



# **THE ANTHROPOCENE IS HERE:**

## **Living well in a 'One Planet' Region**

### **Trevor Hancock**

---



**University  
of Victoria**



**ideafest**

IDEAS THAT CAN CHANGE EVERYTHING **MARCH 2017**

***We acknowledge with respect the history, customs and cultures of the Lekwungen-speaking peoples on whose traditional territory the University of Victoria stands.***

***We raise our hands to the Lekwungen- and SENCOTEN-speaking peoples whose relationship with this land continues to this day.***



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# Thanks for help and support to

- **Jeremy Caradonna**
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- **Jennie Moore**
- **Peter Ord**
- **Marion Pape**
- **Ian Wight**
- **Peggy Wilmot**





# Agenda

- 1.30 - Welcome, introductions**
- 1.35 - Overview – Trevor Hancock**
- 1.45 - Feedback from Conversations**
- 1.55 - 7 brief presentations**
- 2.35 - Refreshment break**
- 2.45 - Small group discussions # 1**
- 3.20 - Quick feedback**
- 3.30 - Identify topics for Small group # 2**
- 3.45 - Small group discussions #2**
- 4.15 - Quick feedback**
- 4.30 - Close**



# Outline

1. **Welcome to the Anthropocene**
2. **One Planet Living**
3. **The Happy Planet Index**
4. **The Conversations**



• **Welcome to the Anthropocene** •

[https://www.youtube.com/watch?v=PGtCkv7\\_nIs](https://www.youtube.com/watch?v=PGtCkv7_nIs)



# **I. Welcome to the Anthropocene**

- **Our efforts to subdue nature have been so successful that the time in which we now live has been called the Anthropocene - it will show up in the geologic record**
- **Welcome to the Anthropocene!**



# Geologic signatures of the Anthropocene

## Layers containing

### Minerals

- Pure aluminum
- Tungsten carbide
- Glass
- Plastic
- Concrete

### Chemicals

- CO<sub>2</sub>
- Nitrogen fertilisers
- POPs
- Radioactive particles

### Plus changes in fossil assemblages

- Humans – 1/3 of mass of all land vertebrates
- Domesticated species – 2/3
- Wild species - <5%



