



**Background Report:
The Role of Health in the Built Environment**



CITY OF HAMILTON
TRANSPORTATION MASTER PLAN
REVIEW AND UPDATE

The Role of Health in the Built Environment: Transportation and Land Use Planning

1.0 Background Context

During the Transportation Master Plan (TMP) review and update study process, City Council provided direction regarding the importance of including health into the TMP document. This request was in response to a recent document prepared by the Medical Officers of Health in the Greater Toronto and Hamilton Area (GTHA) titled *Improving Health by Design in the Greater Toronto-Hamilton Area* (May 2014, 2nd Edition). To this end, review of applicable documents was undertaken to better understand how health and the built environment are linked and to identify specific policies that can be incorporated into the update of the 2007 TMP.

A revised vision (problem) statement was introduced at the second set of Public Information Centres (PIC) held in June 2015. This revised vision statement had been developed subsequent to understanding the needs and concerns that were identified by the public at the first set of PICs held in March 2015. However, in order to also take into consideration Council's direction that health be incorporated into the transportation planning process and its importance to the City as a whole, the vision of the TMP was refined to read as follows:

*To provide a comprehensive and attainable transportation blueprint for Hamilton as a whole that balances all modes of transportation **TO BECOME A HEALTHIER CITY**. The success of the plan will be based on specific, measurable, achievable, relevant and programmed results.*

The ultimate goals of the TMP are to:

- Reduce dependence on single occupant vehicles;
- Promote accessibility;
- Improve options for walking, cycling, transit; and,
- Maintain and improve the efficiency of goods movement.

2.0 The Role of Health in the Built Environment: Transportation and Land Use Planning

Health is influenced by determinants outside of the health sector such as the built environment, and social and economic factors^{1,2} which are known as the determinants of health³. The built environment consists of transportation systems, land use patterns,

¹ Kickbusch, I., Williams, C., & Lawless, A. (2014). Making the most of open windows: establishing health in all policies in South Australia. *International Journal of Health Services*, 44(1), 185-194

² Corburn, J., Curl, S., Arredondo, G., & Malagon, J. (2014). Health in all urban policy: city services through the prism of health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 91(4), 623-636

³ Norman, C.D. (2009). Health promotion as a systems science and practice. *Journal of Evaluation in Clinical Practice*, 15, 868-872

and urban design characteristics⁴ and the way it is planned, developed, maintained, and modified can influence health and quality of life.^{5,6,7,8} Consequently, collaboration across sectors with interconnecting mandates must be a priority to ensure policy and environments support health and well-being.⁹ The determinants of health include:

- Income and Social Status
- Social Support Networks
- Education and Literacy
- Employment and Working Conditions
- Social and Physical Environments
- Personal Health Practices and Coping Skills
- Healthy Child Development
- Biology and Genetic Endowment
- Health Services
- Gender
- Culture
- Language

At the local level, a focus of Hamilton's Public Health Services (PHS) is to support interdepartmental teams and projects to develop healthier built environments¹⁰ that support:

- Sustainable physical activity opportunities
- Healthy food environments
- Community safety
- Air quality
- Mental well-being
- Climate change resiliency, mitigation and adaptation
- Mitigation of ultraviolet radiation; and,
- Health equities.

⁴ Frank, L., Engelke, P., & Schmid, T. (2003). *Health and Community Design: The Impact of the Built Environment on Physical Activity*. Washington, DC: Island Press.

⁵ Renalds, A., Smith, T.H., & Hale, P.J. (2010). A systematic review of built environment and health. *Family & Community Health*, 33(1), 68-78.

⁶ Frank, L., & Kavage, S. (2009). A national plan for physical activity: The enabling role of the built environment. *Journal of Physical Activity and Health*, 6(S2) S186-195.

⁷ Barton, H., & Grant, M. (2011). Urban planning for healthy cities: a review of the progress of the European Healthy Cities Programme. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 90(1), S129-S141.

