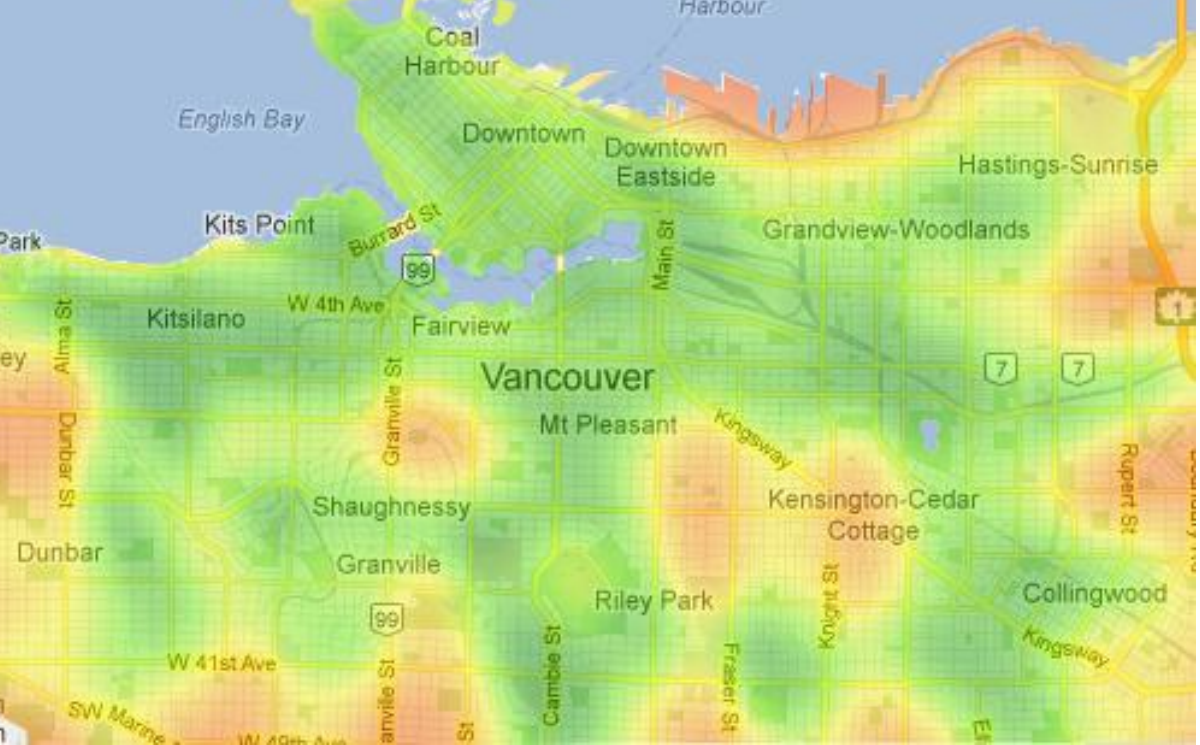
Bike Score:

Applying Research to Build Web-Based Tools to Promote Cycling



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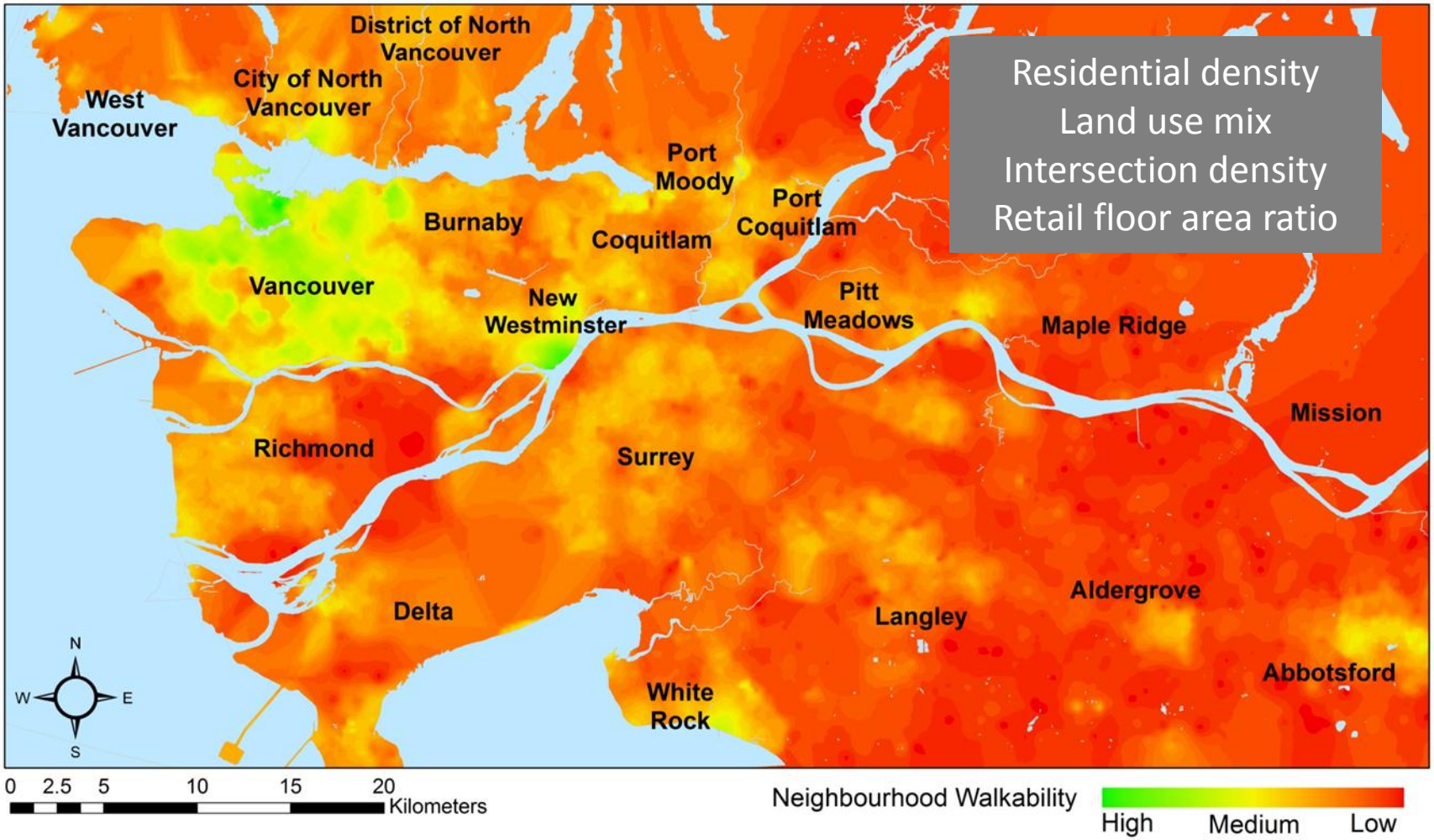
Velo-City Global
Vancouver BC, June 2012

Cycling: the way forward?

- Walking: most common form of leisure-time physical activity, few barriers, no cost
- Cycling: faster, more efficient, nearly as accessible and economical- may be a more likely substitute for car travel

~ 1/2 of Vancouver commutes are <5 km; 4/5 are <10 km (Census, 2006)
~ 1/3 of trips are work trips, trips for work are the longest we make (Translink Trip Diary 2008)

