

Report to/Rapport au :

Ottawa Board of Health
Conseil de santé d'Ottawa

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CITY WIDE / À L'ÉCHELLE DE LA VILLE

Ref N°: ACS2013-OPH-HPDP-0002

SUBJECT: HEALTH AND THE BUILT ENVIRONMENT

OBJET : SANTÉ ET CADRE BÂTI

REPORT RECOMMENDATIONS

That the Board of Health for the City of Ottawa Health Unit approve:

- 1. Ottawa Public Health's Framework for Health and the Built Environment as outlined in this report and summarized in Document 1; and**
- 2. That Ottawa Public Health staff continue working with municipal partners, including the City of Ottawa Planning and Growth Management and Public Works departments to:**
 - a. Support the development of health-promoting, complete communities;**
 - b. Identify opportunities to integrate health perspectives in planning policies, reports, and decision-making processes; and**
 - c. Enhance the health perspective in the review of the Official Plan, Transportation Master Plan, Ottawa Pedestrian Plan and Ottawa Cycling Plan.**

RECOMMANDATIONS DU RAPPORT

Que le Conseil de santé de la circonscription sanitaire de la Ville d'Ottawa approuve:

- 1. Le cadre en matière de santé et de cadre bâti de Santé publique Ottawa comme décrit dans ce rapport et résumé dans le document 1;**
- 2. Que les employés de Santé publique Ottawa continuent de travailler avec leurs partenaires municipaux, notamment le Service d'urbanisme et de**

gestion de la croissance de la Ville d'Ottawa et le Service des travaux publics pour:

- a. Soutenir le développement de collectivités complètes ayant à cœur la promotion de la santé;**
- b. Saisir les occasions d'intégrer une perspective santé aux politiques d'aménagement, aux rapports et aux processus décisionnels;**
- c. Accorder une plus grande importance à la perspective de la santé durant l'examen du Plan officiel, du Plan directeur des transports, d'Ottawa Plan de la circulation piétonnière et d'Ottawa Plan sur le cyclisme.**

EXECUTIVE SUMMARY

The built environment – the structure and layout of streets, buildings and communities – has a significant influence on health and well-being. With Ottawa's population approaching one million, an aging demographic, a renewed public appetite for urban lifestyles, and a commitment for major investment in light rail transit, Ottawa is well-positioned to continue evolving as a more vibrant and healthy community. The City of Ottawa is already a leader in striving for complete communities. The City's Official Plan, Transportation Master Plan, Pedestrian Plan, and Cycling Plan all identify principles and actionable strategies to support the development of healthy, vibrant places to live.

Through this report, Ottawa Public Health (OPH) presents a guiding framework for advancing the development of health-promoting, complete communities, which provide physical and social environments where people can live, learn, work and play. This will contribute to encouraging healthy habits such as physical activity and healthy eating, improving local air and water quality, promoting safety and reducing injuries, lowering health inequities and promoting social cohesion.

OPH recommends continued collaboration with municipal partners, including the City's Planning and Growth Management and Public Works departments. Opportunities include promoting the development of pedestrian and cycling infrastructure, as well as seeking to advance the integration of a health lens into built environment decision-making.

RÉSUMÉ

Le cadre bâti, c'est-à-dire la structure et l'aménagement des rues, des édifices et des collectivités, a une influence considérable sur la santé et le mieux-être. Étant donné que la population d'Ottawa atteindra bientôt le million, que la population est vieillissante, qu'il y a un regain d'intérêt du public pour les modes de vie urbains et que d'importants investissements sont consentis au transport en commun en train léger, Ottawa a toutes les cartes en main pour continuer d'évoluer en tant que collectivité dynamique et en santé. La Ville d'Ottawa est déjà un chef de file dans ses efforts pour bâtir des collectivités complètes. Le Plan officiel de la Ville, son Plan directeur des transports, son Plan de la circulation piétonnière et son Plan sur le cyclisme contiennent tous des

principes et des stratégies applicables pour soutenir le développement de milieux de vie sains et dynamiques où vivre.

