

LOCAL RESOURCES AND HEALTH

Overview of knowledge synthesis

Parks, roads, supermarkets, apartment buildings and community centers shape our everyday lives. The quality and quantity of these local resources vary depending on the living environment. Is there a connection between urban populations' access to these resources and their health and well-being?

To answer this question, we conducted an in-depth study of the scholarly literature in four areas: sustainable mobility, food environment, housing and community life (see the study overview on page 4). This fact sheet provides a summary of our results on sustainable mobility.



SUSTAINABLE MOBILITY

SUSTAINABLE MOBILITY is a distinctive feature of transportation and extends to some aspects of urban design and planning. We defined sustainable mobility as the flow of property, services and people in conjunction with components of the built environment in which land use and transportation modes play a key role¹. We also considered the influence of the three main dimensions of the built environment (density, diversity and design) on mobility².

We found results for the following resources: land-use mix, walkability, walking and cycling facilities, sidewalks, intersection density, street connectivity, traffic conditions, traffic calming measures, crosswalks, street parking and public transport. Associations were found between these resources and physical activity, healthy weight, traumas and depression.

No results were found regarding alternative transportation (e.g. carpooling), or road sharing, nor for chronic diseases, respiratory health, cancer, tobacco use, healthy eating, perceived health and well-being.

HIGHLIGHTS

As you can see from the center pages, the studied resources related to local sustainable mobility primarily concern **children's** health, with **physical activity** being the most frequently documented health variable.

The **high quality syntheses** suggest that no type of local mobility resource is unfavorable to health. The clearly unfavorable associations observed for traumas are likely attributable to confounding factors rather than the resources themselves (land use mix, sidewalks or crosswalks). Most of the clearly unfavorable or unfavorable trend associations regard physical activity, both for children and adults. Moreover, traffic calming measures are clearly favorable to reducing traumas and increasing physical activity in children.

Given that most of the associations arising from the **moderate quality syntheses** are inconsistent, it is very difficult to draw conclusions from them, especially in light of the local mobility resources definitions and measures' heterogeneity.

Most of the 24 syntheses are based on North American, Australian and European studies. Many of the 218 relevant original studies are cross-sectional, making it difficult to establish causal links. Excluded syntheses mostly reported on interventions' evaluations or were not knowledge syntheses.



An academic article is under development.
For additional information:
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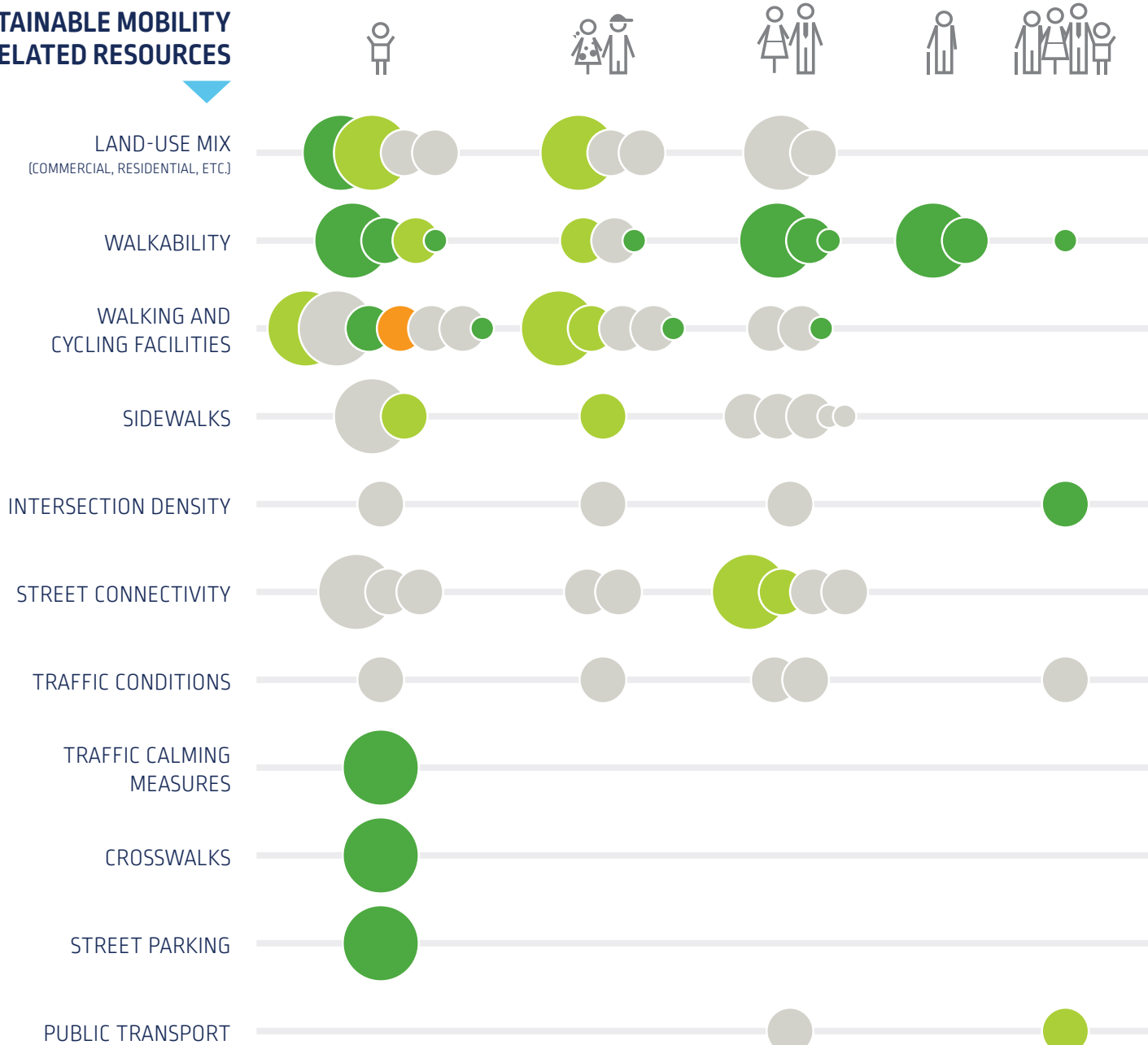