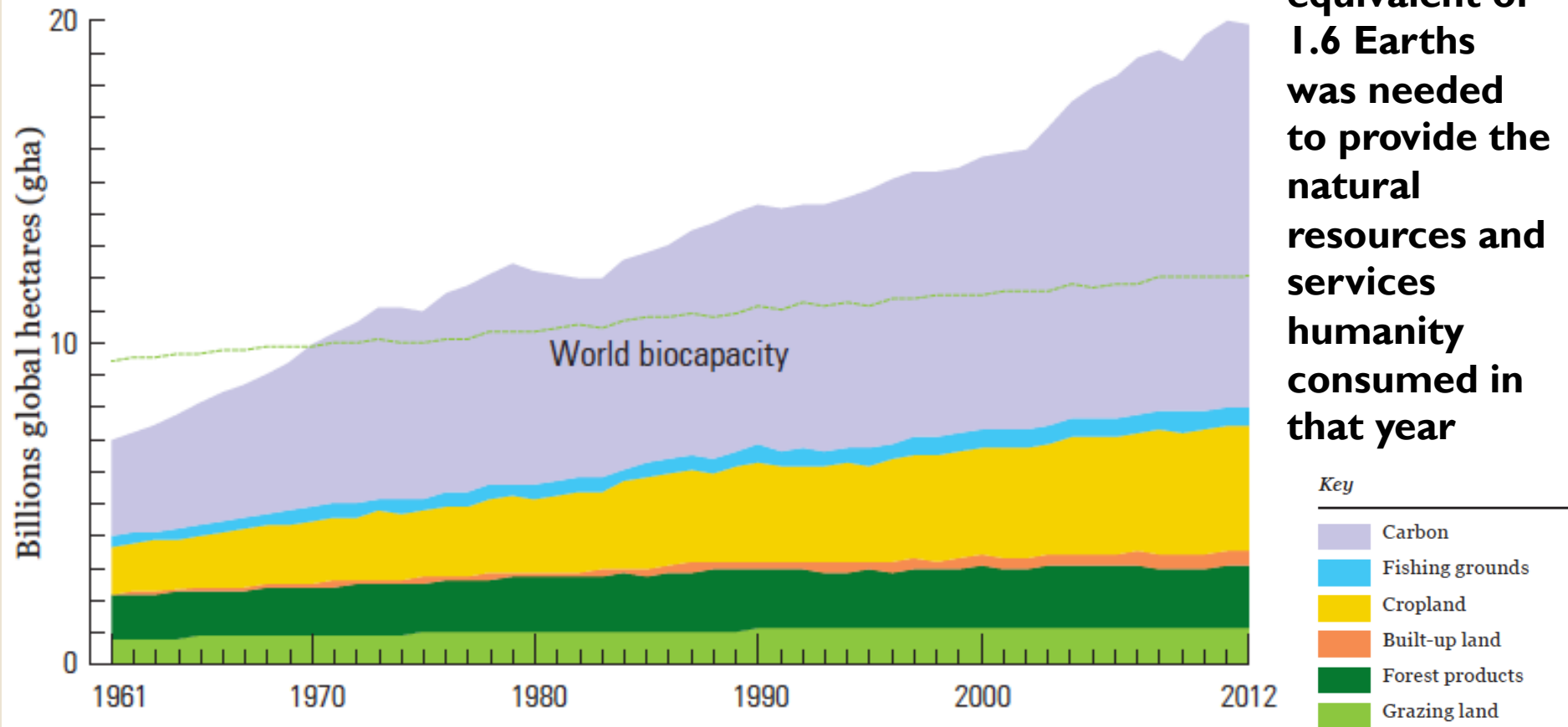
# Key aspects of the Anthropocene

- **Climate change**
- **Ocean acidification**
- **Ozone layer depletion**
- **Resource depletion**
- **Pollution**
  - **Ecotoxicity**
- **Species extinctions**



# Ecological footprint, 1961 - 2012

**In 2012, the biocapacity equivalent of 1.6 Earths was needed to provide the natural resources and services humanity consumed in that year**





# What we have

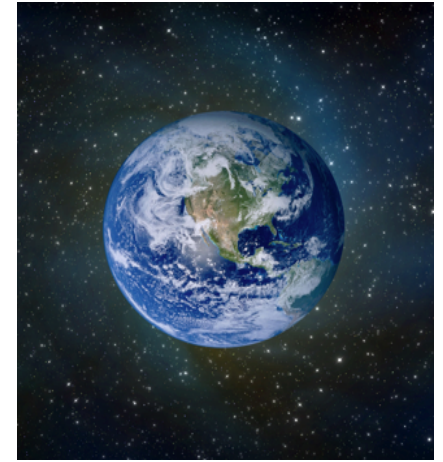
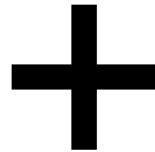


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# How we behave



## 2. 'One Planet' living

- **“The Earth’s natural capital, on which our social and economic prosperity is built, is finite. This basic fact should be embedded in every economic forecast and development strategy, in business plans and investment decisions, in our livelihoods and lifestyle choices.”**

**WWF Living Planet  
Report 2014, p 100**



# 10 principles of One Planet Living



**Health and  
happiness**



**Local and  
sustainable food**



**Equity and  
local economy**



**Travel and  
transport**



**Culture and  
community**



**Materials  
and products**



**Land and  
nature**



**Zero  
waste**



**Sustainable  
water**



**Zero carbon  
energy**



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**Bioregional Annual Review, 2015 -16**



Helpu Cymru i leihau  
ei Hôl Troed Carbon  
Help Wales reduce  
its Carbon Footprint



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

# One Wales: One Planet

The Sustainable Development Scheme  
of the Welsh Assembly Government



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May 2009



# One Planet Fremantle Strategy

2014/2015 – 2019/2020



# **Vancouver - How Do We Become a One Planet City?**

**Vancouver's goal to reduce its ecological footprint by 33% over 2006 levels by 2020**

- **Fri, 13 January 2017**
- **6:00 PM – 8:00 PM PST**
- **This event is co-organized by SFU Public Square, One Earth, Whistler Centre for Sustainability, Evergreen and the City of Vancouver**



# Towards a 'One Planet' region

- **What would our community be like, and what would our lives be like, if we reduced our EF**
  - **By 50%**
  - **Down to a 'One Planet' footprint while retaining a high life expectancy and life satisfaction (see the Happy Planet Index – HPI)**



# 3. The Happy Planet Index

- **The Happy Planet Index measures what matters: sustainable wellbeing for all. It tells us how well nations are doing at achieving long, happy, sustainable lives.**
- **It was developed by the New Economics Foundation in the UK.**
- **Canada ranks 85<sup>th</sup>, the USA 108th**





# How is the Happy Planet Index calculated?

**The Happy Planet Index combines four elements to show how efficiently residents of different countries are using environmental resources to lead long, happy lives.**

- **Wellbeing**
- **Life expectancy**
- **Inequality of outcomes**
- **Ecological Footprint**



# The Happy Planet Index

$$\text{HPI} = \frac{\text{Wellbeing} \times \text{Life expectancy} \times \text{Inequality of outcomes}}{\text{Ecological footprint}}$$