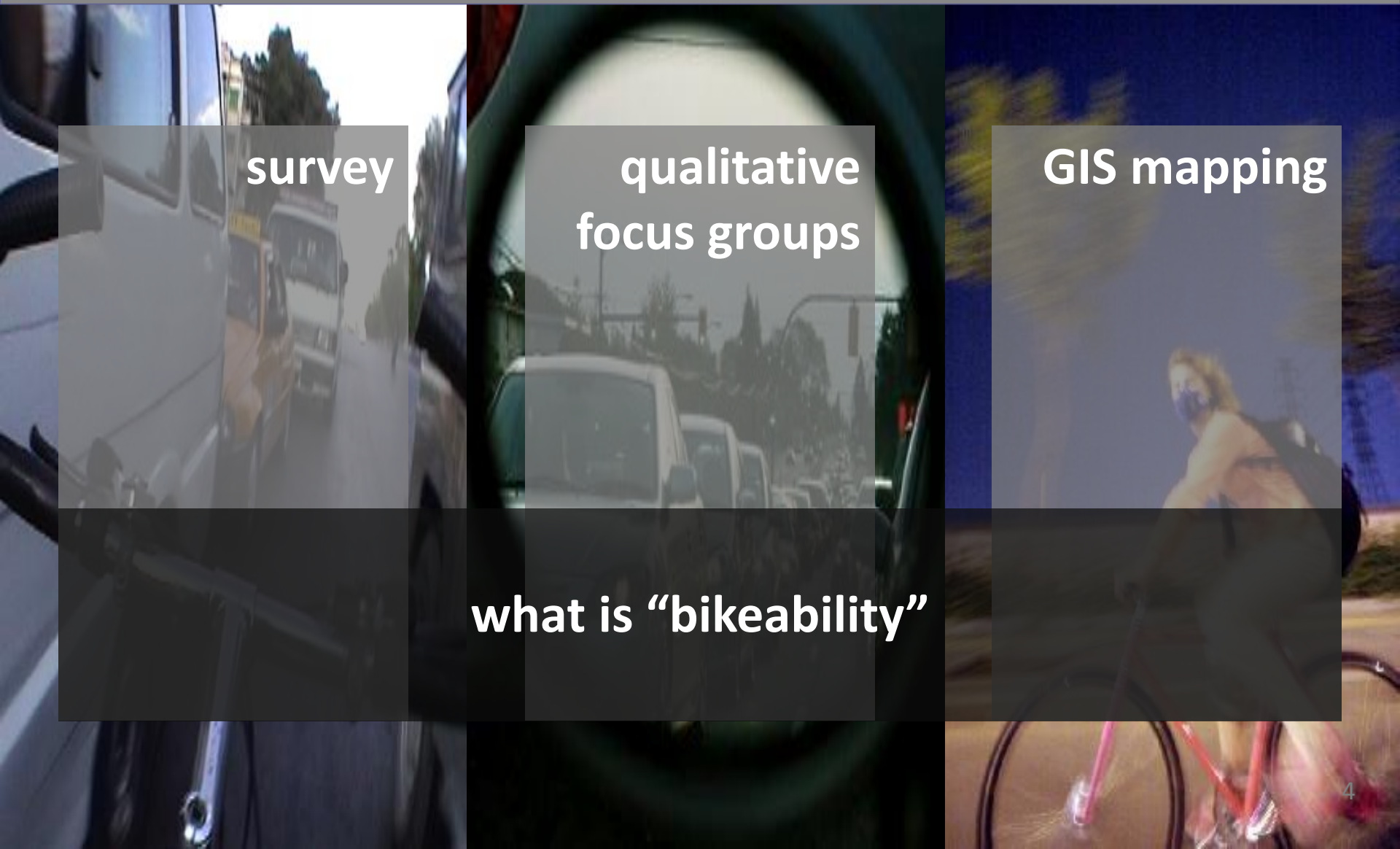
Past focus on Walkability



Source: Larry Frank

cycling in cities research program

evidence on city design to **increase cycling** mode share & **improve public health**



