

Healthy Built Environment

Planning Institute of BC

NI/CI Chapter Workshop

Courtenay, BC
Oct. 3, 2019



Defining Terms

- Healthy Built Environment: planned and built communities with services and resources which health evidence demonstrates has a positive impact on people's physical, mental and social health... built in a way to make the healthy choice the easy choice for all residents (Interior Health).
- Health: a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO).

Why?

- Chronic disease is pervasive — 44% of Canadian adults
- We are not active enough — 2 of 3 kids and 5 of 6 adults
- Obesity is on the rise — 64/30
- The population is aging — 27% of CV population is over 65 yrs
- Our communities are designed for cars — 83% of employed Courtenay population take a car to work
- Many struggle to buy healthy food

Why?

- The built environment has both a direct and indirect impact on **population health** and individual health:
 - Infectious disease
 - Acute disease
 - Chronic disease
 - Mental health
 - Injury and trauma
 - Life expectancy
 - Childhood development
- Sense of well being:
 - Good relationships
 - Accomplishment
 - Positive mood
 - Engagement

How?
Achieved through street connectivity (think seniors), green spaces, perceptions of safety, social spaces, pro-active community engagement.

Indigenous Design

- Communities and community structures were planned and designed to be responsive to local geographies and climates.
- The interconnectedness between humans and the environment was intelligent, elegant and effective. For example: many communities were seminomadic in response to food/medicine sources and warmer climates. Proximity to water sources carefully incorporated. For West Coast BC, the use of cedar as a choice building material and clam gardening.

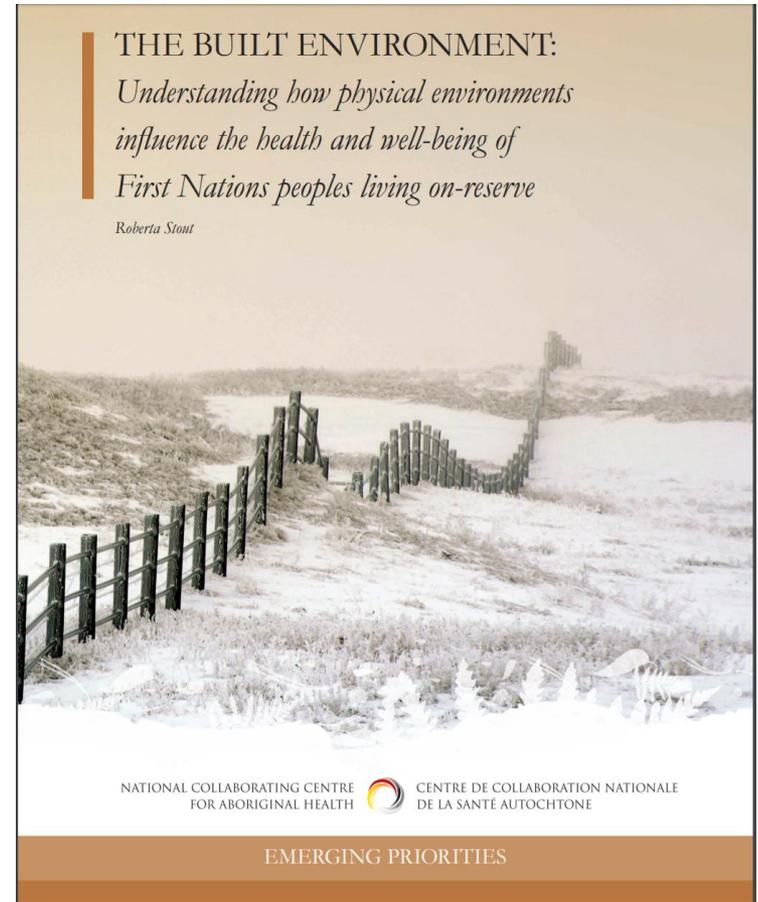
...Indigenous peoples in Canada deliberately planned and designed their communities so as to thrive within their territories prior to colonization.

Consequences of Colonization

The resultant negative health impacts and inequities from colonization has been **profound** and **ongoing**.

- The shift from active to sedentary lifestyles and
- The transition from nutrient rich to nutrient poor diets are “pivotal determinants of obesity, diabetes and many other chronic diseases that plague... community members at near epidemic rates”

Significant disparities related to quality housing, clean water, nutritious and appropriate foods, safe neighbourhoods that promote physical activity and convenient transport networks.