SUSTAINABLE MOBILITY

HEALTH VARIABLES

PHYSICAL ACTIVITY

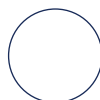
SUSTAINABLE MOBILITY RELATED RESOURCES



Each dot corresponds to an association between a resource and a health variable.

Empty space: no results available.

QUALITY OF REVIEWS



High quality, n = 7
AMSTAR scores between 8 and 11



Moderate quality, n = 14
AMSTAR scores between 4 and 7



Low quality, n = 5
AMSTAR scores between 1 and 3

ASSOCIATIONS BETWEEN HEALTH AND THE PRESENCE OF LOCAL RESOURCES RELATED TO SUSTAINABLE MOBILITY

www.chairecacis.org

Deslauriers, V., Braën, C., Perez, E., Boyer, G., Rehany, É., Potvin, L., 2017

HEALTHY WEIGHT

TRAUMAS

DEPRESSION



HOW TO READ THIS?

This dot represents a clearly unfavorable association between access to sidewalks and traumas in children, drawn from a high quality systematic review.



TYPES OF ASSOCIATION

- Clearly favorable
- Favorable trend
- Unfavorable trend
- Clearly unfavorable
- Inconsistent

POPULATION GROUPS

- Children
- Teenagers
- Adults
- Elders
- General population

OUR METHODOLOGY AT A GLANCE

The overarching purpose of this study is to provide a **rigorous update of the scholarly knowledge** on associations between characteristics of the food environment, community life, material housing conditions, sustainable mobility, and the physical and mental health of urban populations.

The results here presented are based on an umbrella review, i.e., a rigorous analysis³ of scholarly works that have synthesized original studies on one of the four areas concerned. The analyzed reviews had to deal with general populations residing in urban neighborhoods of OECD countries; be published in English, French or Spanish between 2008 and 2016; and specify their methodology.

A literature search strategy was applied to 11 databases (6 to 10 per area: Sociological Abstracts, Embase, Medline, etc.) and supplemented with research in the grey literature and the reference lists of the included articles. Review selection and data extraction were performed by two independent reviewers. To assess the quality of methodology in the included syntheses (high, moderate or low), the AMSTAR tool⁴ was used.

The present study excluded knowledge syntheses on the health effects of participation in an intervention within the areas concerned, as well as syntheses on associations between the resources and special needs populations or patient types.



- Globally speaking, these results confirm the relevance of:
 - **acting on all components of the road traffic system** to ensure the safety of all road users (such as in Vision Zero: <https://ville.montreal.qc.ca/visionzero/en/>);
 - **emphasizing the prevention of traumas** in children when implementing these measures.
- **Pursuing research on:**
 - associations between sustainable mobility related resources and health, namely by better defining these resources and by expanding the number of health variables and living environments (rural and urban periphery);
 - the social and economic significance of sustainable mobility strategies.
- In this area as in the others, **demonstrating caution in the use of “evidence-based data,”** given the number of low and moderate quality reviews and the disparities encountered between different definitions of concepts and measures.

* Our thanks go to the 30 or so stakeholders and managers from the municipal system, health network, and community sector who took part in a workshop on April 19, 2018 to help guide the content for this section.

REFERENCES

- 1 Laugier, R. 2002. Ville et mobilité durables, Synthèse documentaire pour le compte du Centre de Ressources Documentaires Aménagement Logement Nature (CRDALN), Ministère de l'Écologie, de l'Énergie, du Développement durable et de la mer (France).
- 2 Cervero, R. & Kockelman, K. 1997. Travel demand and the 3 Ds: density, diversity and design. *Transportation Research Part D Transport and Environment*, 2(3): 199-219.
- 3 The detailed protocol is available here: BRAËN, C., PEREZ, E., DESLAURIERS, V., MERCILLE, G., PERREAULT, K., BILODEAU, A., REHANY, É., POTVIN, L. 2016. Local resources favorable to health: an umbrella review. University of York, Centre for Reviews and Dissemination. Prospero reference no. CRD42016051609. https://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016051609
- 4 The standardized AMSTAR (A Measurement Tool to Assess Systematic Reviews): <https://amstar.ca/index.php>

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