



# Healthy Built Environment Rate Card Engine

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**Shift** HEALTH  
ACCELERATOR

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*“The phrase **‘built environment’** refers to the human-made or modified physical surroundings in which people live, work, and play. These include our homes, schools, workplaces, public spaces like parks and recreational areas as well as broader service networks such as our transportation and food systems. The concept of ‘built environments’ can refer to areas of varying scope such as a large-scale urban plan or a site specific development. How neighbourhoods are planned and built has a direct impact on the physical, mental, and social health of its residents. These population health impacts can be described through indicators such as level of social cohesion, mental and physical fitness, chronic disease, healthy weights, and injury rates. For example, making active transportation convenient and safe has been shown to increase physical activity, which is in turn linked to decreased unintentional injuries, improved mental health, social connectivity and healthy weights.”*

- British Columbia Centers for Disease Control.

## RATECARD ENGINE GOAL

To support community leaders and local governments to plan, build, and steward the healthy environments that help us thrive. This means increasing access to affordable quality housing, land to produce food, green spaces that revive and protect us, active transportation, and the connections between systems and each other that let us move through our day freely, happily, and in ways that promote health. That access requires community-led planning processes, inclusive approaches to building, and ongoing stewardship of the places that promote health over time. That how we go about building healthy environments is just as important as the physical structures in terms of fostering connectivity, trust, and leadership needed to advance health.



# HOW TO USE THIS RATECARD ENGINE

A ratecard is a menu of outcomes that either A) a payor is willing to purchase at the price per unit they are willing to pay<sup>1</sup>, or B) a community provider is willing to offer at the price per unit they are willing to accept. This “Engine” is designed to accelerate the development and negotiation of a ratecard built for specific groups of communities and groups of payors. Use this, and other Shift Ratecard Engines, as a starting point to build a logic connecting actions to outcomes, borrow from existing evidence, and select the outcomes that make sense in your particular context. Use this tool to build power in your community to achieve and fund the outcomes that matter most. Use this tool to establish the value of outcomes to your community and to negotiate for fair resources to successfully achieve those outcomes. Each “Engine” contains a sample logic model (Figure 1), key definitions, assumptions and values built into the Engine, some sample strategies that could achieve health outcomes, sample outcomes, sample metrics for those outcomes, and a sample ratecard to see what the end product might look like.

**Figure 1.** Relationship between built environment and health equity (British Columbia Centre for Disease Control, 2018<sup>2</sup>)

	SOCIAL WELL-BEING	ECONOMIC CO-BENEFITS	SMALL & MEDIUM SIZED COMMUNITIES
 <p><b>NEIGHBORHOOD DESIGN</b></p> <ol style="list-style-type: none"> <li>1. Create complete neighbourhoods through mixed land use</li> <li>2. Build compact neighbourhoods through efficient planning</li> <li>3. Enhance connectivity with efficient and safe networks</li> <li>4. Prioritize new developments within or beside existing communities</li> </ol>			
 <p><b>TRANSPORTATION NETWORKS</b></p> <ol style="list-style-type: none"> <li>1. Use street designs which prioritize active transportation</li> <li>2. Make active transportation networks safe and accessible for all ages and abilities</li> <li>3. Design connected routes for active transportation and support multiple modalities</li> <li>4. Consider the aesthetics of road, rail, and waterway networks</li> </ol>			
 <p><b>NATURAL ENVIRONMENTS</b></p> <ol style="list-style-type: none"> <li>1. Preserve and connect environmentally sensitive areas</li> <li>2. Maximize opportunities for everyone to access natural environments</li> <li>3. Reduce urban air pollution by expanding natural elements across the landscape</li> <li>4. Mitigate urban heat islands by expanding natural elements across the landscape</li> </ol>			
 <p><b>FOOD SYSTEMS</b></p> <ol style="list-style-type: none"> <li>1. Increase equitable access to and affordability of healthy food options</li> <li>2. Protect agricultural land and increase the capacity of local food systems</li> <li>3. Support community-based food programs</li> </ol>			
 <p><b>HOUSING</b></p> <ol style="list-style-type: none"> <li>1. Prioritize affordable housing options through diverse housing forms and tenure types</li> <li>2. Ensure adequate housing quality for everyone</li> <li>3. Provide specialized housing options to support the needs of marginalized populations</li> <li>4. Site and zone housing developments to minimize exposure to environmental hazards</li> </ol>			