bikeability components

1. bike route density:
availability and connectivity of bike routes

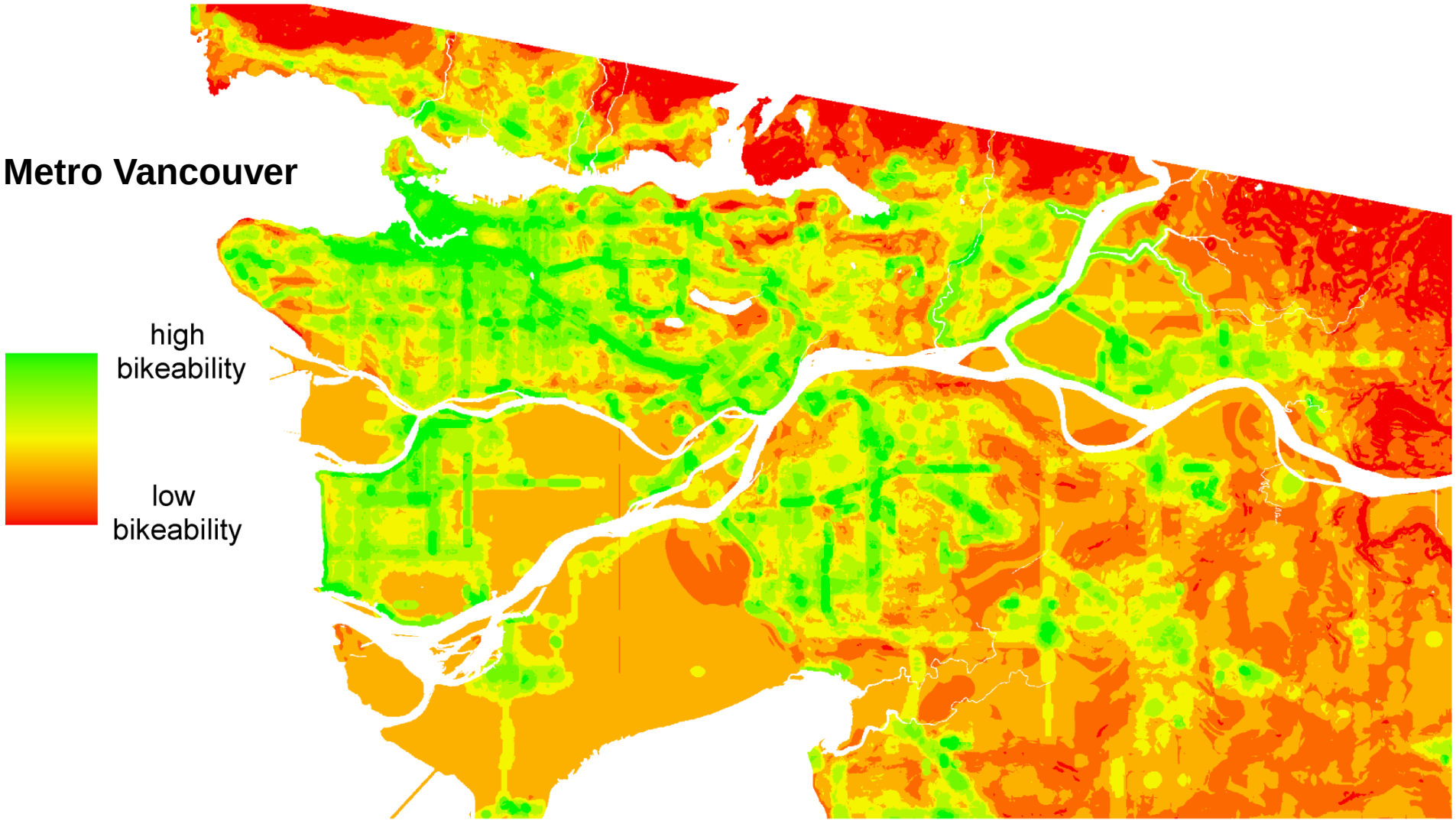
2. bike route separation:
whether routes are off-street or physical separated from traffic

3. connectivity:
intersection density of bike-friendly streets – paths, local roads, connector