Dans ce rapport, Santé publique Ottawa (SPO) présente un cadre directeur pour le développement de collectivités complètes ayant à cœur la promotion de la santé, des collectivités qui fournissent à leurs populations un environnement physique et social où les gens peuvent vivre, apprendre, travailler et se divertir. Ce cadre directeur contribuera à encourager les bonnes habitudes de vie, comme faire de l'exercice et bien manger, à améliorer la qualité de l'air et de l'eau, à promouvoir la sécurité et à réduire les blessures, à diminuer les iniquités en matière de santé et à promouvoir la cohésion sociale.

SPO recommande de poursuivre sa collaboration avec ses partenaires municipaux, notamment le Service d'urbanisme et de gestion de la croissance de la Ville d'Ottawa et le Service des travaux publics. Parmi les occasions à saisir, mentionnons la promotion des infrastructures piétonnières et cyclables ainsi que l'intégration d'une perspective santé aux décisions relatives au cadre bâti.

BACKGROUND

The physical structure and layout of streets, buildings and communities – the built environment – has a significant influence on people's health and well being. The City of Ottawa has numerous plans that guide the evolution of the local built environment. These include the Official Plan, as well as the Transportation Master Plan, Pedestrian Plan and Cycling Plan. These plans are periodically reviewed, and are currently being updated. This represents an important opportunity for Ottawa Public Health (OPH) to shape collaborations with municipal and community partners in the development of healthy public policy.

Work on the built environment and health is supported through the [Healthy Eating, Active Living \(HEAL\) strategy](#), the [Board of Health 2011-2014 Strategic Priorities](#), and the 2010-2014 [Term of Council Priorities](#) under "Healthy and Caring Communities." Additionally, the [Ontario Public Health Standards](#) require Boards of Health to work with municipalities to support healthy public policy development on the built environment.

The Public Health Issue

Canada has seen a considerable increase of overweight and obesity within a single generation. The national prevalence of obesity has doubled (1). One in five Ottawa students from grades 7 to 12, and over half of adults are either overweight or obese (2). A key contributor is sedentary living and physical inactivity (3). In Ottawa, only 30 per cent of adults are active during their leisure time, and only 10 per cent walk or cycle to work. Among youth, merely 20 per cent walk or cycle to school (2). Physical inactivity and obesity contribute to the risk of developing chronic diseases, such as type 2 diabetes, heart disease, strokes, some cancers, and reduced psychological well-being (1). The economic burden of physical inactivity in Canada is estimated to be approximately \$5.3 billion in direct health care costs and \$3.7 billion in indirect costs (2).

To reduce the health and economic burden of these chronic diseases, public health is increasingly working on a variety of approaches including supporting the development of health-promoting communities.

The relationship between health and the built environment is complex. In the past, public health focused primarily on physical environment issues, such as health hazards and water safety. Today there is increasing recognition of the substantial impact that physical surroundings have on lifestyle choices, as well as health opportunities and risks. The growing prevalence of obesity and chronic diseases requires a public health response that addresses not only changing individual behaviour, but also influencing the environment that shapes behaviour. The built environment is a determinant of health that should be addressed in order to improve population health and curb rising health care costs. Public health and planning sectors across Canada, including Ottawa, are increasingly working towards an inter-sectoral, collaborative approach that enhances the capacity for building health-promoting, sustainable communities that are liveable for all members of society. Public health can provide a relevant perspective in the land use planning and transportation decisions that affect communities.

The Ottawa Context

Ottawa is experiencing a unique phase of growth. With the population approaching one million, an aging demographic, a renewed public appetite for urban lifestyles, and a commitment for major investment in light rail transit, Ottawa is well positioned to continue evolving as a more vibrant, liveable, and healthy community. Intensification, enhancement of active transportation infrastructure, development along mass transit corridors, and advancing the development of complete communities has the potential to deliver on multiple objectives, including managing growth and affordability, and promoting population health.

OPH is committed to enhancing municipal policies and practices to improve health. This includes increasing uptake of physical activity and active transportation, promoting the design of streets that are safe and meet the needs of all users, and supporting the development of health-promoting, complete communities.

DISCUSSION

A Framework for Health and the Built Environment

Public Health involvement in the built environment can be framed through recognizing the health effects of the physical environment, the key built environment elements associated with health, and the public health role in promoting healthy communities. The framework presented in Document 1 and described below provides a reference that can be used for initiating dialogue on planning policies and decisions.