Wellbeing x Life expectancy x Inequality of outcomes  
Ecological footprint

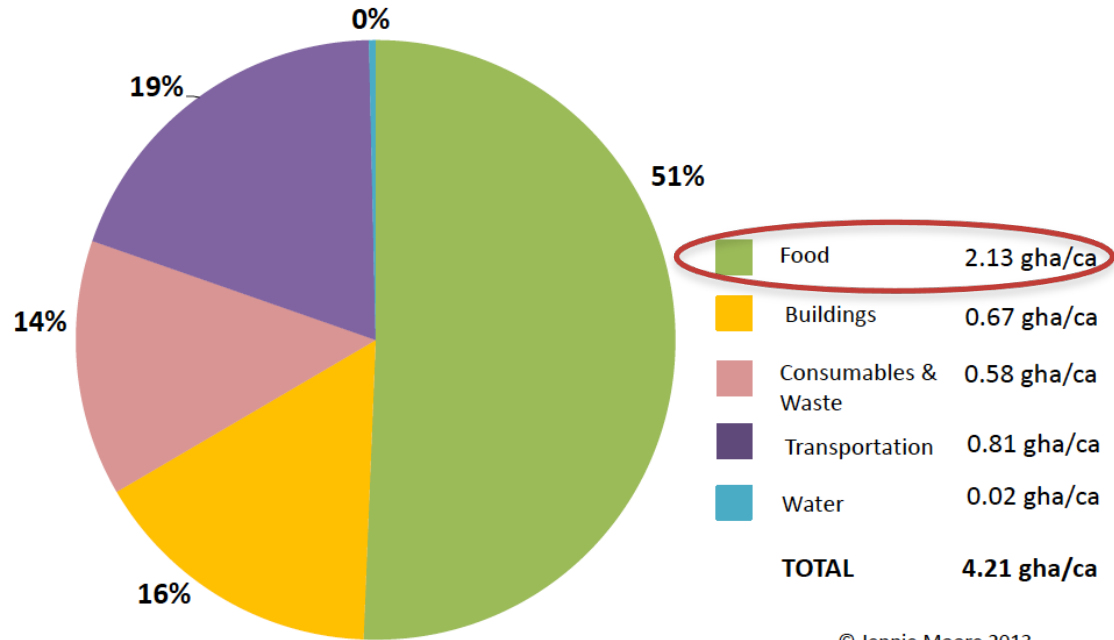


# **4. The Conversations – Some Highlights**



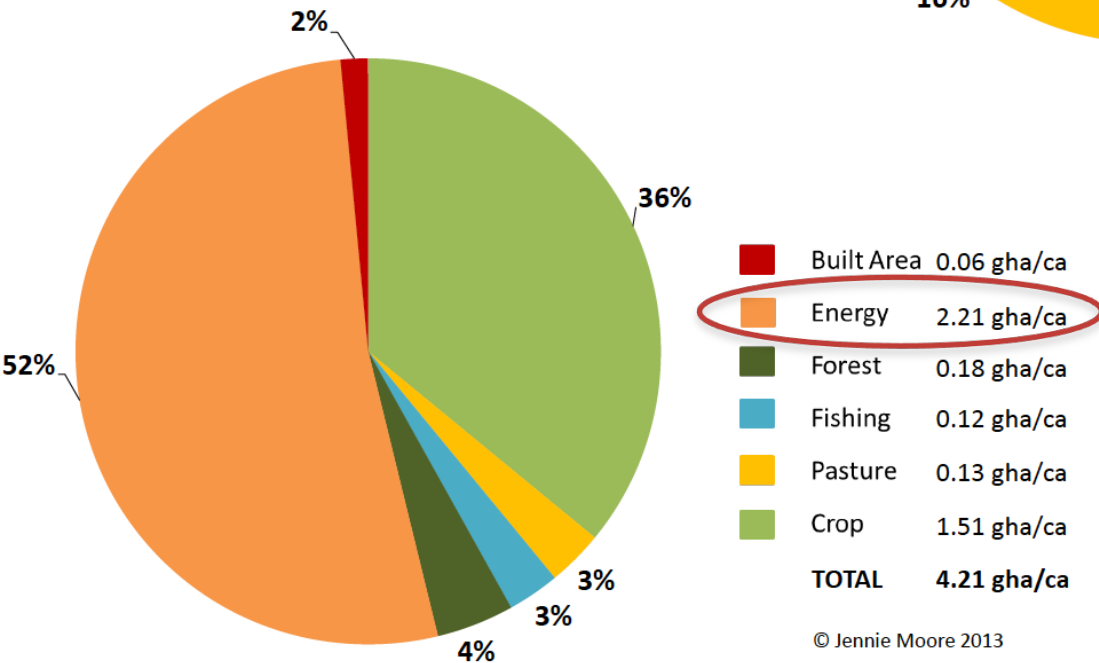
# Jennie Moore, BCIT

## Vancouver's Ecological Footprint By ACTIVITY



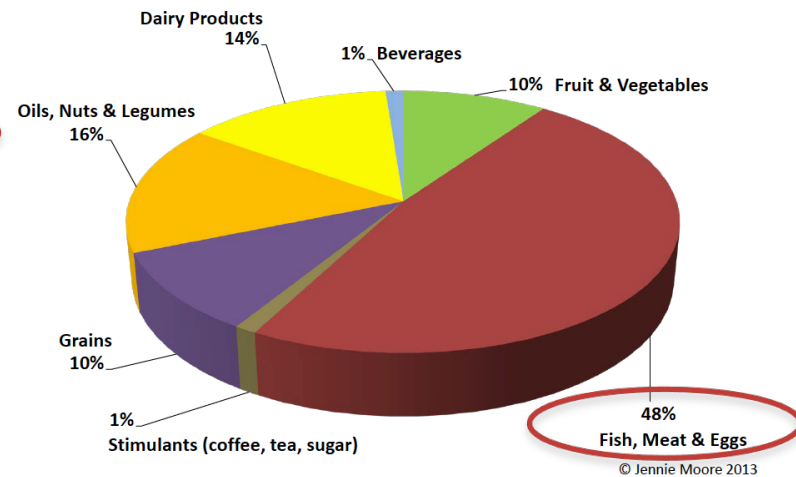
© Jennie Moore 2013

## Vancouver's Ecological Footprint By LAND USE



© Jennie Moore 2013

## Food Footprint by TYPE (2.13 gha/ca)



© Jennie Moore 2013

# One-Planet Baseline:

## Top five actions include

- |                                                                               |                    |
|-------------------------------------------------------------------------------|--------------------|
| 1. Make 86% of trips by walking, cycling and transit                          | 0.38 gha/ca        |
| 2. Reduce food waste post-purchase by 50%                                     | 0.37 gha/ca        |
| 3. Reduce red meat consumption 50% by substituting with white meat or legumes | 0.34 gha/ca        |
| 4. Improve energy efficiency in buildings by 40%                              | 0.21 gha/ca        |
| 5. Reduce paper consumption by 50%                                            | <u>0.12 gha/ca</u> |

