

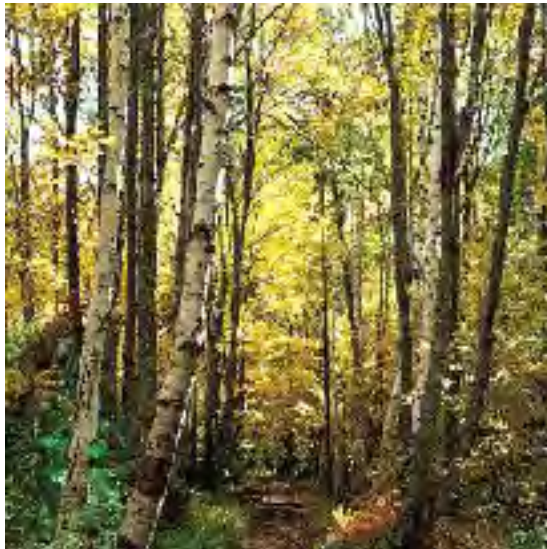
*Land*



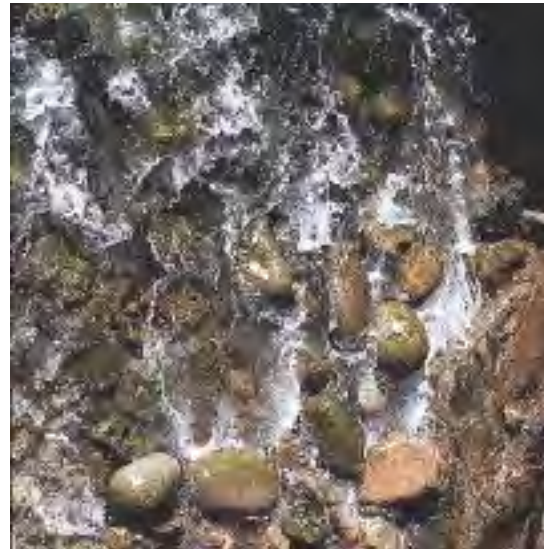
*Air*



*Forest*



*Water*



# *LARC 444/553 Green Network Planning*



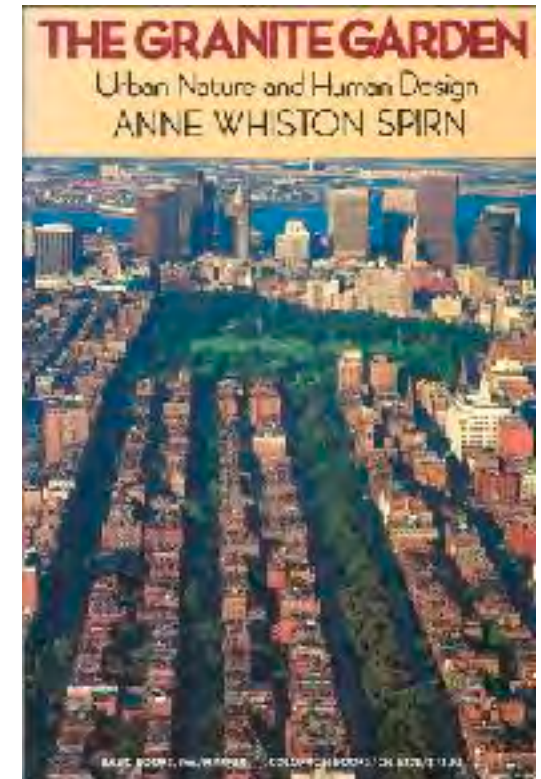
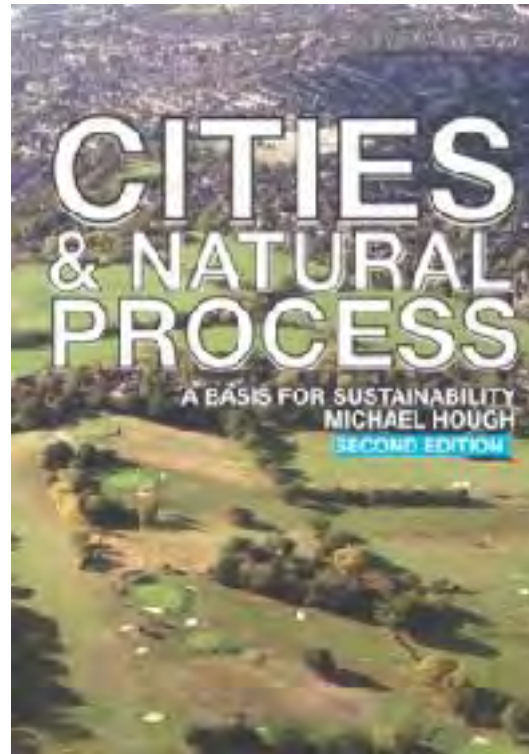
## *OUTLINE*

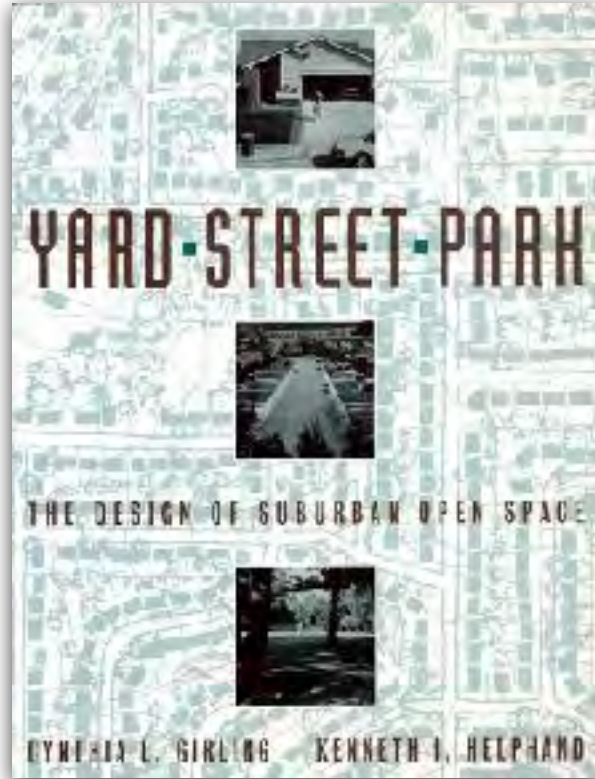
- 1. Introduction*
- 2. Green networks meaning*
- 3. Course topics*
- 4. Syllabus and Project 1*