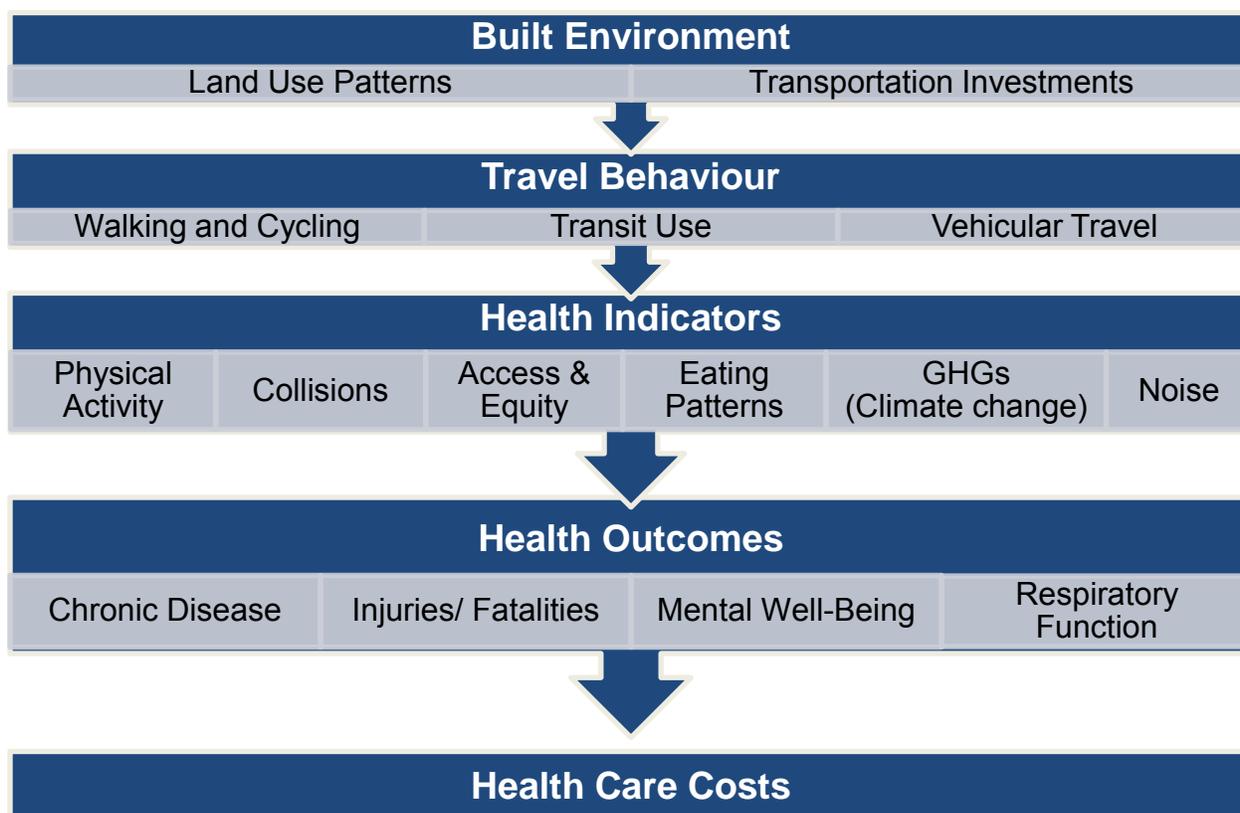
⁸ Klavestrand, J. & Vingard, E. (2009). The relationship between physical activity and health-related quality of life: a systematic review of current evidence. *Scandinavian Journal of Medicine, Science, & Sports*, 19, 300-312.

⁹ Kickbusch, I., Williams, C., & Lawless, A. (2014). Making the most of open windows: establishing health in all policies in South Australia. *International Journal of Health Services*, 44(1), 185-194

¹⁰ Ontario Ministry of Health and Long-Term Care. (2017). *Ontario public health standards, 2008: Revised March 2017*.

Figure 1 illustrates this relationship between the built environment and health outcomes.

Figure 1: Relationship between the Built Environment and Health Outcomes



This policy paper specifically focuses on making it easier to choose active and sustainable transportation. This provides health benefits through reduced traffic related deaths and injuries, improved air quality, increased physical activity, improved mental well-being, improved access to services and increased opportunities for social interaction.^{11,12} Furthermore, promoting and improving the convenience of walking, cycling, and public transit increases the likelihood of the uptake and maintenance of active travel.¹³

The provision of a balanced transportation system that focuses on public transit and active transportation will help facilitate healthy choices by making it an easy, default option through the creation of an environment that provides accessible, affordable, and appealing alternate choices. This is consistent with the TMP's revised vision and goals. From the land use perspective, this can be achieved through the development of

¹¹ Norman, C.D. (2009). Health promotion as a systems science and practice. *Journal of Evaluation in Clinical Practice*, 15, 868-872.