**1.42 gha/ca**  
**= 37%**



# 100% Renewable Energy by 2050 for Municipalities

**Tom Hackney, Policy Director**

**BC Sustainable Energy Association**

**6 February 2017**



BRITISH COLUMBIA

**Sustainable Energy**  
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# 100% Renewable Energy by 2050 for Municipalities

**Tom Hackney, Policy Director**  
**BC Sustainable Energy Association**  
**6 February 2017**

**Tom is here and will speak for himself**



BRITISH COLUMBIA

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# **Transportation Systems & Urban Development Patterns for a One Planet Region**

**Todd Litman**

***Victoria Transport Policy Institute***

**Presented**

***Anthropocene Community Conversations***

***Bateman Centre, Victoria, BC***

**10 February 2017**



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# Costs of Sprawl Research

## THE NEW CLIMATE ECONOMY

The Global Commission on the Economy and Climate



NCE Cities – Sprawl Subsidy Report

## ANALYSIS OF PUBLIC POLICIES THAT UNINTENTIONALLY ENCOURAGE AND SUBSIDIZE URBAN SPRAWL

Lead Author: Todd Litman, Victoria Transport Policy Institute

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ANALYSIS OF PUBLIC POLICIES THAT UNINTENTIONALLY ENCOURAGE AND SUBSIDIZE URBAN SPRAWL MARCH 2015 WWW.NEWCLIMATEECONOMY.NET | 1