# INTEGRATING ENVIRONMENTAL AND URBAN SYSTEMS

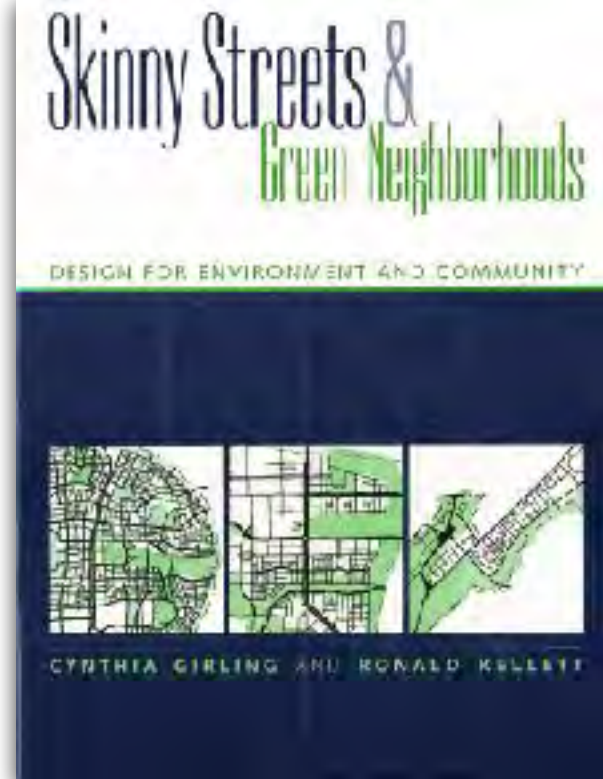
“Urban development  
becomes a participant in  
the workings of natural  
systems”

*Michael Hough* 1984





1994



2005





Cynthia's office



elementslab.ca

Room 3131 CIRS building



HTO Park (Case 17000)