<sup>1</sup> <https://socialfinance.org/outcomes-rate-card/>

<sup>2</sup> BC Centre for Disease Control. (2018). Healthy Built Environment Linkages Toolkit: making the links between design, planning and health, Version 2.0. Vancouver, B.C. Provincial Health Services Authority. Retrieved from [http://www.bccdc.ca/pop-public-health/Documents/HBE\\_linkages\\_toolkit\\_2018.pdf](http://www.bccdc.ca/pop-public-health/Documents/HBE_linkages_toolkit_2018.pdf)

# RATECARD ASSUMPTIONS AND VALUES

Some of the assumptions and values built into this ratecard engine include:

- How people engage in making decisions about their built environment is critical to health--community-led planning, transparent information, equitable representation, inclusive construction, and shared stewardship are all strategies communities and local governments can use together to ensure the voices of communities shape the environments they live in;
- This is all true whether living in a rural town or a big city, amongst farms or along a coast, or in downtown or a suburb;
- Fostering connection--between people and places, culture, knowledge, and history--is important for health;
- There is a right to afford living in the places we do;
- All people need quality/safe housing, as well as safe communities, that meets the needs of people who live there;
- Determining which neighborhoods are “blighted” or in need of redevelopment should not be based on economics but on the community’s understanding of the effect of the built environment on their health and safety;
- A healthy built environment includes community access to land and water for producing culturally appropriate, fresh, healthy food;
- Open green spaces act as restorative, active places for people and wildlife, and they also act as buffers and filters between land uses;
- Transportation is the connective tissue between where we live, work, and play--Making active transportation the easy choice will improve health;
- The built environment needs to be accessible--designed for 8-yr olds and 80-yr olds and people with disabilities;
- Community stability and avoiding displacement is important; and
- The built environment is made up of intersections of systems, so we need good neighborhood design that provides what we need, provides freedom to move, and leaves room for communities to adjust to the changing world around them driven by climate, economic, and demographic changes.

## EXAMPLE COMMUNITY STRATEGIES TO IMPROVE HEALTH

Communities will use a range of strategies to advance a healthy built environment and associated health improvement. Those strategies will work in synergy and they will be different based on culture, climate, and other factors. The examples below are illustrative. The focus of this ratecard engine is on outcomes - outcomes community leaders will achieve through a range of innovations.

### **Housing Strategies**

Increase housing opportunity (e.g., incentives for mixed income housing); Increase access to

affordable housing; Decrease loss of affordable housing stock; Increase access to housing with other support services for communities facing inequities; Act to prevent houseless/homelessness; Increase access to safe, dignified shelters for the houseless; Increase permanent supportive housing / Ensure housing first approach; Decrease prevalence of eviction; Increase acceptance of Section 8 and other housing supports by landlords; Increase the quality of existing affordable housing stock without changing rents significantly; Increase access to spaces for gathering and connection within housing developments; Increase community, family, and individual homeownership; and Use healthy building materials & site affordable housing away from environmental hazards.

### **Food System Strategies**

Protections for agriculture/food production lands and access to water; Access to means of distribution; Supports for producer income, housing, and/or safety; Improvements in food affordability and access; Increase access to culturally appropriate foods; Increase access to fresh, quality food with high nutritional content; and Joint decision making between producers and consumers on what food is grown, how, and where food is sold.

### **Natural Environment Strategies**

Increase access to existing greenspaces; Improve the quality and use of existing greenspaces; Increase connectivity between greenspaces; Increase tree canopy cover as buffers between land uses and to improve health; Protect existing greenspaces and large trees; Include areas for groups to gather; Design greenspaces that are culturally appropriate; Improve stormwater and flood retention through green infrastructure; and Keep greenspaces safe and well maintained.