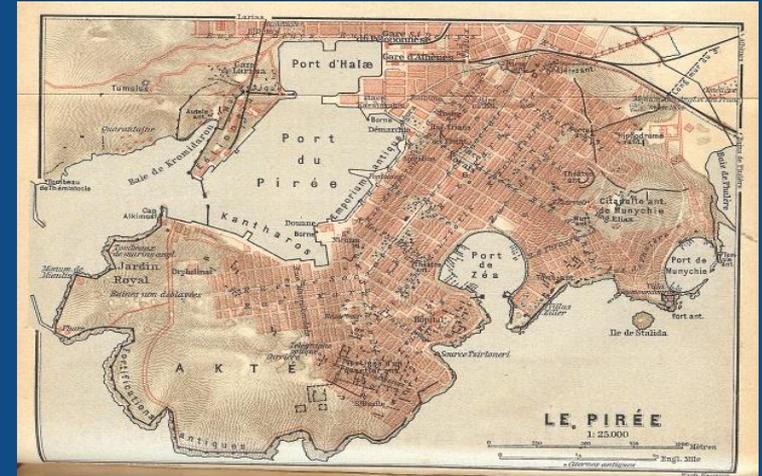


<https://www.ccsa-nccah.ca/docs/emerging/RPT-Built-Environment-Stout-EN.pdf>

Hippodamus of Miletos

(498 BC to 408 BC)

- Known as the ‘father of urban planning’.
- Architect, urban planner, physician, mathematician, meteorologist and philosopher.
- Seen as the originator of the concept that a town plan might formally embody and clarify a rational social order. Used grid plans to map cities.



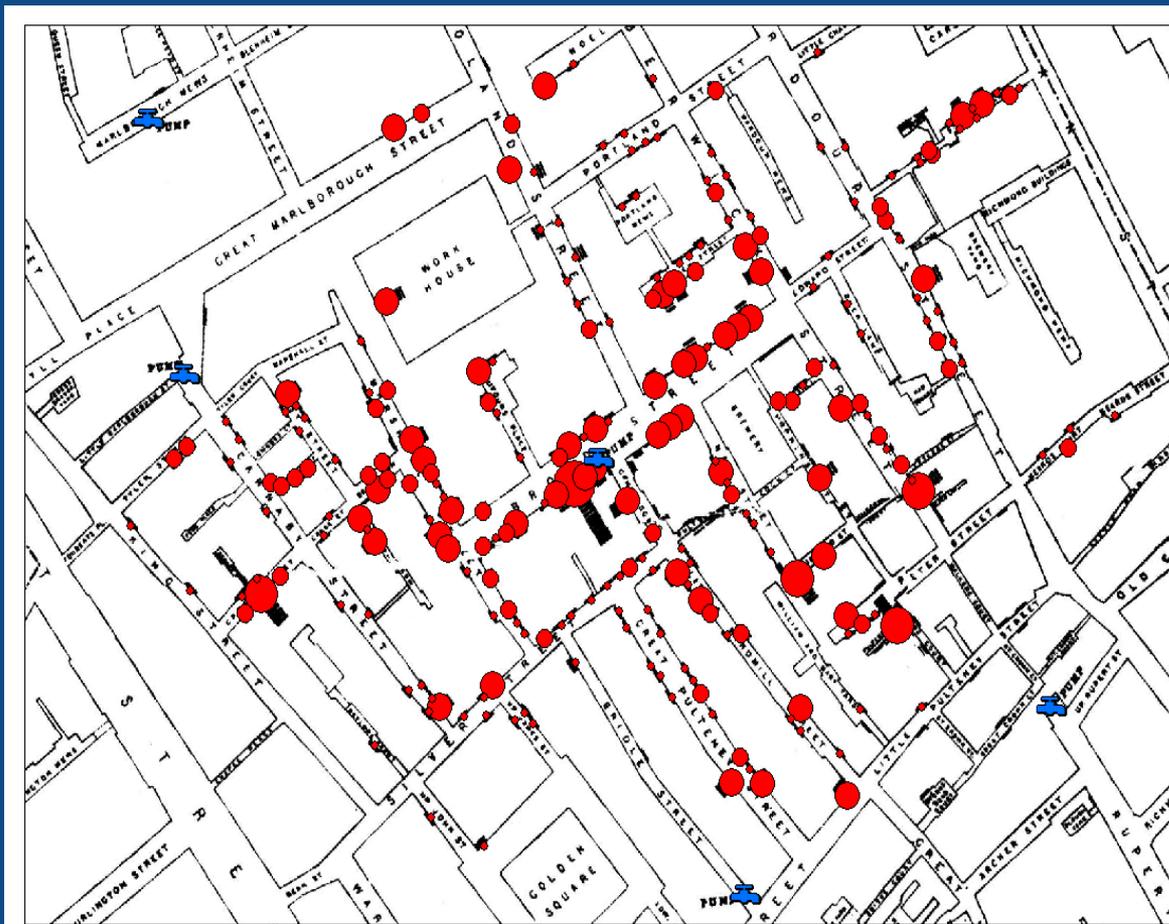
The Industrial Revolution

- Towns and cities swelled with the industrial revolution
- Towns were segregated by class
- Over crowding, poor structures, shared kitchens, taps and privies. Inadequate infrastructure for water and sewage. Open garbage. Polluted air by factories and slaughterhouses.
- Terrible working conditions. Technology increased and so did human suffering.
- Municipal Corporations Act of 1835.
- Sanitary Reform Movement
- Public Health Act of 1848
- Today's contrast is that nearly all aspects of the built environment is shaped by law and governmental decisions.