Single Family Gridded  
25-35 PPH



Commercial  
10-35 PPH



Corridor  
60-75 PPH

# *LARC 444/553 Green Network Planning*

# *21st CENTURY CHALLENGES*

*SEA LEVEL RISE*

*EXTREME WEATHER*

*FLOODING +  
WATER SHORTAGES*

*CHANGING ECOSYSTEMS*

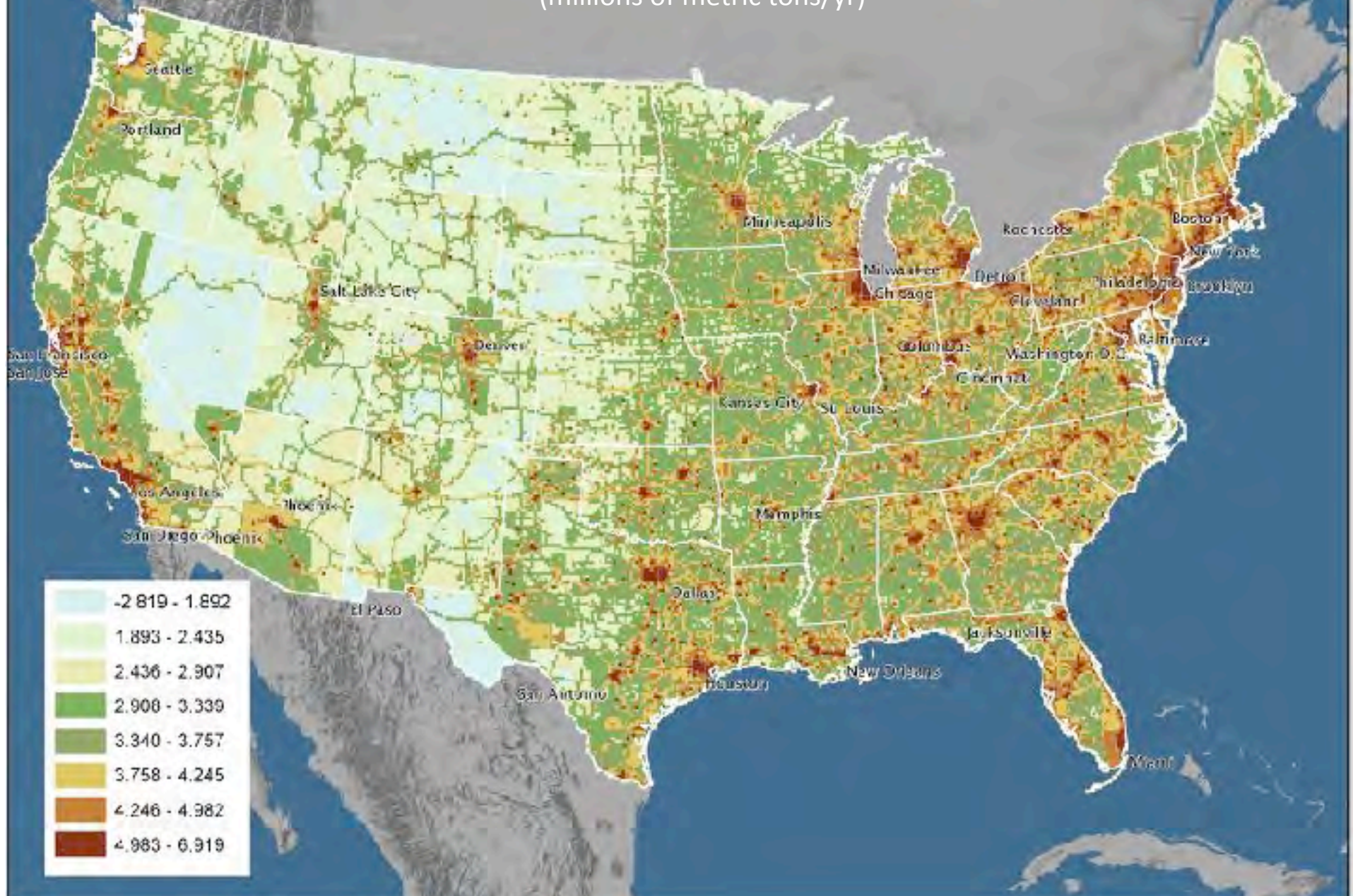
*FOOD SECURITY*



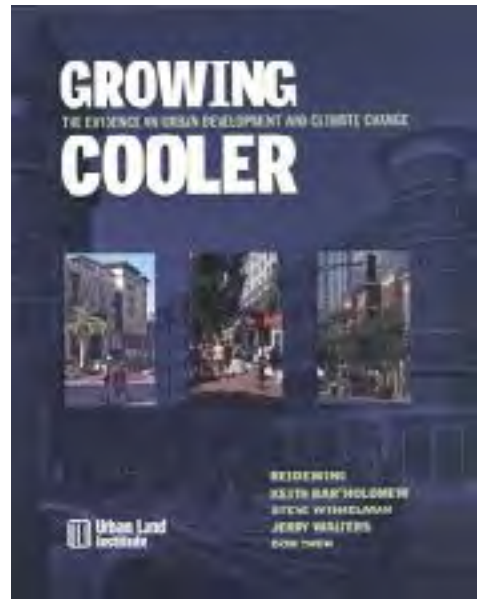
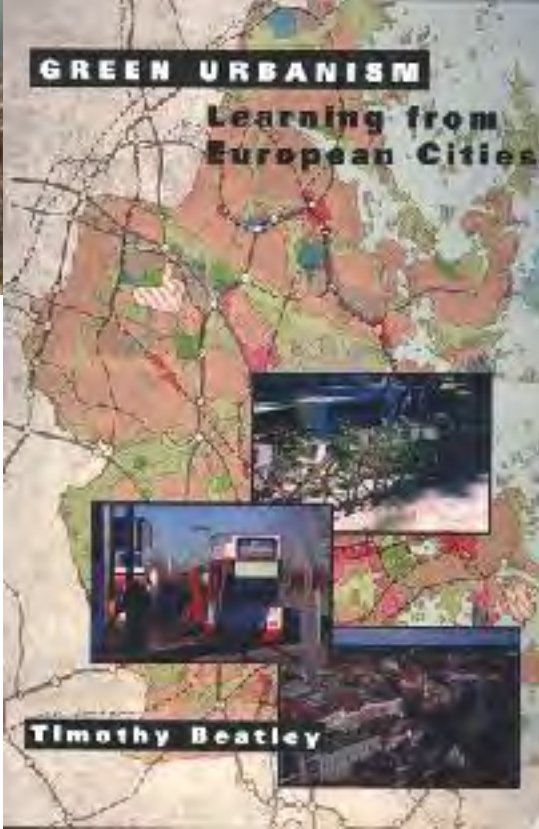
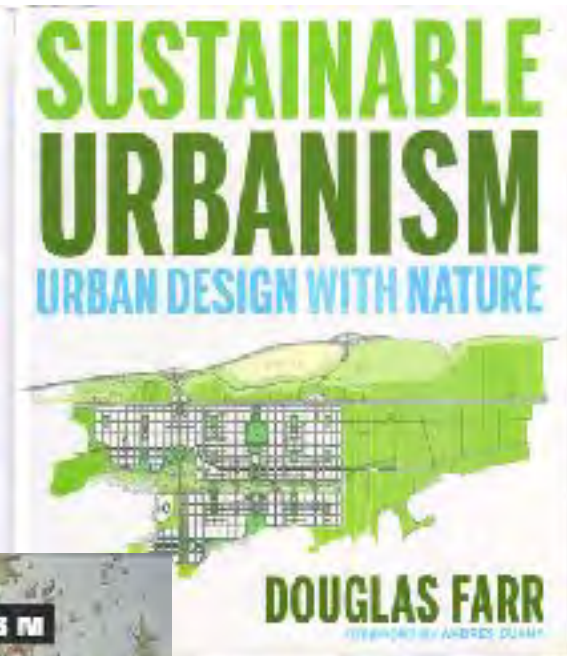
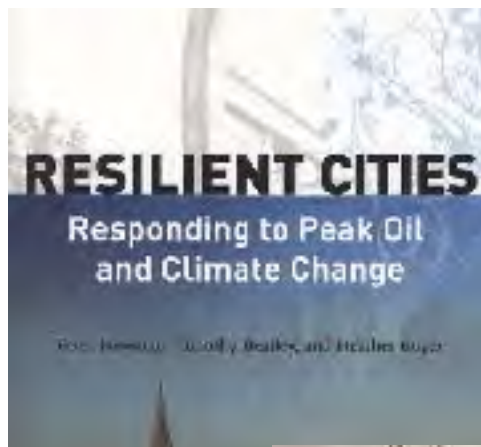