## Quantifying the Costs and Benefits to HRM, Residents and the Environment of Alternate Growth Scenarios

Halifax Regional Municipality, Nova Scotia  
April 2013



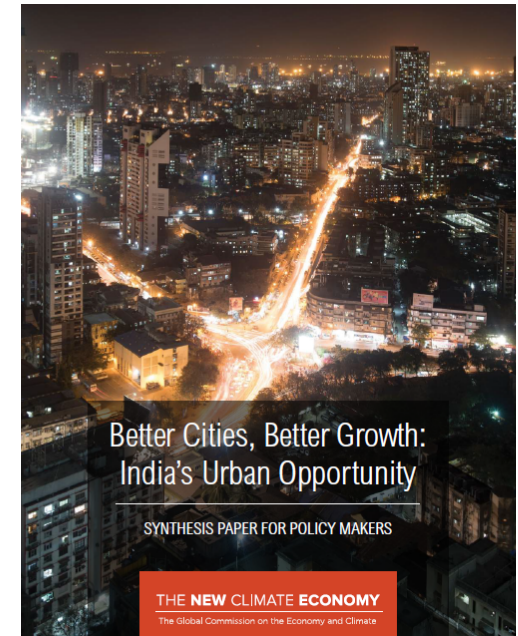
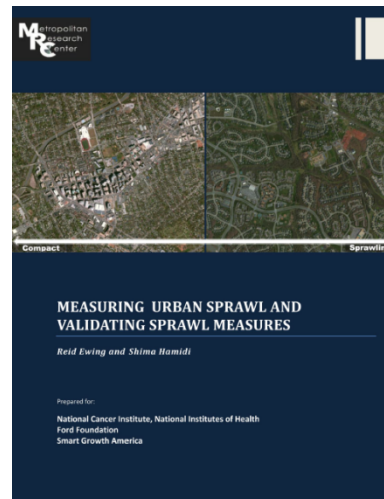
REPORT  
OCTOBER 2013

## SUBURBAN SPRAWL: EXPOSING HIDDEN COSTS, IDENTIFYING INNOVATIONS



Illustration: Patrick de la Rivière

BY DAVID THOMPSON



**SP** Sustainable Prosperity

Sustainable Communities

# Electric Power Does Not:

- Reduce traffic congestion
- Reduce accidents
- Reduce roadway costs
- Reduce parking facility costs
- Reduce vehicle purchase costs
- Improve mobility for non-drivers
- Improve social equity
- Improve public fitness and health
- Reduce sprawl
- Protect threatened habitat

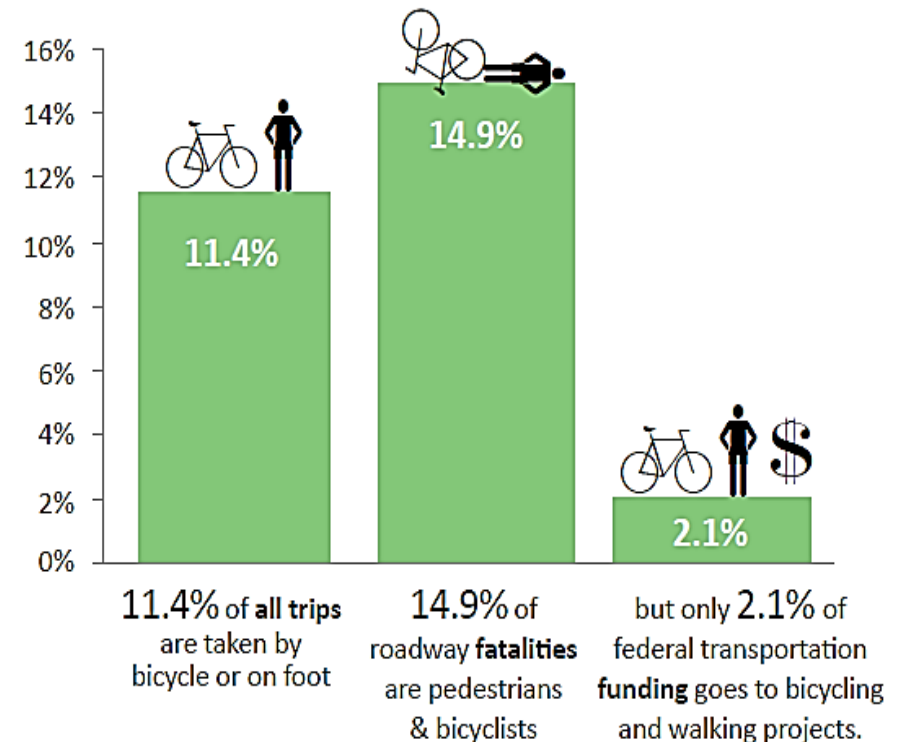


# Affordable-Efficient Modes

**Walking, cycling and public transport are resource efficient and affordable, and so tend to be most sustainable.**

**Yet, they often receive less than a fair share of public investment.**

Disparity of Pedestrian and Bicycle Mode Share, Fatalities, and Funding



(US Data, ABW 2014)