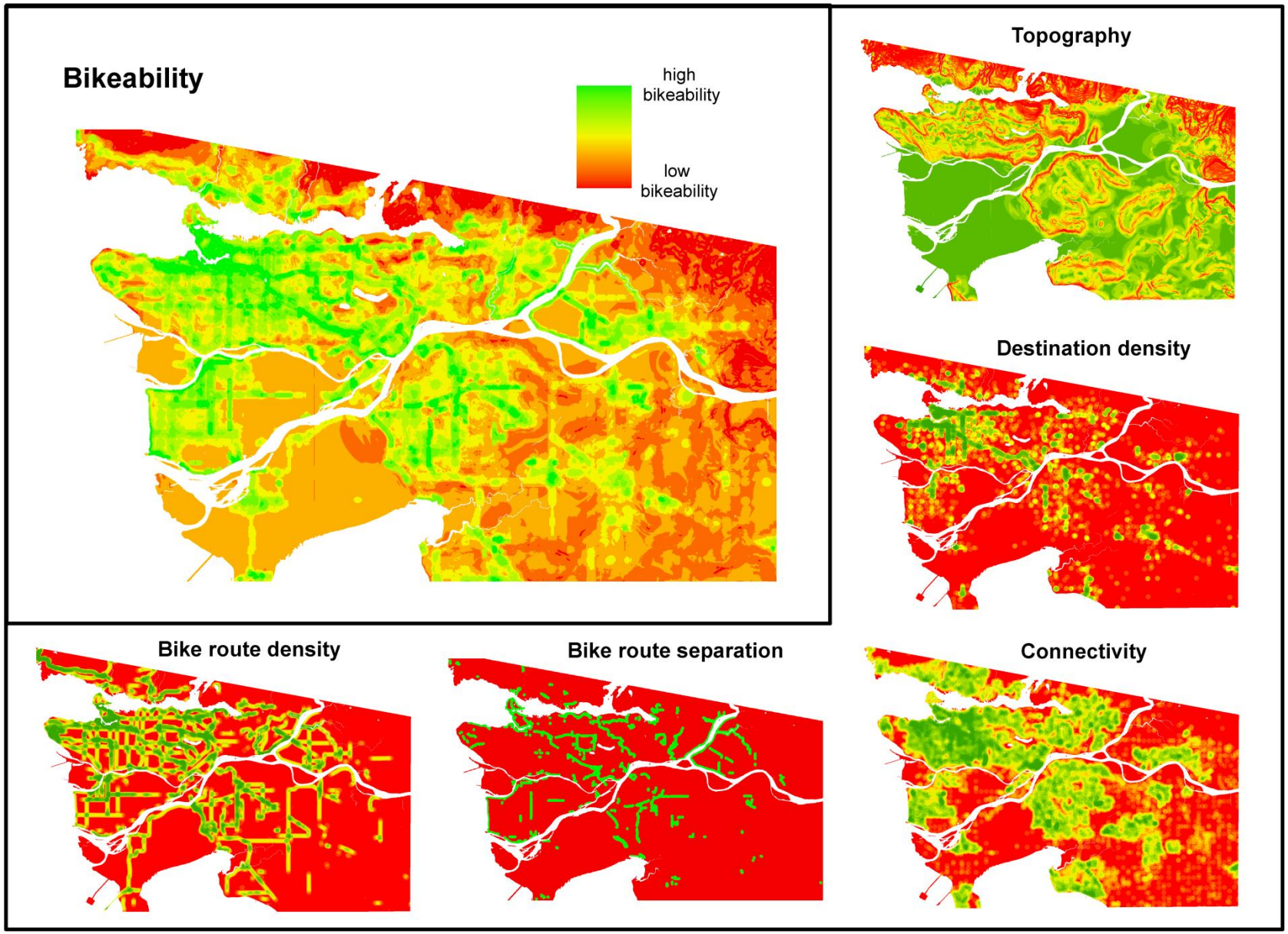
4. topography:
average slope

5. destination density:
availability of destinations for cyclists-
neighbourhood commercial, educational, offices, and entertainment land uses

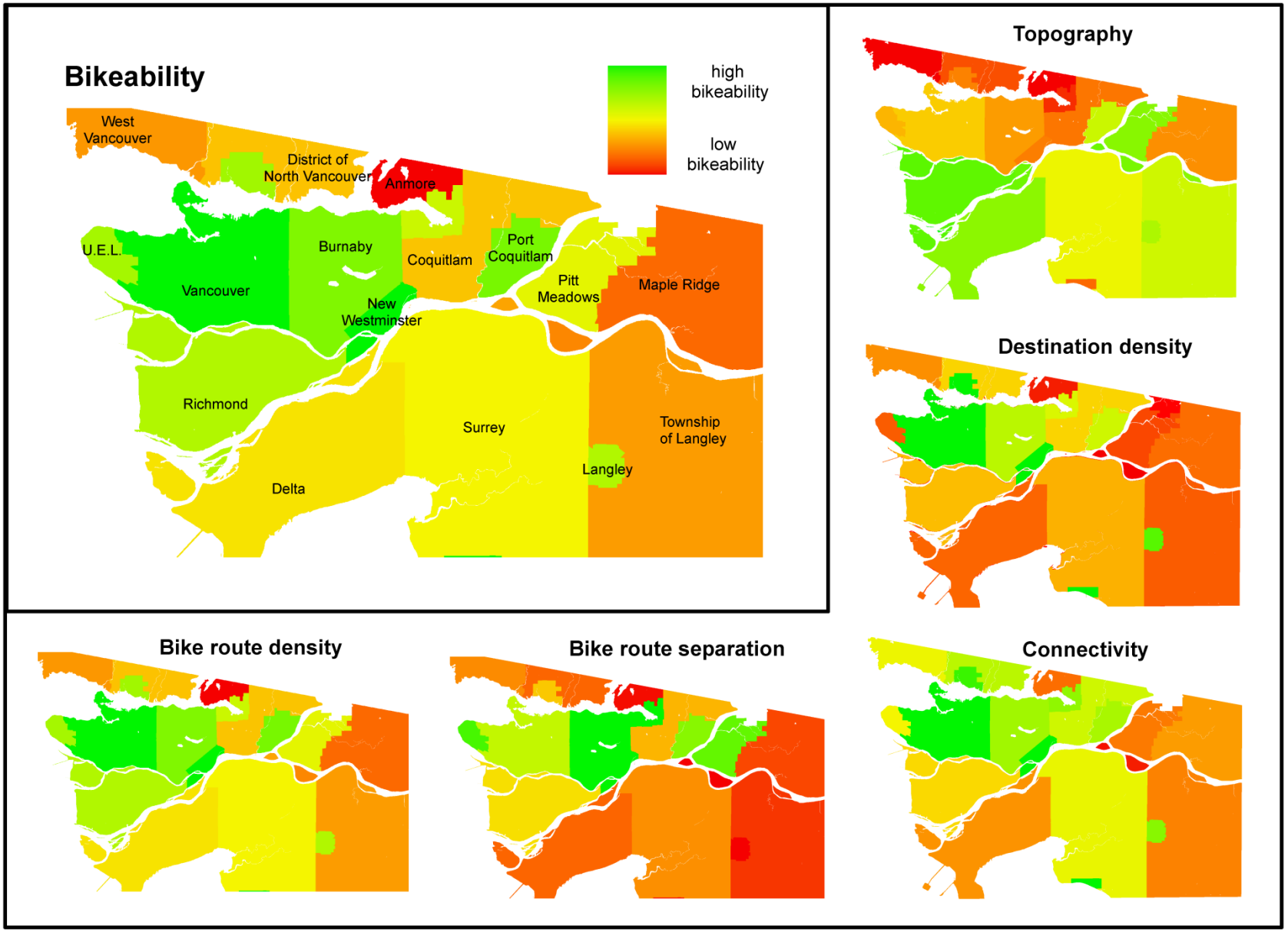
case study: bikeability map for Metro Vancouver