# *The Vulcan Project*

carbon intensity/grid cell/year  
(millions of metric tons/yr)



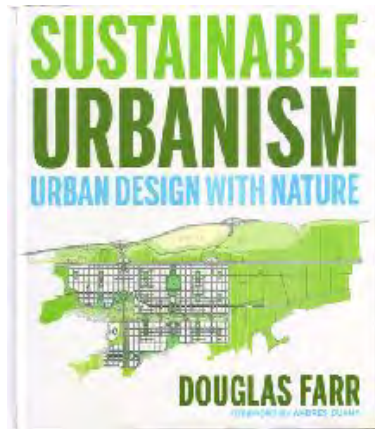
*URBAN GREEN/GREENING PLAYS A ROLE*



*Many, many other experts concur...*

# *SUSTAINABLE URBANISM (Douglas Farr)*

“... an integration of walkable, transit-served urbanism with high performance buildings and high performance infrastructure.”



Compact communities

Complete communities

Connected communities

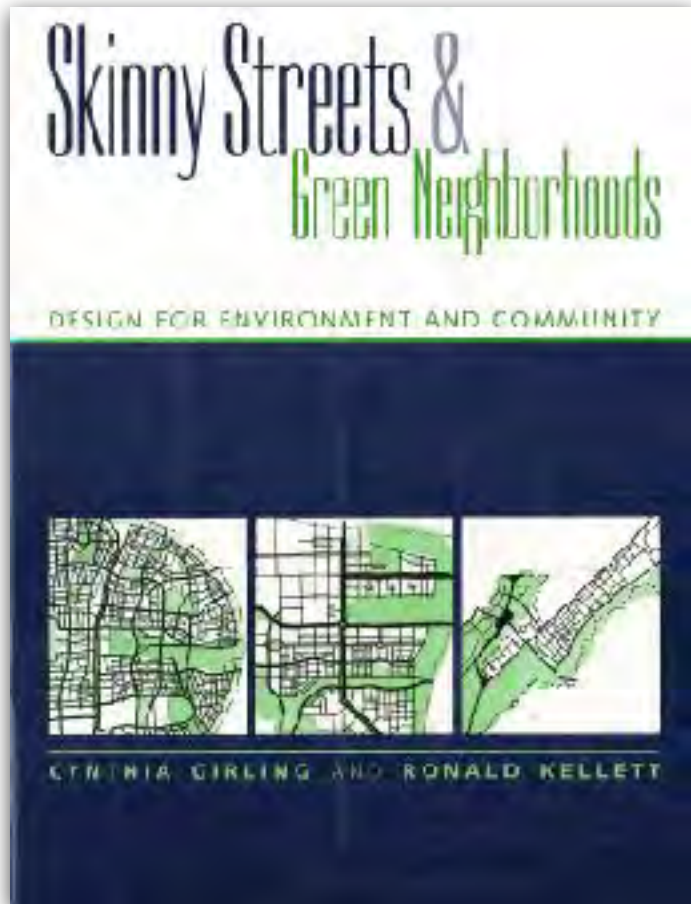
**Biophilia (access to nature)**

+

High performance buildings

**High performance (green) infrastructure**

**CORE ATTRIBUTES  
of  
SUSTAINABLE  
URBANISM**



*THEMES:*

*compact, complete & diverse neighborhoods*

*connectivity & accessibility for people*

*reconnect the city's ecological structure*

*“working” green infrastructure*

*water health & balance*

2005

# VOCABULARY

*GREEN* serving primarily ecological functions

*GRAY* serving primarily urban functions

*NETWORK* spatial corridors and systems

*FABRIC* residual spaces 'within' networks

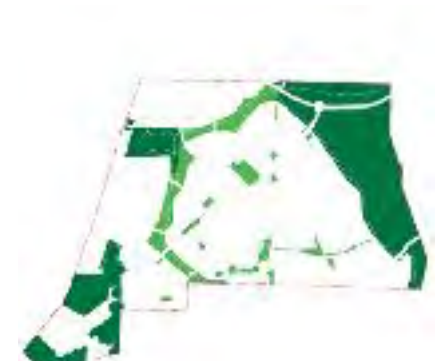
**Villebois, Wilsonville, OR 2003**



**GRAY FABRIC**



**GRAY NETWORK**



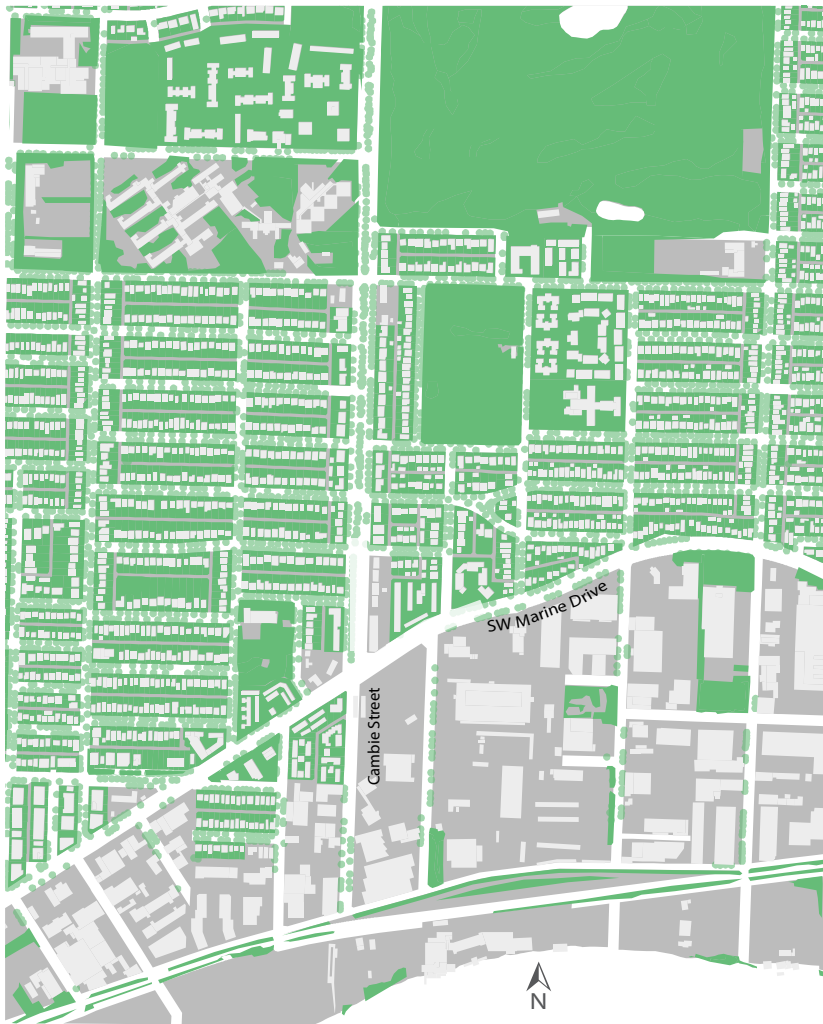
**GREEN NETWORK & FABRIC**

# GREEN vs GRAY— Land cover

Enhancing Green Networks and Fabric FINAL REPORT - Site 13

## Existing Green and Grey Conditions

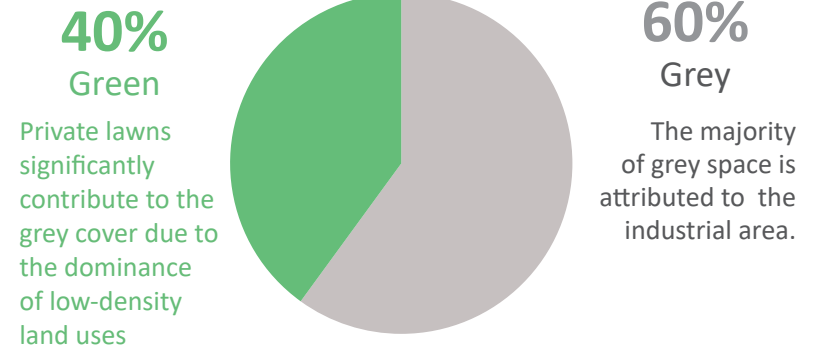
There is a sharp visual difference between grey and green landscapes within Site 13. Green cover includes private backyards and frontyards, street boulevards, and public green space. Grey cover includes the building footprints, roads, and large cement surfaces (i.e., parking lots).