Health Implications

The physical environment can affect health in a range of ways.

➤ **Encourage healthy habits such as physical activity and healthy eating:**

Land use patterns and street design influence the likelihood of people walking as a means of transportation and being physically active in daily life. Parks, green space and multiuse trails can provide important opportunities for recreational physical activity (5). Creating environments that encourage walking and cycling can help reduce reliance on traveling by car (6, 7). Active transportation, which involves the use of human-powered transportation, is an important means to achieving the physical activity required for maintaining and improving health. Each kilometer walked per day decreases the risk of obesity by almost five per cent (8). In addition, it is easier to reach recommended physical activity targets through daily routine, rather than occasional recreational, activities. Utilitarian physical activity accumulates and has a positive global effect on health.

Furthermore, the ability to maintain a nutritious diet is influenced by access to fresh and healthy foods, which impacts the risk of overweight and obesity as well as many chronic diseases. Communities with a mix of land uses that support active transportation and transit help ensure all residents have local access to nutritious foods. Physical access to healthy foods is particularly important for vulnerable populations, such as seniors and low income groups (9). The Ottawa Neighbourhood Study found that residents of 22 out of 33 low-income neighbourhoods must travel more than one kilometer to access a grocery store (4).

➤ **Promote safety and reduce injuries:**

The built environment and its street characteristics influence pedestrian and cycling safety as well as the risk of injury. On average in recent years, there have been seven pedestrian deaths and 350 pedestrian injuries yearly in Ottawa (10). The economic burden of injuries and deaths among pedestrians and cyclists as a result of traffic collisions in Ottawa is substantial – estimated at more than \$17 million dollars per year of direct and indirect costs. Furthermore, the dangers of walking are not shared equally. Elderly walkers are much more likely to be involved in a fatal collision than others; seniors represent only 13 per cent of the population, but they suffer 36 per cent of the fatalities (11). There are also a significant number of cycling injuries in Ottawa, with an average of more than 1,400 visits to the emergency room made each year (10). Improving the walkability of a neighbourhood and enhancing cycling infrastructure can reduce injuries and deaths and improve community safety (12, 13).

➤ **Improve local air and water quality:**

Pollution from traffic is the largest source of local air pollution in Ottawa. Car-dependent communities lead to an increase in vehicle emissions, which contribute to poor air quality (14). Influencing travel patterns, enhancing active transportation as well as public transit options are important strategies for improving local air quality and reducing associated health risks, such as impaired lung function, cardiovascular mortality, and asthma (15). In Ottawa, the prevalence of asthma is 11.3%, which is higher than the overall Ontario prevalence of 8.2% (16).

The health of Ottawa's waterways and drinking water sources are essential to the health of the population. Reducing sewer overflows, minimizing storm water

impacts, and enhancing wastewater treatment through initiatives such as the Ottawa River Action Plan helps reduce beach closures and improve aquatic ecosystems. Requiring storm water retention ponds in new subdivisions improves local water quality, as well as enhances the community by providing recreational pathways, green spaces, and cooling urban heat island effects.

➤ **Reduce health inequities and promote social cohesion:**

Urban design can influence the extent to which people are connected to, and a part of, their communities (17). Car-oriented environments associated with long commutes and loss of leisure time impact stress levels and reduce opportunities for civic engagement (14). Pedestrian friendly communities that support a mix of uses, with local services and recreational opportunities, help promote a sense of social belonging among residents. Active engagement in one's local community helps to bring "eyes on the street" with people interacting together, and contributes to feelings of community safety. The degree to which people feel safe and are engaged in their community influences social cohesion, which in turn, is associated with health and well-being.

Additionally, communities that accommodate a range of ages and provide for the needs of vulnerable groups contribute to the overall health of the population. Planning for aging-in-place and child-friendly built form, as well as creating physical environments that support accessibility for a range of abilities ensures communities meet needs across the lifespan.

Key Health-Promoting Built Environment Elements

There are a number of built environment elements that affect the health of a community. These elements will be considered by OPH in engaging with municipal partners on the built environment. They intersect and influence the development of walkable, health-promoting, complete communities – communities which are compact, affordable, and sustainable (18).