### **Transportation Network Strategies**

Use street designs that prioritize active transportation; Make active transportation networks safe and accessible for all ages and abilities; Increase connectivity for active transportation and multiple modalities; Include design elements that reflect local cultures, community, and places; Increase availability and quality of public transit; Develop dedicated rail lines, bus lines, bike lanes; Prioritize multi-modal trip infrastructure; Use pricing to reduce vehicle miles; Use disruptive street design for cars to reduce speeds and volume; connected paths for peds and bikes; the “20 min neighborhood”; Design transit for the cultures and communities who need it most (language, affordability, connections); Create quiet bikeways; Make transit waiting areas safe, inviting, and fun; Safe ped and bike access to transit stops; Use art, nature, community spaces to invite people into transit in a culturally appropriate way; Minimize signs of decay/vandalism; and Use lighting and other measures to increase safety.

### **Neighborhood Design Strategies**

Use mixed land use to create complete neighborhoods and streets; Build compact neighborhoods; Enhance connectivity; Avoid gentrification/displacement; Increase ownership of assets from people with connections to community; Increase neighborhood mobility (e.g., incentives for mixed income neighborhoods); Increase proximity to housing choices, work, school, early childhood education, early care facilities, recreational facilities, shopping/other errands; Increase viability for fast/frequent transit; Density happens with increased parks, schools, and other community facilities; Lower vehicle speeds and locate people away from vehicle exhaust and noise; Joint use agreements (e.g., between schools and parks); Reuse/redevelop land with health in mind; and Design for children, elders, and people with disabilities in mind.

## **Community-Led Planning, Construction, and Stewardship Strategies**

Lifting community power from consultation to leadership; Guarantee a right to know and a right for community act; Community engaged in long-range plans, area plans, and rezoning (zoning); Engaged in subdivision, development/building permits (permitting); Engaged in siting and design of community facilities; Increased community ownership of built assets; Included in the procurement and construction of community facilities; Engaged in the ongoing maintenance and care of community facilities; Support capacity to engage over time; Foster trust within and amongst communities; Provide a holistic vision for what's possible; Build pipelines for new leadership; Coordinate budgeting and fund allocation; Foster partnerships; and Provide information and education for communities to lead.

## **RATECARD EXAMPLE OUTPUTS, OUTCOMES, AND MEASURES**

The example ratecard below is intended as a menu of “good things” that communities, investors, and others can use as a starting point to define where they want to concentrate their efforts to advance a healthy built environment and health equity. It is assumed there is a current mismatch or lack of sufficient resources directed toward activities that promote the outcomes below. Those missing resources are preventing the kinds of culture and systems shifts needed to advance economic mobility in ways that promote a Culture of Health. These measures are inter-related and part of broader systems. Outcomes metrics, outcomes values and related prices and variations in outcomes prices for populations of interest will need to be adapted to local conditions and cultures and will be detailed in the place-based contracts and agreements between Shift Health Accelerator, investors/payors, and community providers. Outcomes that are relevant to particular communities can be drawn from multiple Ratecards to ensure a comprehensive approach to improving well-being in local settings. Sample metrics and prices are not included in this Ratecard Engine, but Shift will provide guidance for options on how to set pricing with particular communities and topic areas.

### **Example Rate Card Outcomes**

The Shift Health Accelerator team is currently exploring different ways to structure ratecards to balance clarity, connectivity, and other ways. The structure for ratecards depends on community priorities, opportunities to leverage current context, networks, and communication channels, and based on feedback for continuous improvement and relevance to specific community settings.

## COMMUNITY LEADERSHIP

### Example Final Outcomes

Increased social cohesion and trust

Increased community stability / decreased rates of displacement

### Example Intermediate Outcomes

Decision makers reflect the area and its people

Increased support for a common vision

Information that is accessible and transparent

Increase in community ownership of assets

Increase in community engagement skills within local government

Codified meaningful community engagement practices

## NEIGHBORHOOD DESIGN

### Example Final Outcomes

Improved social cohesion

Improved health and wellbeing (e.g. physical activity, mental health)

### Example Intermediate Outcomes

Increased walkability

Policy change that promotes complete neighborhoods and streets

Decreased vehicle miles traveled

Increased use of transit and recreation facilities

Decrease in number of properties community has defined as blighted

Decreased pollution, heat, noise exposure

## FOOD

### Example Final Outcomes

Increased consumption of sustainably grown, safe, nutritionally adequate and culturally appropriate fruits and vegetables