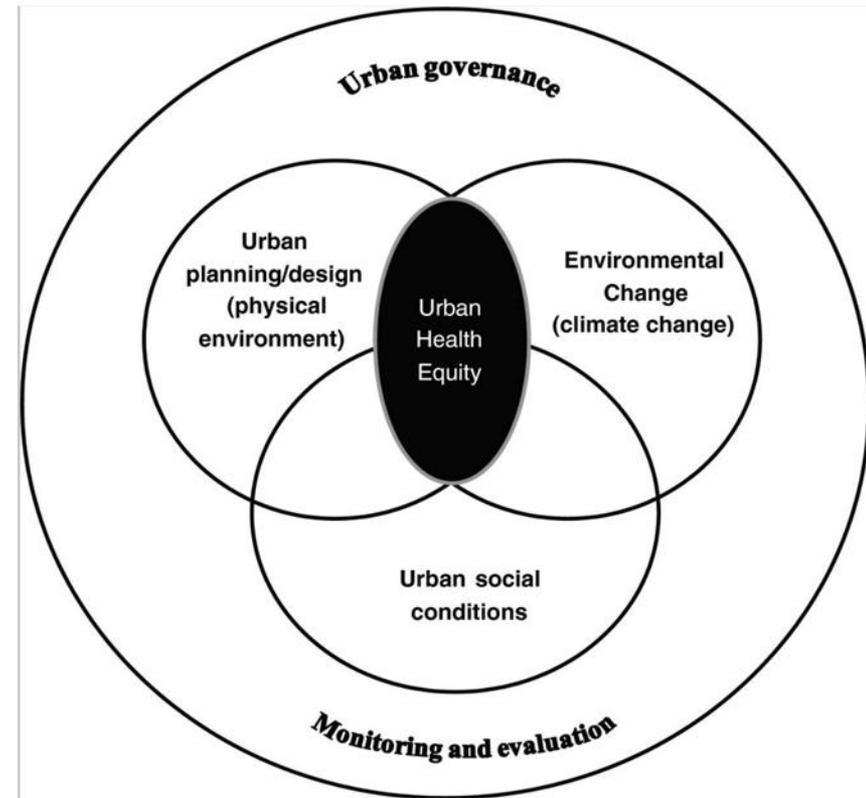
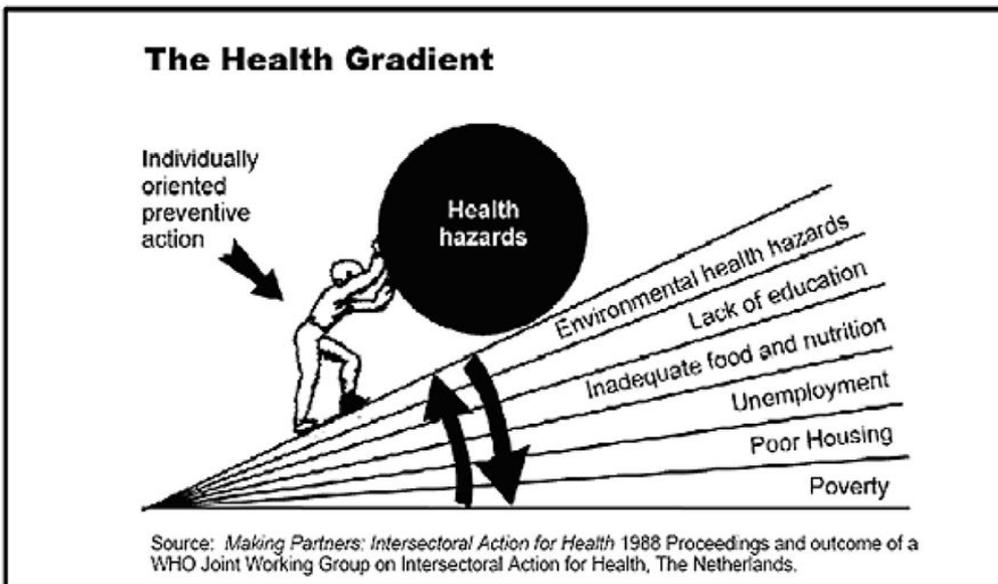
John Snow and the Broad Street Pump