### Cover Type



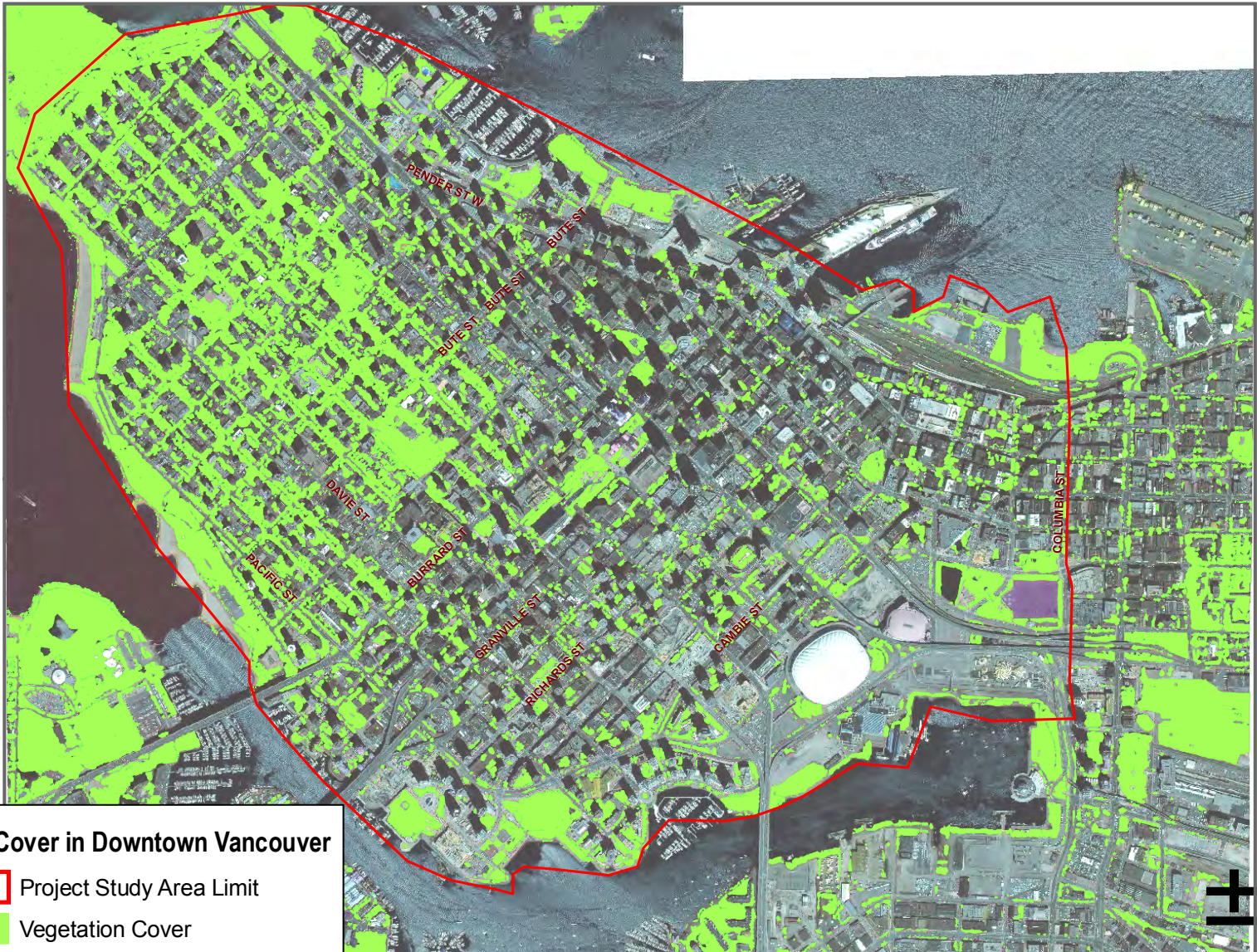
### Share of Green and Grey Cover





Typical green (left) and grey (right) landscapes within Site 13

Green and grey conditions in Site 13

# GREEN COVER— serving primarily ecological functions?



## Vegetation Cover in Downtown Vancouver

-  Project Study Area Limit
-  Vegetation Cover

Source: City of Vancouver 2001, UBC Dataset 2001  
Rowan Arundel, Cindy Wong, Erin Chan  
Geography 376 December 15, 2006

0 125 250 500 750 1,000 m

*GREEN— serving ecological + human functions*



*Bryant Park, NYC*



# NETWORKS— *spatial corridors and systems*

**GREEN**



*East Clayton, BC*

**GRAY**



*Village Homes, CA*



*Stapleton, CO*



*GREEN + GREY NETWORKS*



*FABRIC— residual spaces ‘within’ networks  
(...how the land is used)*

*GRAY*

*East Clayton, BC*



*Village Homes, CA*



*Stapleton, CO*



*FABRIC— residual spaces ‘within’ networks*

**GREEN**



*East Clayton, BC*

**GRAY**



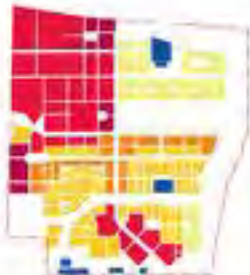
*GREEN=  
networks + fabric*



*Village Homes, CA*



*Stapleton, CO*



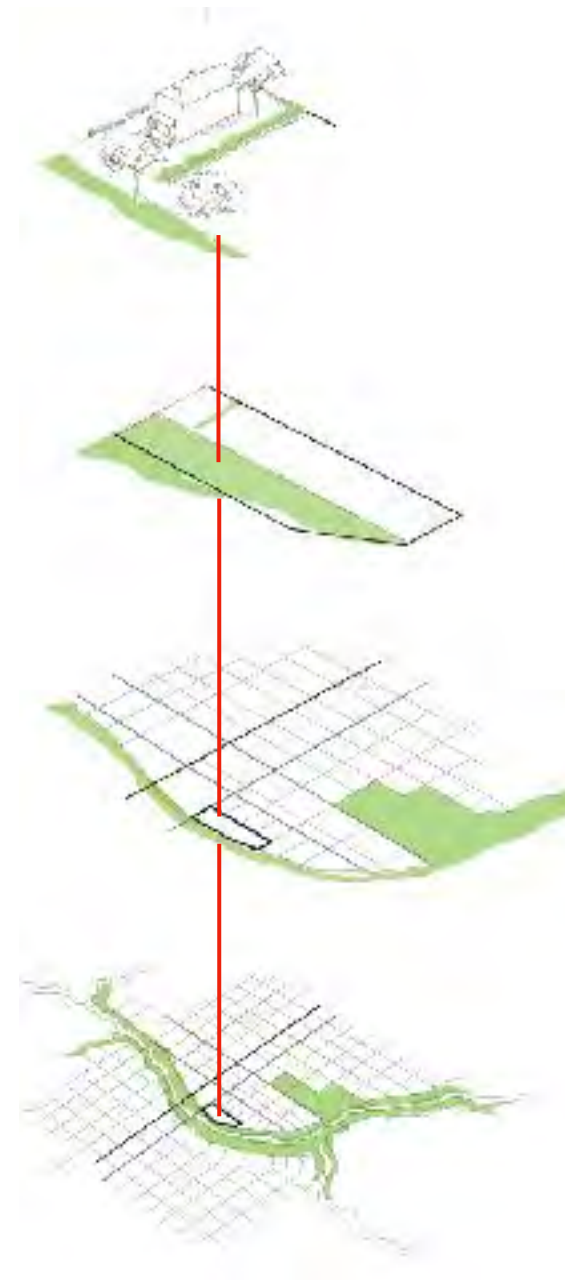
# GREEN FABRIC— the urban forest

ALL urban green cover functioning as a system



# GREEN NETWORKS

All of a city's **public** open spaces which serve multiple human and ecosystem functions.