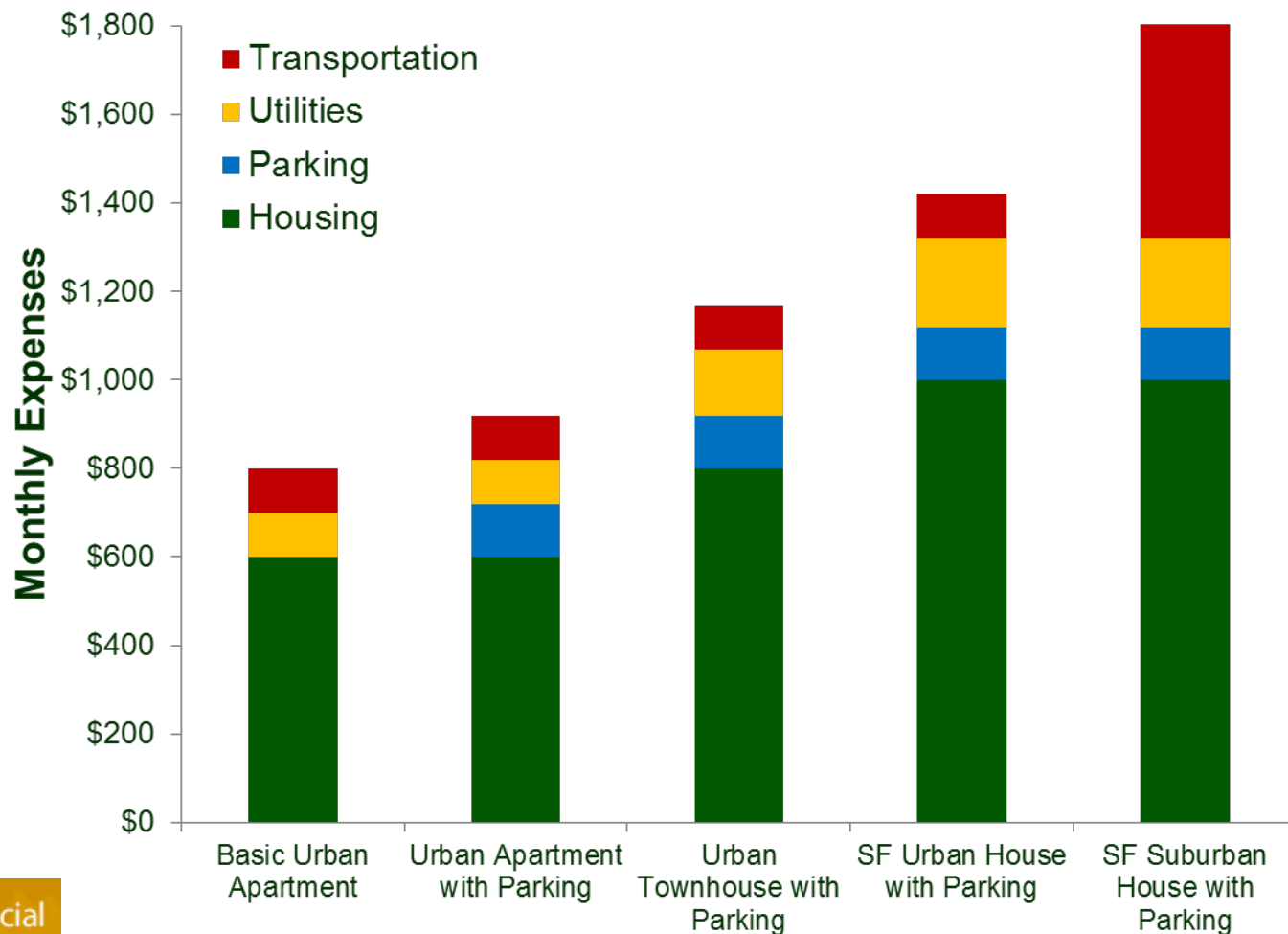


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# Housing & Transport Costs

A basic low-rise apartment in a walkable urban neighborhood can cost less than \$800 in total housing and transport expenses. Add parking, less compact housing types, and locating in automobile-dependent suburban areas each add costs. Most jurisdictions have policies that impose these additional costs, which reduce affordability, and exclude lower-income households from urban neighborhoods.





# Smart Growth Benefits

## Economic

- Preserving openspace increases agricultural productivity and recreational industries
- More efficient public facilities and services, reduces government costs
- Reduced road and parking demands, reduces costs to governments and businesses
- Improved accessibility, reduced transportation costs (vehicle expenses, accident and pollution damages)
- Reduces spending on imported vehicles and fuel, reducing export exchange burdens.

## Social

- Improved accessibility and economic opportunity for economically disadvantaged people.
- Reduced traffic casualties (injuries and deaths).
- Improved public fitness and health.
- Increased community cohesion (positive interactions among neighbors).
- Reduced chauffeuring burdens.

## Environmental

- Openspace preservation maintains wildlife habitat and other ecological functions.
- Reduced hydrologic disruptions (surface and groundwater flows) and stormwater management costs.
- Reduced per capita energy consumption and pollution emissions (although increases in residents' exposure to some local pollutants).