¹² Frank, L., Engelke, P., & Schmid, T. (2003). *Health and Community Design: The Impact of the Built Environment on Physical Activity*. Washington, DC: Island Press.

¹³ Renalds, A., Smith, T.H., & Hale, P.J. (2010). A systematic review of built environment and health. *Family & Community Health*, 33(1), 68-78.

complete communities that are compact and healthy, providing opportunities to live, work, play, and learn¹⁴. From the transportation perspective, this can be facilitated by providing connected multi-modal networks and developing and integrating the complete streets approach.

Complete Streets is an approach to right-of-way design (inclusive of streets) that balances the needs of all uses and users in an equitable manner, regardless of age, ability, income or mode of transportation. Hamilton's version of complete streets is to adopt a Complete-Livable-Better (CLB) streets approach that recognizes that no one-size fits all solution is appropriate for street design as different streets can have different priorities (see the CLB Streets Policy and Framework for additional details).

2.1 Background on Health in the Built Environment

The 2007 TMP included the development of 23 policy themes. Although Health was not identified as a specific theme, health concepts were embedded within several policy papers, including Land Use and Travel Patterns, Urban Design, Urban Structure and Land Use. Since the approval of the TMP, health has been interspersed within the various City planning processes (e.g., transportation management plans, community plans, and development approvals). Health also plays a role in active transportation and Sustainable Mobility program implementation (Transportation Demand Management (TDM)). These linkages and activities may not be obvious.

Since Council approval of the 2007 TMP, the integration of health into the Sustainable Mobility program implementation (TDM) has been successful. PHS plays a prominent collaborative role in many of these initiatives including school travel planning. Also subsequent to the TMP, a Cycling Master Plan, *Shifting Gears*, was completed in 2009, a Pedestrian Mobility Plan was approved by Council in 2013, and an update to the Recreational Trails Master Plan received Council approval in 2016. These initiatives support active transportation and represent ways to maintain and improve the health of the public. Public transit has also evolved since 2007 with the approval of *Rapid Ready* in 2013, approval of the Ten Year (2015-2024) Local Transit Strategy in 2015 and the planning and design of the B-Line LRT corridor and a portion of the A-Line corridor.

All of the above noted initiatives contribute to a healthier city. However, for the purposes of the TMP, it is necessary to identify policies and supporting actions that specifically address health. The initial step in the integration of health into transportation planning is to integrate health into the language of transportation planning through the inclusion of health behaviours, indicators, and outcomes into transportation plans.

3.0 Supporting Resources

How communities are planned and designed can impact health. Health departments in Ontario are mandated to “work with municipalities to support healthy public policies and the creation or enhancement of supportive environments in recreational settings and the built environment regarding the following topics: Healthy eating; Healthy weights; Comprehensive tobacco control; Physical activity; Alcohol use; and Exposure to ultraviolet radiation” (p.26, Ministry of Health and Long Term Care, 2016). Staff within

¹⁴ The Planning Partnership (2011). Health Background Study: Development of a Health Background Study Framework.

Public Health Services are working in the areas of land use planning, active transportation, injury prevention, air quality/climate change and health equity, among others to support the integration of health and the built environment.

Table 2: Summary of Current PHS Staffing Resources

Position Title	FTE	Status
Manager- Chronic Disease Prevention	0.10	Permanent
Public Health Nurse- Active Transportation	0.70	Permanent
Health Promotion Specialist- Active Transportation and Trails	0.70	Permanent
Physical Activity Specialist- Physical Activity through Land Use Planning	0.70	Permanent
Public Health Nurse- Injury Prevention	0.05	Permanent
Senior Project Manager- Air Quality & Climate Change	0.15	Permanent
Project Manager - Air Quality & Climate Change Co-ordinator	0.15	Permanent
Air Quality and Climate Change Coordinator	0.15	Permanent
Determinants of Health Public Health Nurse	0.02	Permanent
TOTAL	2.72	

3.1 Next Steps

Monitoring staffing resources to improve the integration of health and the built environment will be important in facilitating healthy outcomes. In the future, PHS may identify gaps in resources that need to be addressed and supplemented to achieve departmental goals and the vision of the TMP, as well as the goals of the City’s strategic plan.

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