# SCALE



*Metro Vancouver "Green Zone" 1996 Livable Region Strategic Plan*

# VANCOUVER'S GREEN NETWORKS

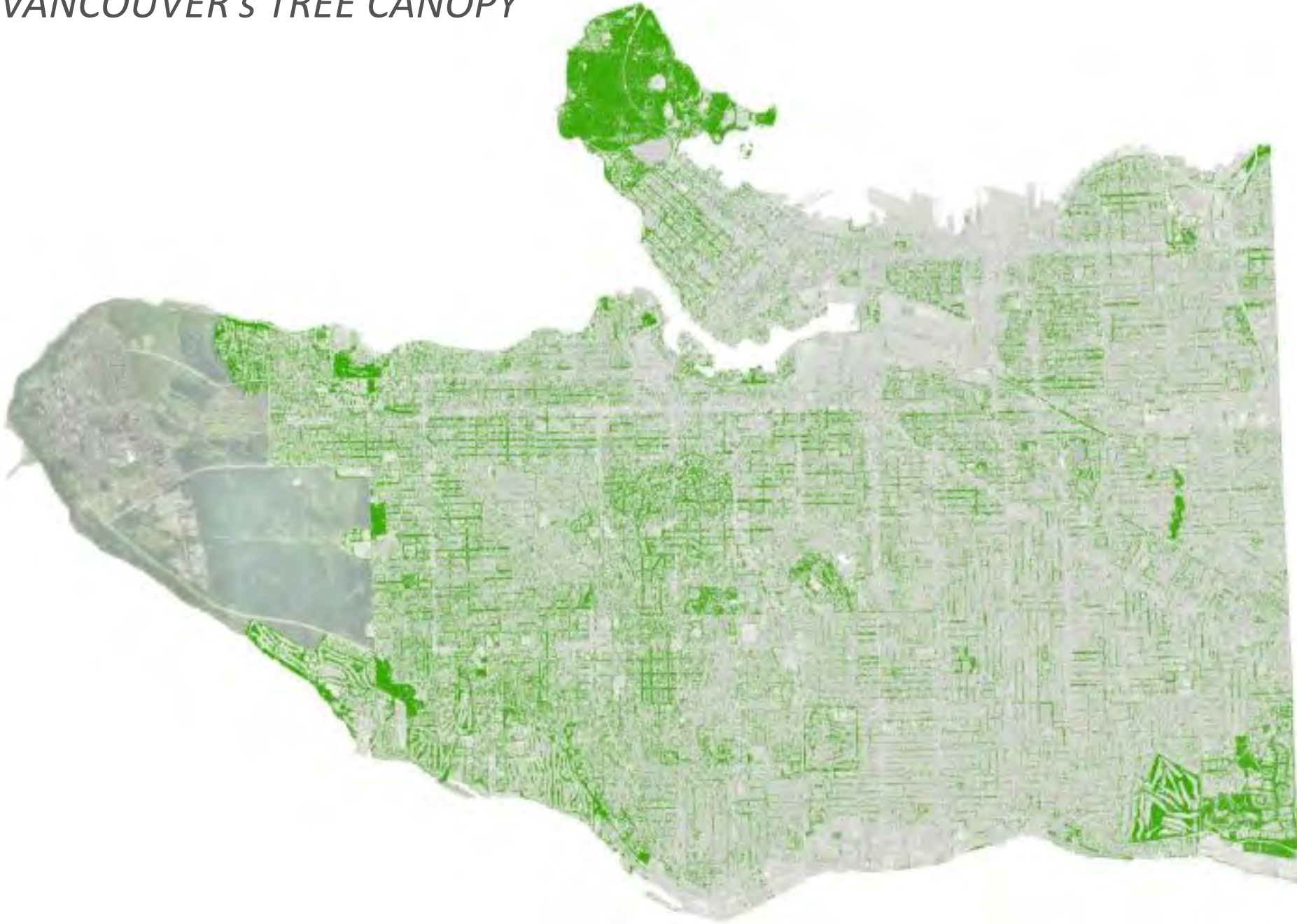
## Vegetation in the City of Vancouver

Map from City of Vancouver Biodiversity Strategy





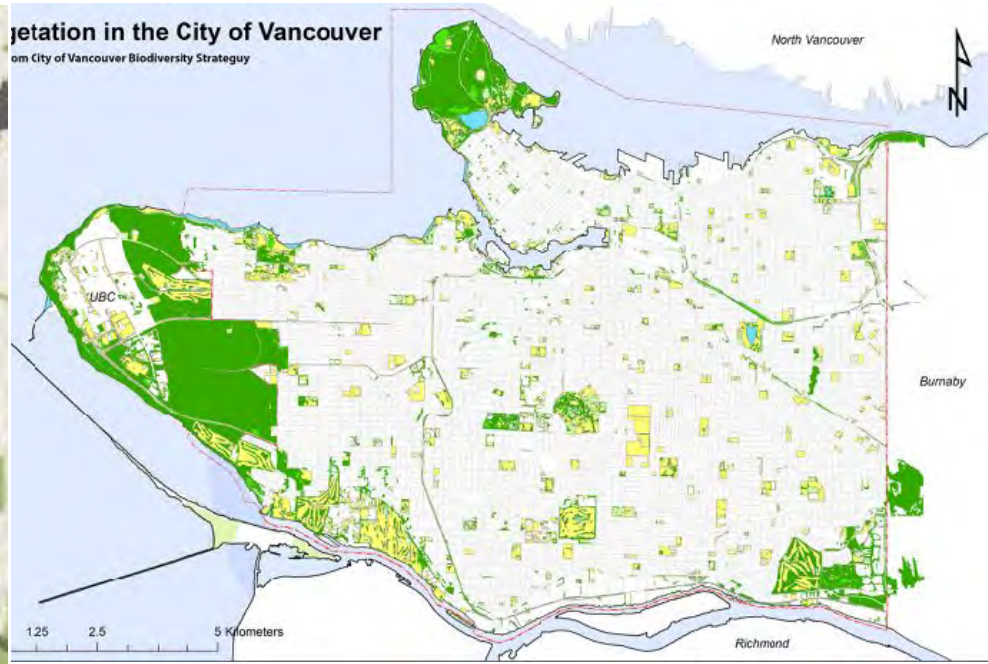
*VANCOUVER'S TREE CANOPY*



# GREEN NETWORKS— SCALE MATTERS

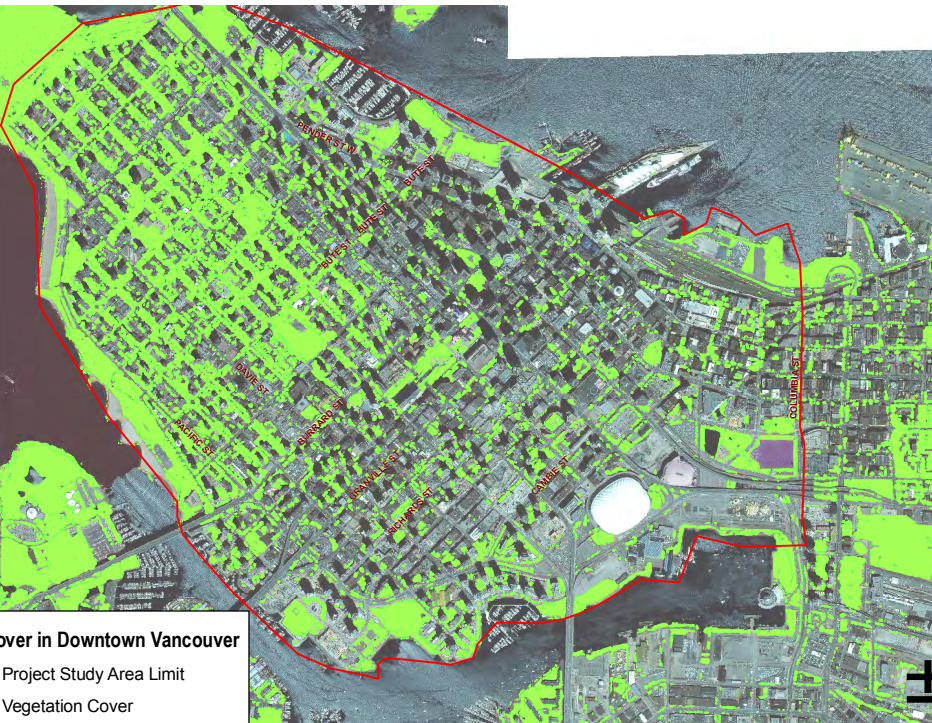


*Regionally important green networks*



*Vancouver's green networks*

# GREEN NETWORKS— **PUBLIC** green/open spaces



*green fabric/ urban forest*



*public open spaces*

# GREEN NETWORKS

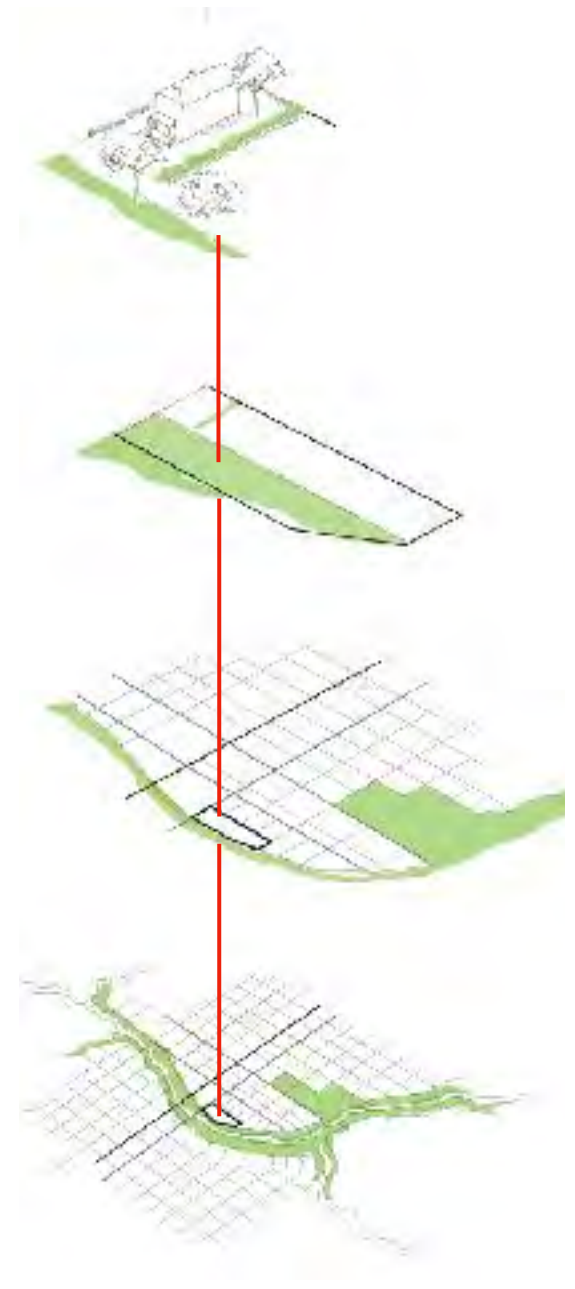
*All of a city's **public open spaces***

*While ideally interconnected, they are in reality  
fragmented*

*Serve multiple often **competing functions***

*Provide a **range of ecosystem services***

*Primary functions **change with scale***



# *THIS CLASS*

## FOUNDATIONS

- Defining terms and types

- History

## PLANNING

- Comprehensive planning of green networks

- Regional planning

## MEASURING

- Ecosystem services

- Spatial metrics/evaluation of green spaces

## GOVERNANCE

- Governance, jurisdictions, equity

## FUNCTIONS

- Biophilia

- Biodiversity planning

- Green infrastructure

- Active transportation

## DESIGN

- Design, planting of urban trees

## *BLOG*

[blogs.ubc.ca/greennetworks/](https://blogs.ubc.ca/greennetworks/)

## *CANVAS*

[canvas.ubc.ca](https://canvas.ubc.ca) > *Log in with CWL* >  
*Find LARC 444 /LARC 553*

## *INTRODUCE PROJECTS*