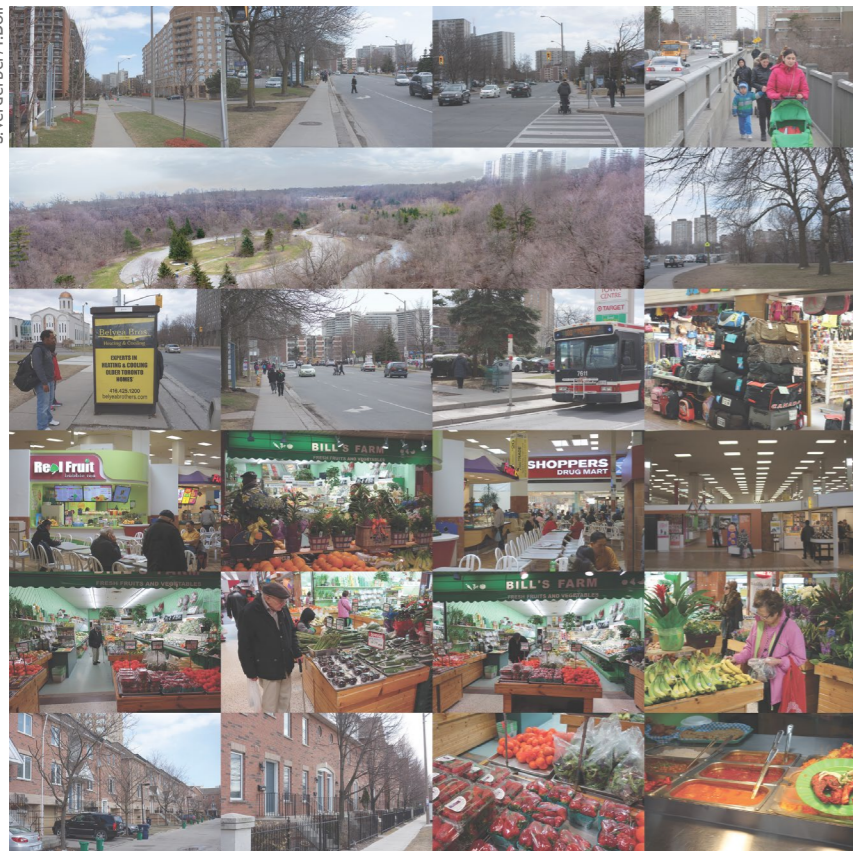


Figure 6: East York health-promotion typology

- the mall itself functions as a source of fresh food options, in a compact indoor farmers' market-like setting, augmented in the immediate environs of the mall by a network of public open green spaces.

In short, East York is far more pedestrian-scaled, connected to nature, and its residential and commercial environs are more adroitly calibrated, when compared with its New Orleans counterpart. The question arises: is this an isolated condition or indicative of shopping mall districts across Canada? A definitive answer to this question eludes the scope of the present discussion, although in two other malls subjected to this same methodological strategy (Gerrard Square, located in Toronto's East End, and Pickering Town Centre, located 25 miles west of downtown), similar general patterns were found to exist (compactness, pedestrian/bike/bus transit options, mixed-land uses, planned densification). By contrast, at present most suburban American malls sorely lack these health-promoting attributes.

Summary

This comparative analysis of two suburban malls and their surroundings, in two different nations, reveals that the US can learn much from Canada. The Canadian mall expresses virtues too often absent from its American counterpart – perhaps because US malls have seldom, if ever, been conceived within a masterplanned 'district' planning aperture.

Beyond the US and Canada, sprawl's international demographic, economic, health-related and socio-cultural consequences are profound and far-reaching. Unmitigated sprawl is increasingly linked, globally, with unhealthy lifestyles and a diminished quality of urban life.¹⁰ Its unhealthful consequences do, indeed, warrant reappraisal because auto-dependency, anti-pedestrianism and 'placelessness' are increasingly linked with sprawl machines. Deleterious outcomes include chronic heart disease, hypertension, mental-health disorders, eg depression, as well as diabetes and obesity.¹¹

Public-health policies, in consort with the built environment, have only recently begun to coherently attack these problems. Health-promoting, ecologically sustainable planning and design precepts, policies, and practices can overcome the diffuse, placeless conditions epitomised by sprawl

machines. Interdisciplinary teams consisting of architects, designers, landscape architects and urbanists, engineers, and public policymakers must work more closely with healthcare-provider organisations.¹² As such, mall district transfusion represents a bona-fide contribution to the evidence-based discourse on health and the built environment – to aid in the remediation of 'diseased' and frayed tissue within diffuse, low-density sprawl developments.

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Figure 7: Axonometric – East York Town Centre

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