*Cholera
outbreak 1854
Soho, London
550 people killed
in 2 weeks
Handle removed
from the pump
Epidemic quickly
controlled*



Urban Governance and Planning is a determinant of health

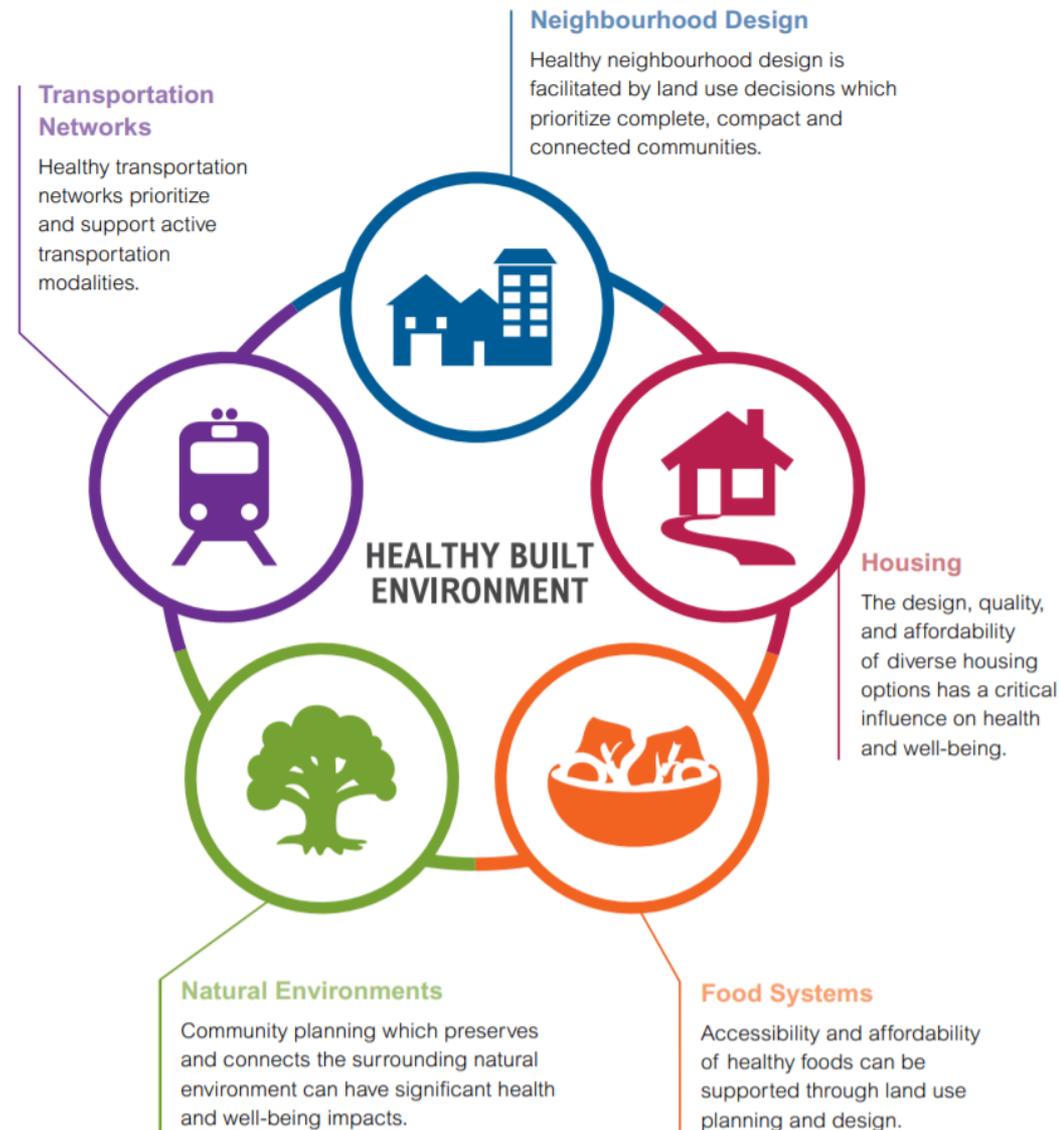


Addressing the Social and Environmental Determinants of Urban Health Equity: Evidence for Action and a Research Agenda. Sharon Friel et al. 2011 Oct 88(5): 860-874J

A Framework for Healthy Built Environment

Healthy Built Environment Linkages Toolkit, 2018 PHSA

http://www.bccdc.ca/pop-public-health/Documents/HBE_linkages_toolkit_2018.pdf



The Linkages Toolkit

Food Systems Summary of Research Links



Research has demonstrated that healthy Food Systems have various positive impacts on the built environment and population health. The summary below shows the strongest research correlations found in evidence reviews related to the three planning principles for healthy Food Systems:



STRENGTH OF EVIDENCE: Strong/Moderate New research area DIRECTION OF EFFECT: ↑ Increase ↓ Decrease

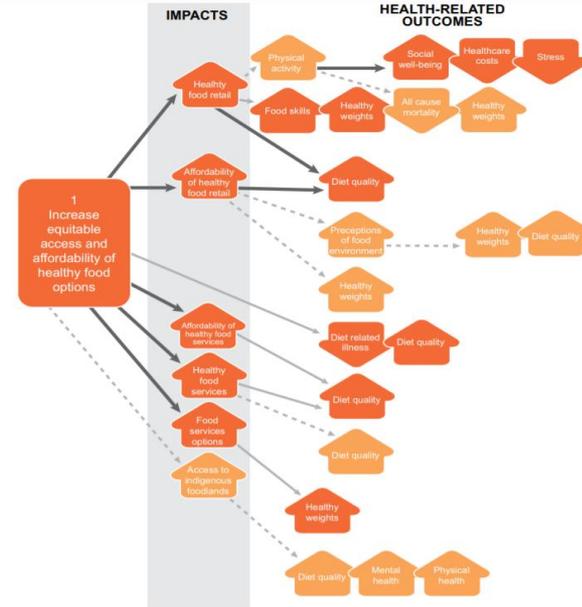
HEALTHY BUILT ENVIRONMENT LINKAGES TOOLKIT: MAKING THE LINKS BETWEEN DESIGN, PLANNING & HEALTH

Food Systems Evidence Diagram



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HBE LINKAGES TOOLKIT - V 2.0 - MAY 2018



Strength of Evidence
 → Strong
 → Moderate
 - - - New research area

Direction of Effect
 ↑ Increase in impact/outcome
 ↓ Decrease in impact/outcome
 - Negative impact

HEALTHY BUILT ENVIRONMENT LINKAGES TOOLKIT: MAKING THE LINKS BETWEEN DESIGN, PLANNING & HEALTH

Indigenous Healthy Built and Social Environment Framework

Pepper Pritty, RN
PhD(student) MNRM BN
CHN

5 core pillars are useful but without considering the social context of a community the framework alone did not have meaning.

https://www.youtube.com/watch?v=d1SG5ceq5HI&list=PLIB0G6_n92zsjCx3a154f-FgW3bm6JUN&index=2&t=0s



Small, Rural and Remote

- 75% of BC communities are considered small, rural or remote.
- There are significant gaps in evidence and how to apply concepts in non-urban settings.
- Toolkit suggested considerations:
 - Active transportation and safety
 - Public transportation options
 - Access to recreational facilities and green spaces
 - Access to nutritious, affordable food
 - Exposure to environmental hazards

Goal should always be to reduce health inequities

- All communities, regardless of their size can apply planning principles to support **health equity** through the built environment.
 - Create opportunities for priority populations to participate and fully engage in planning and decision making process
 - Consider the unique needs of vulnerable populations – Health Impact Assessment

Housing is a determinant of health

- **15%** of home owners in the Courtenay spend >30% of their income on shelter. (23% in 2006) census data, Stats Canada, 2016
- **51%** of renters spend >30% of their income on shelter. (43% in 2006)

Your housing will impact:

- Infectious disease rates
- Injuries
- Chronic illness
- Mental health
- Child development

Homelessness

- Life expectancy 30-40 years less than general population

• Examples of what Local Government can do:

- Housing First initiatives
- Subsidized housing
- Zoning amendments to allow for higher density (secondary suites, smaller lots, coach houses)
- Create diverse neighbourhoods that includes all forms of affordable housing

Transportation is a determinant of health

Employed Population Aged 15 and Over Walking, Biking or Busing to Work (%)



- Health impacts:
 - Air pollution
 - Traffic crashes/injuries
 - Physical inactivity: diabetes, cardiovascular disease, mental health, obesity.