Improved health and wellbeing (e.g. BMI, A1c, HDL/LDL levels, blood pressure, diabetes)

### Example Intermediate Outcomes

Increase in food outlets within walking distance or XX min on transit

Access to grow or purchase food produced within X miles of home

Increased caloric yield of culturally appropriate food within of food grown X miles of home

Decreased % of income spent on food

## INCOME SECURITY

### Example Final Outcomes

Increased access to greenspace within a 10 min walk of home, work, or school

Improved health and wellbeing

No increase in displacement/gentrification

### Example Intermediate Outcomes

Decrease pollution, noise, heat exposure

Increase tree canopy cover and density

Increased sense of social cohesion and community pride

Improved access to and connectivity of greenspaces

Increased use of recreational facilities

Savings in water/energy costs

## TRANSPORTATION

### Example Final Outcomes

Increased walking and active transit use

Increase the health and wellbeing of residents (e.g. respiratory health, mental health, reduced mortality, economic well-being, injury)

### Example Intermediate Outcomes

Improved outdoor air quality

Increase in transit use

Increased walkability

## HOUSING

### Example Final Outcomes

Improved quality of life

Increase the health and wellbeing of residents (e.g. respiratory health, mental health, reduced mortality, economic well-being, injury, risk behavior)

### Example Intermediate Outcomes

Decreased % of household income on housing (shelter, energy/water)

Increased desegregation

Decreased crime (e.g. domestic abuse)

Increase in affordability, quality housing choices (supportive for people with mental health and addiction, for 8 year olds, for 80 year olds, with disabilities, decrease in homelessness, increase in landlords accepting Section 8 and other supports)

Housing sited and built in healthy places (reduced pollution and noise exposure, healthy building materials, safe distance from busy roads)

# APPENDIX A: EXAMPLE RATECARD COMPLETED

The sectors that invest in the built environment are all so interconnected, and so siloed at the same time, the mix of outcome measures may vary quite a bit by the potential capital partner for an effort. This example assumes an investment in high quality, affordable housing choices, and how a ratecard might be designed to access public safety, economic development, health, arts and culture, education, housing, transportation, or utility investments.

**Table A1.** Sample Outcome Targets

OUTCOME	BASELINE	OUTCOME TARGET	TIMELINE TO TARGET
<b>Early Outcomes</b>			
Improved housing quality and safety	2,500 units of substandard affordable housing	<500 units of substandard housing	2021-2026
Increased housing stability	500 families per school district are houseless	<100 families per school district are houseless	2021-2026
<b>Outcomes Tied to Payments</b>			
Decrease in hospitalization	\$5,000,000 / year in emergency room costs for Medicaid population	<\$2,500,000 / year in emergency room costs for Medicaid population	2021-2026
<b>Other Important Outcomes, Not Formally Evaluated</b>			
Reduced lead exposure	500 families exposed to unsafe levels of lead	<250 families exposed to unsafe levels of lead	2021-2026
Reduced segregation	80% of school population in areas >40% poverty	80% of school population in areas >40% poverty	2023-2026

**Table A2.** Sample Payment Schedule

OUTCOME	COHORT	FLOOR	PAYMENT
Decrease in hospitalization	2020-2022	\$500,000 in saved emergency room hospitalizations	\$1,500,000
	2022-2024	\$1,000,000 in saved emergency room hospitalizations	\$1,000,000
	2024-2026	\$2,500,000 in saved emergency room hospitalizations	\$500,000
<b>TOTALS</b>			<b>\$3,000,000</b>

## APPENDIX B: EXAMPLE OUTCOMES METRICS

OUTCOME EXAMPLE	METRIC EXAMPLES (Specific metric and price determined locally)	POTENTIAL DATA SOURCES
<b>COMMUNITY LEADERSHIP</b>		
Increased social cohesion and trust	Social Capital Index	
Increased community stability/decreased rates of displacement	Low income displacement and concentration	<a href="#">Institute on Metropolitan Opportunity</a>
Decision makers reflect the area and its people	Match of elected leaders to population demographics	
Increased support for a common vision	Support for a common vision	
Information that is accessible and transparent	?	
Increase in community ownership of assets	?	
Increase in community engagement skills within local government	?	
Codified meaningful community engagement practices	?	
<b>HOUSING</b>		
Improved quality of life	Quality of life Social-wellbeing Wages Economic well-being (lower service costs, lower household expenses, higher income and job access) # and value of tax and ratepayers	