bikeability & component maps



comparing cities



From “Bikeability” to “Bike Score”

Goal:

To take bikeability from a case study to a **web-based tool for use by policy-makers, planners, and the public** to promote cycling

Partners:

Simon Fraser University, University of British Columbia, and Walk Score

Funding:

Knowledge Translation Grant through Canadian Institutes for Health Research (in part)

Walk Score®

Drive less. Live more.™

- Seattle-based company that developed Walk Score in 2008
- Has ranked 2,500 cities in the US on walkability
- Had interest in Bike Score
- Great interactive website
- History of partnerships with researchers, planners and the real estate industry

Bike Score (beta)

Environmental factors associated with cycling:

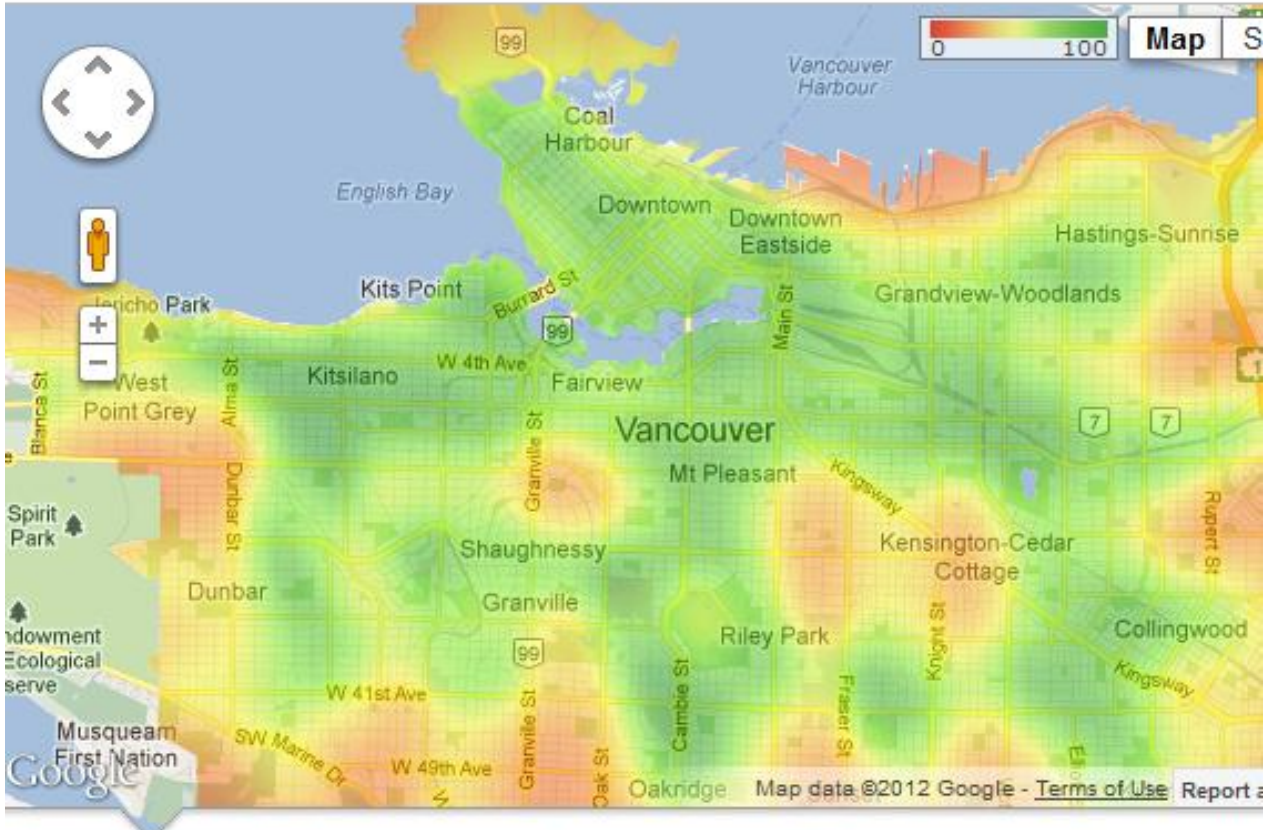
1. cycling infrastructure
2. topography
3. desirable amenities and road connectivity (using Walk Score)