Walkable, bikable, transit-oriented communities are associated with healthier populations

- Examples of what Local Government can do:
 - Compact urban design
 - Housing and neighbourhoods linked to transportation networks
 - Prioritizing active transportation in street design
 - Design routes that are connected and support multi-modalities

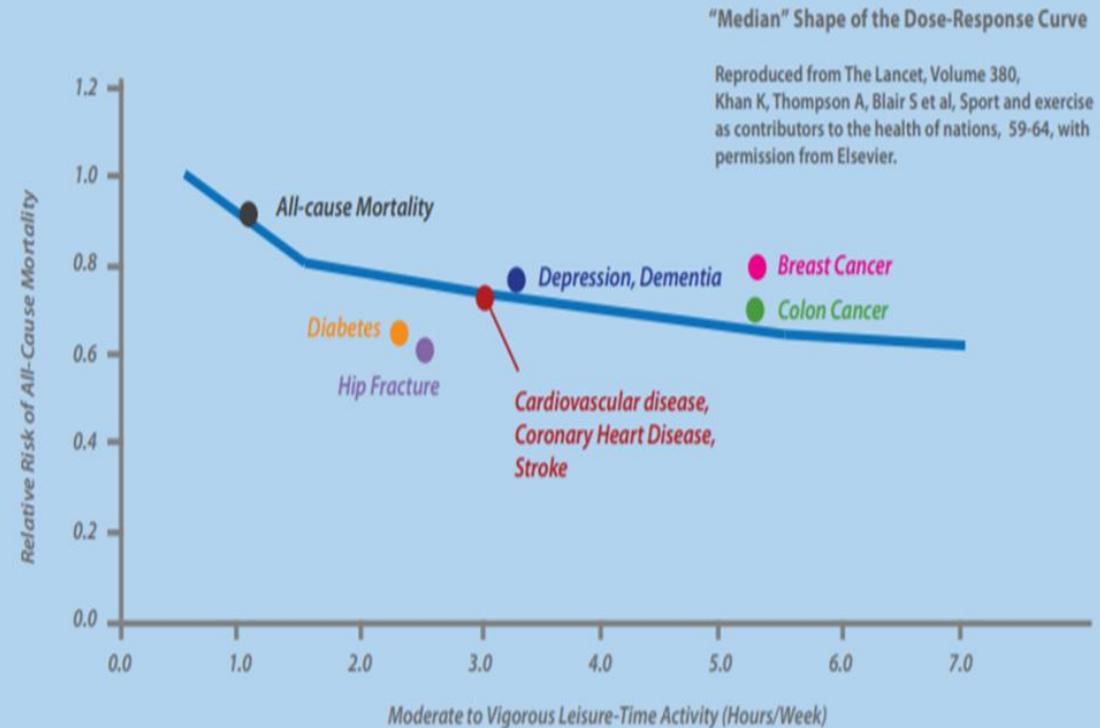
Physical Activity

**Risk of mortality begins to decrease with the first increase in activity beyond being sedentary.*

**The rate of risk reduction is greatest at the lowest end of the physical activity scale. For those with low activity, even small increases can bring substantial health benefits.*

**For the general population, there is no apparent upper threshold where benefits begin to diminish as levels of physical activity continue to increase.*

FIGURE 5: RISK OF SELECTED HEALTH EVENTS BY HOURS/WEEK OF MODERATE TO VIGOROUS PHYSICAL ACTIVITY



Where Matters

A May 2019 report looking at walkability, likelihood of chronic disease and health care costs in Metro Van.

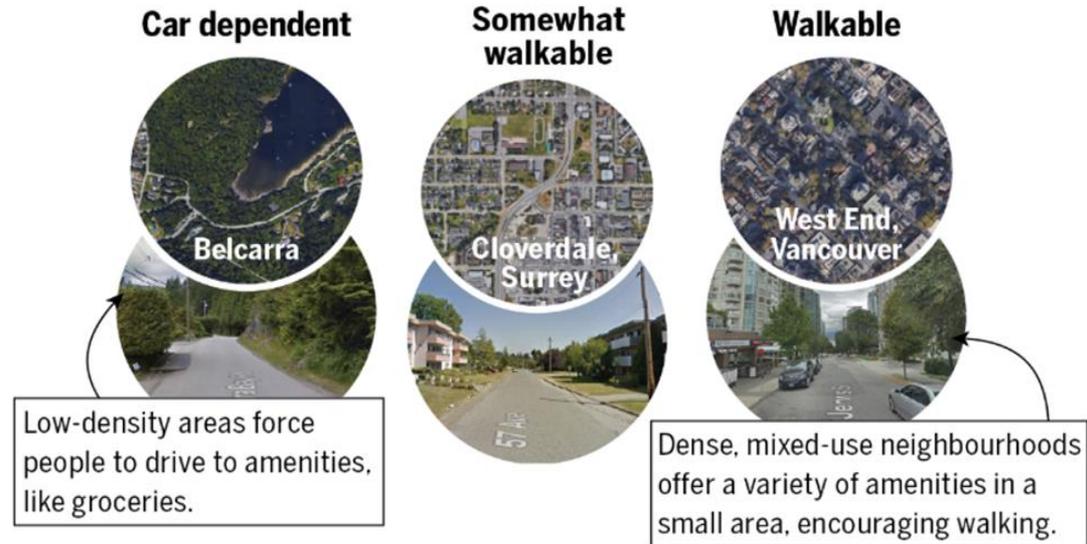
Those in walkable vs car dependent areas were:
42% less likely to be obese
39% less likely to have diabetes
23% less likely to have stressful day
47% more likely to have a strong sense of community

Positive Power of Parks!