<p>Increase the health and wellbeing of residents</p>	<p>BMI Respiratory health Physical activity Mortality (all causes) Stress Mental health Attention restoration Mood/depression regulation Diet related illness Coping skills Healthcare costs Seasonal (winter cold, summer heat) mortality Neuro-development Hospitalization &amp; healthcare utilization Cancer Risk behavior Drug use</p>	<p><a href="#">County Health Rankings</a>  <a href="#">National Center for Health Statistics linked to HUD data</a></p>
<p>Decreased % of household income on housing (shelter, energy, water)</p>	<p>Energy efficiency / % of household income on energy</p>	<p><a href="#">City Health Dashboard</a>  <a href="#">Housing+Transportation Affordability Index</a></p>
<p>Increase in affordable, quality housing choices</p>	<p>Increased access to affordable housing Increased access to worker housing Substandard housing inventory Increased choice of housing forms Landlord acceptance of Section 8 and other housing supports Access to supportive housing for people with mental health and addiction Houseless/homeless population Access to permanent and safe housing for people who are homeless/homeless with appropriate access to services Upgrades to housing for seniors and people with disabilities Vacancy rates Eviction rates Housing stability</p>	<p><a href="#">EPA Enviro Atlas</a>  <a href="#">American Community Survey</a>  <a href="#">American Housing Survey</a>  <a href="#">HUD Community Assessment Reporting Tool</a>  <a href="#">National Equity Atlas</a></p>
<p>Increased desegregation</p>	<p>Desegregation of low / high income areas</p>	<p><a href="#">City Health Dashboard</a></p>
<p>Decreased crime (e.g. domestic abuse)</p>	<p>Sense of safety Crime rates Domestic abuse</p>	<p><a href="#">City Health Dashboard</a></p>

Housing sited and built in healthy places

% housing with suitable ventilation  
Use of healthy building materials  
Housing is sited and zoned to minimize indoor exposure to air pollution, be a safe distance from busy roadways  
Housing is designed to mitigate exposure to environmental hazards  
Physical hazards/injuries  
Overcrowding  
Access to good quality housing  
Noise and radon exposure  
Lead exposure

[EPA Enviro Atlas](#)

[American Housing Survey](#)

## FOOD SYSTEMS

Increased consumption of sustainably grown, safe, nutritionally adequate, and culturally appropriate fruits and vegetables

Improved diet quality  
Increased enjoyment of food

Centers for Disease Control

Improved health and wellbeing

Social-wellbeing  
BMI  
Respiratory health  
Physical activity  
Mortality (all causes)  
Stress  
Mental health  
Quality of life  
Sense of safety  
Attention restoration  
Mood/depression regulation  
Diet related illness  
Coping skills  
Healthcare costs  
Seasonal (winter cold, summer heat) mortality  
Neuro-development  
Hospitalization  
Cancer

Increase in food outlets within walking distance or close via transit

Establish population densities that make neighborhood food outlets viable within walking distance (e.g., over 5,000 people for a grocery store)  
Active transport options to healthy food outlets

[Food Access Research Atlas](#)

Access to grow and purchase food produced close to home

Area of food production land  
Places for local producers to distribute food (e.g., farmers markets, dropoffs)  
Design community/mixed income housing/school facilities with food in mind  
\$ and volume of direct producer sales  
Distribution and storage facilities

[EPA Enviro Atlas](#)

[Food Environment Atlas](#)

Increased caloric yield of culturally appropriate food grown close to home

Culturally appropriate food options  
Land use protects culturally appropriate production of fruits and vegetables as close to people consuming it as possible  
School and community gardens with water and accessibility  
Decreased unhealthy food options near schools  
Increased food supply

Decreased % of income spent on food

Affordability of food  
Improved food preparation skills  
Increase food self sufficiency

## NATURAL ENVIRONMENT

Increased access to greenspace within a 10 minute walk of home, work, and school

Average proximity to greenspace

[City Health Dashboard](#)

[10-Minute Walk Campaign](#)

[Trust for Public Lands Parkscore](#)