In the US, an additional social factor: 4. % of work trips by bicycle

Bike Score calculated for each location in a city, then mapped on "heat maps"

- Scores range from a low of 0 (deep red) to a high of 100 (dark green).
- Overall score, and component parts (bike lanes, hills, destinations) to determine which components may be driving the score.

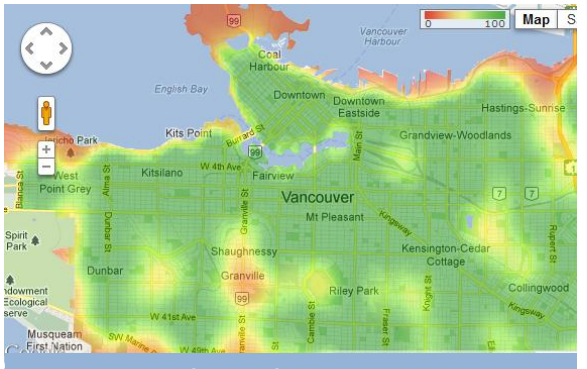
Vancouver, BC



Bike Score | **Bike Lanes** | **Hills** | **Destinations**

Bike Lane Score

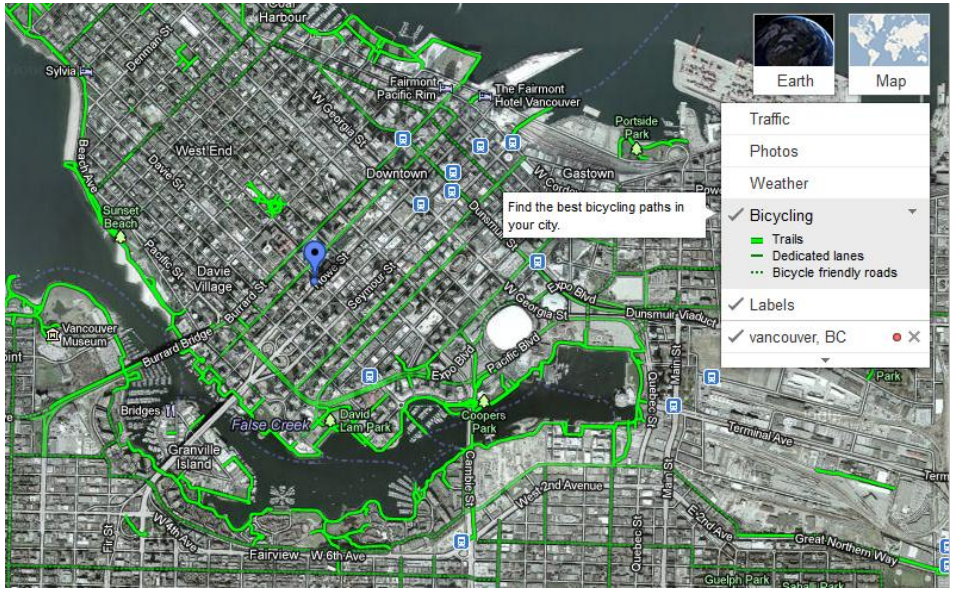
Hill Score



Destinations Score

Challenges: Data

- Deciding on pilot cities (10 Canadian, 16 US)
  - purposeful, not representative
- Making contacts in 26 cities
- Data sharing across cities, university & private industry
- Reconciling different data sources in US versus Canada
  - topography, population density
- Route categories