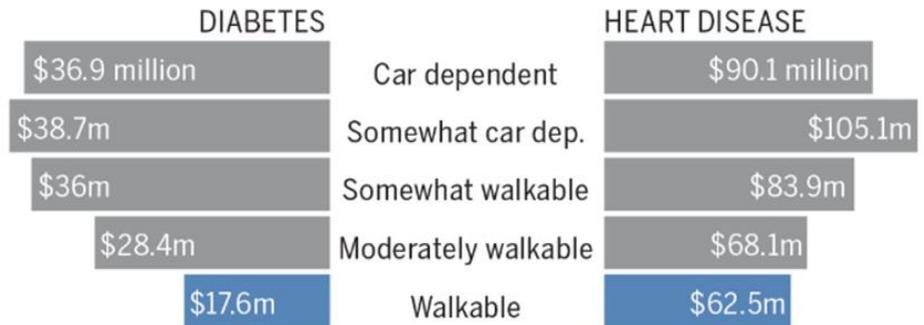


WALKING SAVES MILLIONS OF DOLLARS

Researchers have determined that people living in walkable neighbourhoods have lower rates of chronic illness — which saves the health-care system tens of millions of dollars a year.



Annual health care costs for select diseases by neighbourhood type.



Food Environments are a determinant of health

- FE are human built and social environments.
- geographic access to food in a community or neighbourhood, consumer experiences inside food outlets, services and infrastructure in institutional settings, or the information available about food
- Healthy FE = provide equitable access to healthy foods
- ↑ availability = ↑ quality diet = ↑ healthier weights = ↓ chronic diseases.
- ***Food deserts:*** predominantly low income areas where nutritious foods are not readily available
- ***Food swamps:*** low income areas where there is a disproportionate high access to convenience stores and fast food outlets.

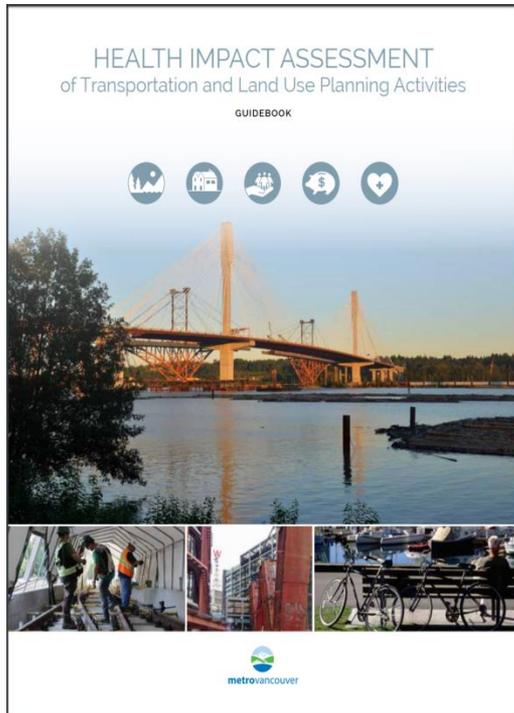
Food Environments

- Examples of what local government can do:
 - Exploring the use of zoning and bylaws to ensure availability of healthy food options in new developments or to reduce access to fast food in specific communities or around schools
 - Consider transportation needs for those who are transit dependent, have limited mobility or low income.

HBE and Climate Change

- Built environment design and development can help mitigate climate change. (i.e. reduce GHG emissions)
- Support adaptation
- Strive for resilient built environments