# **A 'One Planet' Food System for Victoria**

**Prof. Jeremy Caradonna,  
University of Victoria**



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# Terra Nossa Farm in Mill Bay

**Story 4:**  
Raising  
livestock more  
sustainably

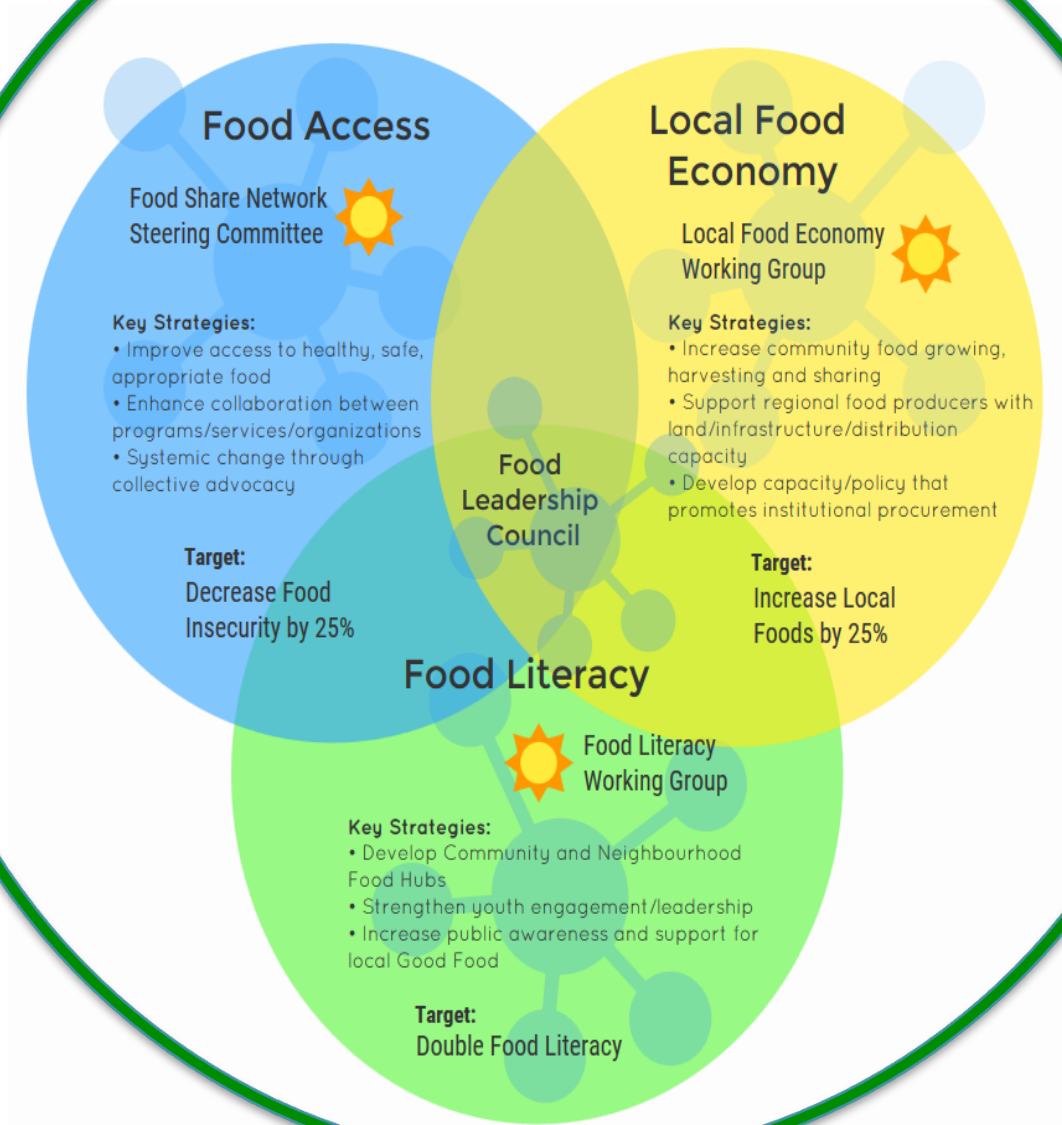
- **Pasture-raised hens at Terra Nossa Farm in Mill Bay.** This system increases soil fertility, greatly reduces off-farm feed needs, and treats animals humanely. Animals are immensely valuable in organic agriculture. The problem is not the eating of meat; it's how much we eat and how it's raised.