➤ **Density:**

The higher the density of a community (i.e. concentration of people), the more people there are to support nearby services, employment, and other local amenities. This, in turn, contributes to walkability. Increases in density are linked with higher utilitarian physical activity rates and lower body mass index.

➤ **Service Proximity:**

Communities with a range of shops, services and employment options in close proximity to residential areas contribute to more walkable environments and encourage active transportation. Access to public transit further supports the creation of walkable environments.

➤ **Land Use Mix (Mixed-Use):**

The greater the range of services, destinations, dwelling types and employment options available in a neighbourhood, the more residents are able to meet daily

needs within their community using active transportation. Increases in residential and commercial land use mix are associated with improved walkability.

➤ **Street Connectivity:**

Streets that are well connected and support multiple, direct routes between destinations contribute to more walkable communities. Streets that are not well connected result in a greater reliance on the automobile because efficient, direct travel routes are less available.

➤ **Road Network & Sidewalk Characteristics:**

“Complete streets” that accommodate all users, including cyclists and pedestrians, improve opportunities for physical activity through active transportation. Integrating health-promoting street design through, for example, traffic calming features, integrated sidewalks, cycle-friendly designs, and lower speed limits, support safe and active modes of transportation.

➤ **Parking:**

Parking requirements have an impact on the density and aesthetics of the physical environment. Large parking lots encourage driving and create unpleasant pedestrian environments.

➤ **Aesthetics & Human Scale:**

Aesthetically pleasing environments that are safe and built to human scale increase the walkability of a neighbourhood. Mixed-use communities with higher density and pedestrian-oriented design, can provide opportunities for social interaction and contribute to an inviting streetscape. Urban design guidelines can set the parameters for the “look and feel” of the built environment.

These built environment elements are derived from Peel Public Health’s evidence-based Healthy Development Index (HDI) (19). The HDI identifies links and relationships between the built environment and health, and provides a reference that can be used for initiating dialogue on planning policies and decisions. The HDI and its elements have been highlighted by organizations including the Heart and Stroke Foundation and the Canadian Institute of Planners. Recognition of these elements and their influence on health can help provide the context for analysing public health impacts of the built environment.

The Public Health Role

OPH can play a role in supporting the development of health promoting, complete communities through: building awareness about the built environment as an important determinant of health; disseminating research and innovative approaches to key stakeholders; providing health data and indicators; developing collaborative, municipal and community partnerships to bring health issues into the discussion; and providing the public health perspective in land-use and transportation policy planning and decision-making.

The City of Ottawa is already a leader in striving for communities where people can live, work, and play. The Official Plan, Transportation Master Plan, Pedestrian Plan, and Cycling Plan all identify principles that support the development of healthy, vibrant places to live, and include actionable plans for moving forward. Additional policy tools such as Community Design Plans, Transit Oriented Development guidelines, and design guidelines provide further support. OPH engagement in built environment issues provides an additional opportunity for applying a health lens to implement current policies.

➤ **Building Healthy Public Policy:**

Integrating health perspectives into the many factors, disciplines, and influencers that shape the physical environment requires long-term commitment, and engagement in a range of initiatives. Work thus far includes, OPH contributing to the City of Ottawa's submission regarding its review of the draft Provincial Policy Statement, which sets direction for land use planning in Ontario (<http://app06.ottawa.ca/calendar/ottawa/citycouncil/pec/2012/11-13/ACS2012-PAI-PGM-0259%20-%20IPD.pdf>). On this front, OPH emphasized the importance of developing active transportation networks and complete communities in municipal planning, as well as recognizing the health impacts of land use planning.

OPH is engaged in the City's Official Plan review, as well as the Ottawa Cycling and Pedestrian Plan reviews, which are supporting documents of the Transportation Master Plan. Tentative proposals for the Official Plan policy recommendations include: integrating the connection between health and the built environment into the strategic directions; enhancing the capacity for encouraging active and safe routes to school; exploring the evidence relating to air quality issues around high traffic corridors and the impact on surrounding sensitive land uses; and investigating the development of policy tools to assess health impacts of built environment decision-making.

Collaboration is also taking place in the development of the Transportation Master Plans. OPH is providing input into the Pedestrian and Cycling Plans through identifying the many health benefits associated with pedestrian and cycling friendly communities.