[EPA Enviro Atlas](#)

Improved health and well being

Social-wellbeing  
BMI  
Respiratory health  
Physical activity  
Mortality (all causes)  
Vehicle-related deaths/Unintentional injury  
Stress  
Economic well-being (lower service costs, lower household expenses, higher income and job access)  
Mental health  
Quality of life  
Sense of safety  
Attention restoration  
Mood/depression regulation  
Diet related illness  
Coping skills  
Healthcare costs  
Seasonal (winter cold, summer heat) mortality  
Neuro-development  
Hospitalization  
Cancer

[City Health Dashboard](#)

[County Health Rankings](#)

No increase in displacement/gentrification

?

Decreased pollution, noise, heat exposure	Exposure to NO2 and/or ground level ozone Exposure to extreme heat Noise exposure	<a href="#">EPA Enviro Atlas</a> <a href="#">National Equity Atlas</a>
Increased tree canopy cover and density	Tree canopy cover & density	<a href="#">EPA Enviro Atlas</a>
Increased sense of social cohesion and community pride	Social Capital Index Pride in community	
Improved access to and connectivity of greenspace	Accessibility of greenspaces Connectivity of greenspaces	<a href="#">EPA Enviro Atlas</a>
Increased use of recreation facilities	Use of recreation facilities	
Savings in water and energy costs	Stormwater/flood management savings Energy savings	

## TRANSPORTATION

Increased walking and active transit use	Transit use Walking rates Cycling rates	<a href="#">Walkscore</a> <a href="#">American Community Survey</a> <a href="#">American Housing Survey</a>
Increased health and wellbeing	Social-wellbeing BMI Respiratory health Physical activity Mortality (all causes) Vehicle-related deaths/Unintentional injury Stress Economic well-being (lower service costs, lower household expenses, higher income and job access) Mental health Quality of life Sense of safety Attention restoration Mood/depression regulation Diet related illness Coping skills Healthcare costs Seasonal (winter cold, summer heat) mortality Neuro-development Hospitalization Cancer	<a href="#">Transportation and Health Tool</a>

Improved outdoor air quality	Exposure to NO2 and/or ground level ozone Noise exposure	<a href="#">EPA Enviro Atlas</a> <a href="#">ENVI-Met Air quality model</a>
Increase in transit access	?	<a href="#">CDC Built Environment Tool</a> <a href="#">American Housing Survey</a> <a href="#">Transportation and Health Tool</a> <a href="#">Housing+Transportation Affordability Index</a>
Increased walkability	Neighborhood walkability	<a href="#">Walkscore</a>

**NEIGHBORHOOD DESIGN**

Improved social cohesion	Social Capital Index	
Improved health and wellbeing	Social-wellbeing BMI Respiratory health Physical activity Mortality (all causes) Vehicle-related deaths/Unintentional injury Stress Economic well-being (lower service costs, lower household expenses, higher income and job access) Mental health Quality of life Sense of safety Attention restoration Mood/depression regulation Diet related illness Coping skills Healthcare costs Seasonal (winter cold, summer heat) mortality Neuro-development Hospitalization Cancer	
Increased walkability	Neighborhood walkability Walking rates Neighborhood density	<a href="#">Walkscore</a> <a href="#">American Community Survey</a>

Policy change that promotes complete neighborhoods and streets

Presence of complete neighborhood and streets policy  
Equitable distribution of locally undesirable land uses with no net impact from those land uses  
Adoption of key vision plans (e.g., climate, equitable development, etc.)

[Transportation and Health Tool](#)

Decreased vehicle miles traveled

Vehicle miles traveled  
Cycling use  
Fraction with short work commutes

[Opportunity Atlas](#)

[American Community Survey](#)

Increased use of transit and recreation facilities

Transit use  
Recreation facility use

Decrease in number of properties community has identified as blighted

Zoning promotes complete neighborhoods/mixed use  
Number of properties community has identified as blighted  
Loss of historic and/or cultural landmarks

Decreased pollution, heat, and noise exposure

Exposure to NO2 and/or ground level ozone  
Exposure to extreme heat  
Noise exposure  
Stormwater quality

[EPA Enviro Atlas](#)

[ENVI-Met Air quality model](#)

[National Equity Atlas](#)