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# One Planet



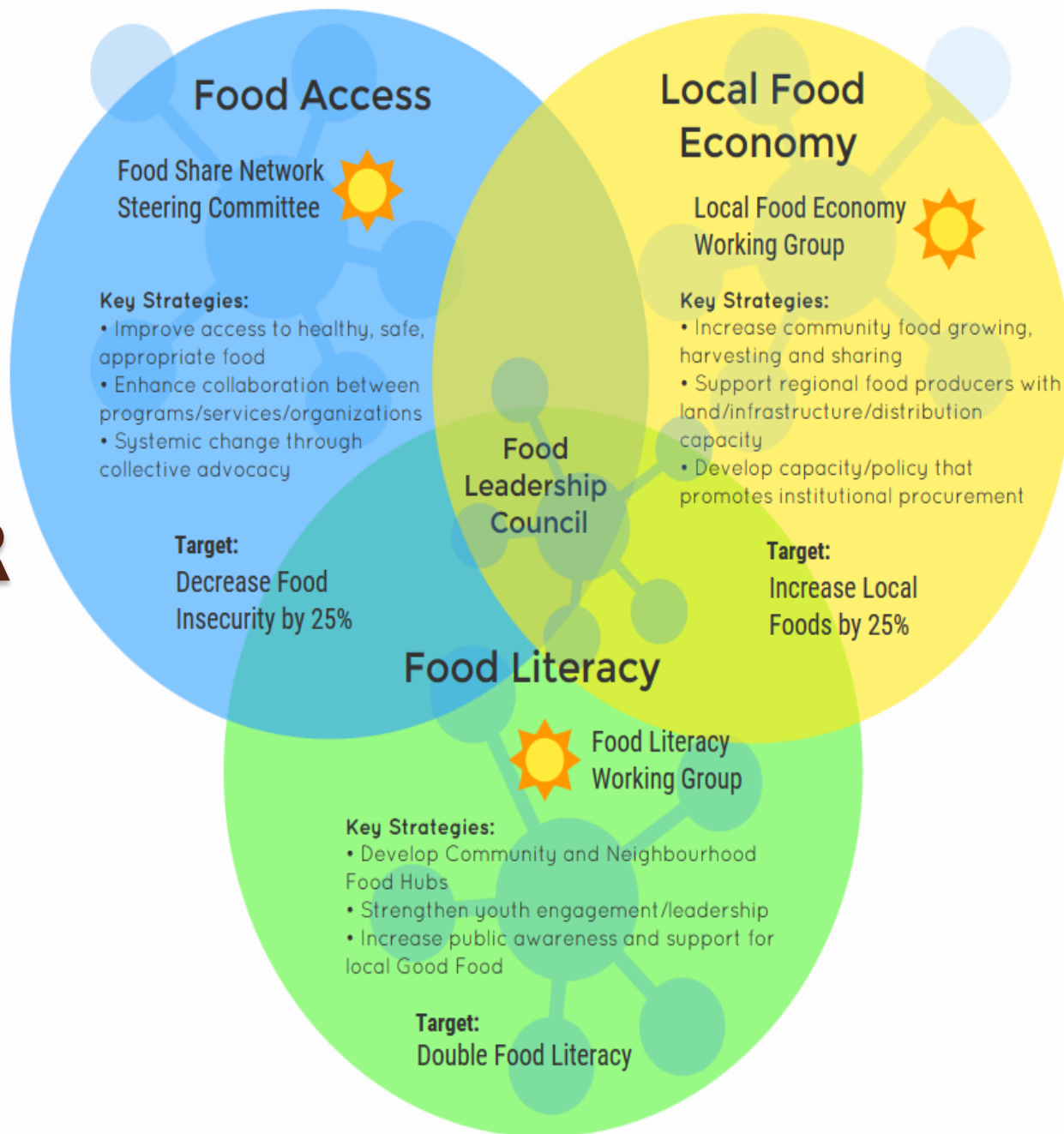


# How can Greater Victoria move toward a 'One Planet' Food System?

- Educate young farmers to farm *and* run a business
- Revive the ALR, protect land, and provide access to land for young farmers
- Encourage the growing of more staples
- Continue to support farmers markets, CSAs, CSFs, box programs, and farm-stand sales
- Support agroecological values; the Ministry of Agriculture is too focused on profits
- The CRD and the Province should commit to concrete targets for local food production, as the Province of Ontario has done, and to support organics. (The City and the CRD are working on these issues, and also attempting to reduce food



# Good Food 2025 - CRFAIR



# Conversations – Phase 2

- **Monday March 20 - Guy Dauncey, author of *Journey to the future: A Better World is Possible***
  - ***A Conversation on a New Cooperative Economy for a One Planet Region***

## **Other possibilities**

- **Richard Iredale, Architect, Iredale Associates; Past Chair, Cascadia Green Building Council (now the International Living Future Institute)**
  - ***Net Zero buildings for a One Planet Region***
- **Trevor Hancock**
  - ***A health system for a One Planet Region***
- ***Faith and the Anthropocene***
- ***The Arts and the Anthropocene***
- ***A Conversation on Indigenous views of the One Planet region***