OPH has a history of municipal and cross-departmental partnership on a number of issues and programs, including participation in the Safer Roads Ottawa partnership, supporting the Transportation Demand Management Strategy, and providing data for the City's Collision Data Summary report. Engaging on the built environment furthers the commitment to municipal partners.

To move forward, OPH will continue collaboration with the City's municipal partners to identify opportunities to integrate health perspectives in land use policies and decision-making in order to facilitate implementation of even healthier community design.

➤ **Strengthen Community Awareness and Engagement:**

The built environment is experienced by all who live, work and play in Ottawa's communities, including residents, business owners, and visitors. Increasing public awareness of the built environment elements that shape our communities, such as density, mixed-use, and street characteristics, as well as their impacts on health, is a contribution that OPH can offer. Raising interest and demand for healthy, liveable communities where our aging population and our children can live, play and access a full range of services is part of the continuum of community development. The Ottawa Neighbourhood Study, a project in which OPH partners with the University of Ottawa and other community agencies, studies and reports on the walkability of our neighbourhoods with a view to improving street connectivity and transportation networks. Working with organizations such as Green Communities Canada, the Ottawa Student Transportation Authority and local school boards to increase the number of children walking and cycling to schools is also about enhancing the built environment to make routes to school safe. OPH will continue to work with a number of partners to deliver programs and services that promote healthy living, active transportation, and pedestrian safety.

Next Steps

New Opportunities for Collaboration

OPH is a member of the newly launched two year, national Healthy Canada by Design (HCBD), phase 2 initiative. Funded by the Canadian Partnership Against Cancer's Coalitions Linking Action and Science for Prevention, HCBD is pioneering innovative strategies for integrating health considerations in land use and transportation planning (20). National partners include the Heart and Stroke Foundation, the Canadian Institute of Planners, the Urban Public Health Network and the Canadian Institute of Transportation Engineers. OPH will engage in mentorship and knowledge exchange with HCBD peer-consortiums. Through leveraging HCBD resources, and lessons learned, OPH participation will support and accelerate work with municipal and community partners to advance healthier built environments.

OPH is committed to ongoing collaboration with various partners on healthy community design. OPH will continue to pursue strategic opportunities for building healthy public policy and enhancing community awareness and engagement on issues associated with the built environment and health. The Framework for Health and the Built Environment will provide overall guidance as the work evolves. Further integrating public health perspectives into land use and transportation planning can help decrease the burden of chronic diseases and foster communities that promote health and well-being, with a view to helping make the healthy choice, the easy choice.

OPH will report back to the Board of Health on HEAL-related activities on a regular basis. Progress on its involvement in policies and initiatives to improve health by addressing the built environment will be included in future reports to the Board of Health.

CONSULTATION

OPH will continue working with community and municipal partners, including but not limited to, Planning and Growth Management, Public Works, Transit Services, school boards, and members of the Healthy Canada by Design initiative to promote public health considerations in land use and transportation planning and decision-making.

LEGAL IMPLICATIONS

There are no legal impediments to the implementation of the report recommendations.

FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

TECHNOLOGY IMPLICATIONS

There are no technology implications associated with this report.

BOARD OF HEALTH STRATEGIC PRIORITIES

The recommendations in this report support the Board of Health Strategic Priorities: A1 Apply a health lens to all municipal policies; A2 Increase integration with other City departments and community agencies; B4 Increase active transportation as well as leisure physical activity; and C3 Improve road safety for all users.

TERM OF COUNCIL PRIORITIES

The recommendations in this report support the 2010-2014 Term of Council Priorities under “Healthy and Caring Communities.”

SUPPORTING DOCUMENTATION

[Supporting Document 1 – A Framework for Health and the Built Environment](#)

DOCUMENTS À L’APPUI

[Document à l’appui 1 – Un cadre en matière de santé et de cadre bâti](#)

DISPOSITION

Ottawa Public Health will carry out the activities stated in this report, specifically: working with municipal partners, including Planning and Growth Management and Public Works departments to support the development of health-promoting, complete communities; supporting municipal partners to advance the development of pedestrian and cycling infrastructure; working with municipal partners to identify opportunities to integrate health perspectives in land use policies and decision-making; and increasing community engagement and awareness of the built environment impacts on health.

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