Health Impact Assessment



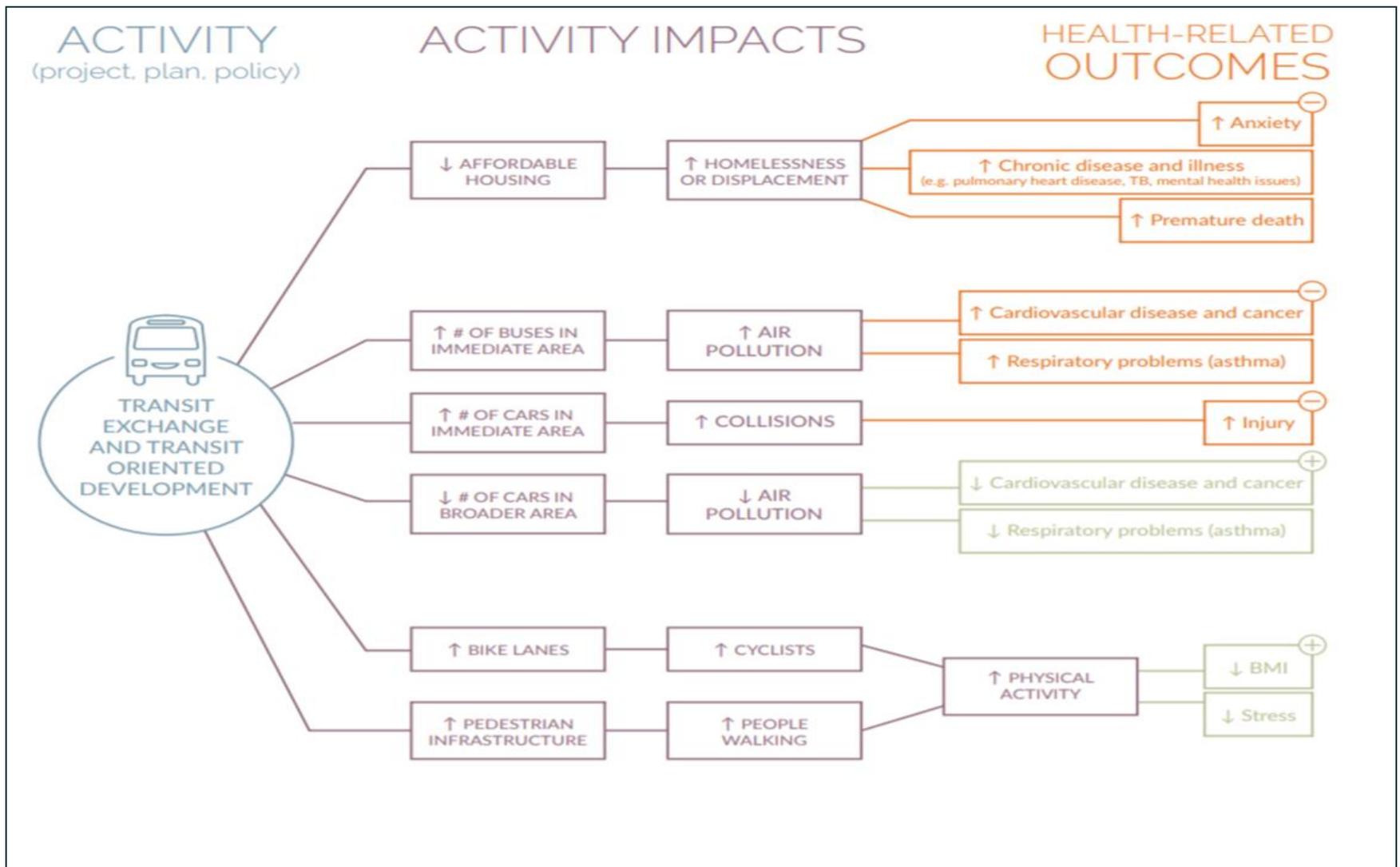
- HIA is a process used to judge the potential health effects of a policy, program, activity or project on a population of people before it is built or implemented.
- This process will consider vulnerable /disadvantaged groups within the population (applying an equity/inclusion lens).

HIA

- Considers:
 - Activity impacts, both direct and indirect
 - Health determinants
 - Potential health related outcomes, both positive and negative
- Forms:
 - Desktop – rapid exercise – days to one week
 - Intermediate – 1 to 3 months
 - Comprehensive – several months

HIA Steps

- *Screening* – is a HIA appropriate, required and feasible
- *Scoping* – which activities, what stakeholders, what level of HIA
- *Assessment and analysis* – baseline data, community values, are potential outcomes significant, how to maximize positive health outcomes, how to mitigate negative health outcomes.
- *Recommendations and reporting*
- *Monitoring and evaluation*



Health Impact Assessment of Transportation and Land Use Planning Activities Guidebook. MetroVancouver, page 26

Summary

- The built environment has a significant impact on the health and well being of populations.
- Urban/town planners have a significant role in influencing population health.
- The world and evidence is changing rapidly and we need to adapt accordingly.

Resources

- Healthy Built Environment Linkages Toolkit, <http://www.bccdc.ca/health-professionals/professional-resources/healthy-built-environment-linkages-toolkit>
- Community Design Lab, UBC, <https://health-design.spph.ubc.ca>
- Plan H – Healthy Built Environment, <https://planh.ca/take-action/healthy-environments/page/healthy-built-environment>
- National Collaborating Centre for Environmental Health, <http://www.nccch.ca/environmental-health-in-canada/health-agency-projects/healthy-built-environment>

Charmaine Enns, MD, MHSc,
FRCPC

250.331.8591

Medical Health Officer
North Vancouver Island
charmaine.enns@viha.ca