ROUTE TYPES INCLUDED:

cycle tracks	off street paths	residential bikeways	bike lanes
			
2	2	1.5	1

ROUTE TYPES EXCLUDED:

sharrows, shared bus/bike lanes, wide curb lanes, pedestrian trails

Select Large US Cities -Rankings

1. 
   Minneapolis
   Bike Score: **79**

2. 
   Portland
   Bike Score: **70**

3. 
   San Francisco
   Bike Score: **70**

4. 
   Boston
   Bike Score: **68**

5. 
   Madison
   Bike Score: **67**

6. 
   Washington D.C.
   Bike Score: **65**

7. 
   Seattle
   Bike Score: **64**

8. 
   Tucson
   Bike Score: **64**

9. 
   New York
   Bike Score: **62**

10. 
    Chicago
    Bike Score: **62**

US Small City Rankings

Boulder…….. Bikescore: **86**

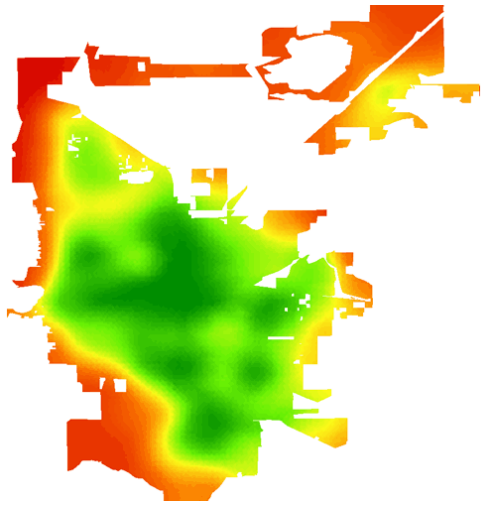
Fort Collins.. Bikescore: **78**

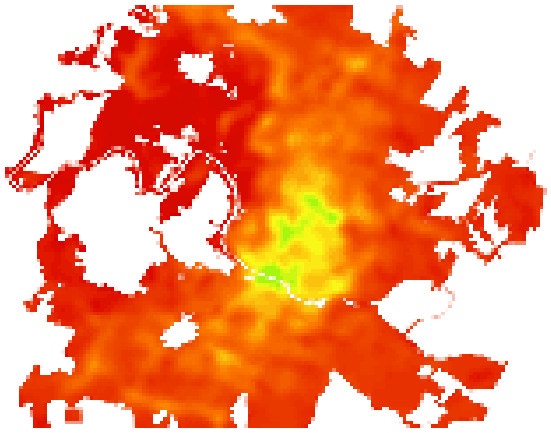
Ann Arbor… Bikescore: **76**

Tempe……. Bikescore: **75**

Eugene…… Bikescore: **75**

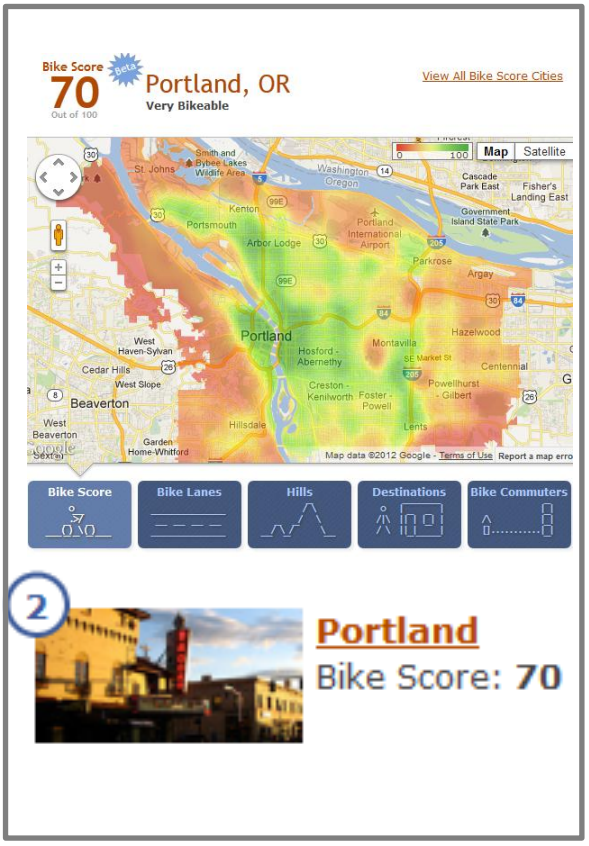
Austin……. Bikescore: **45**



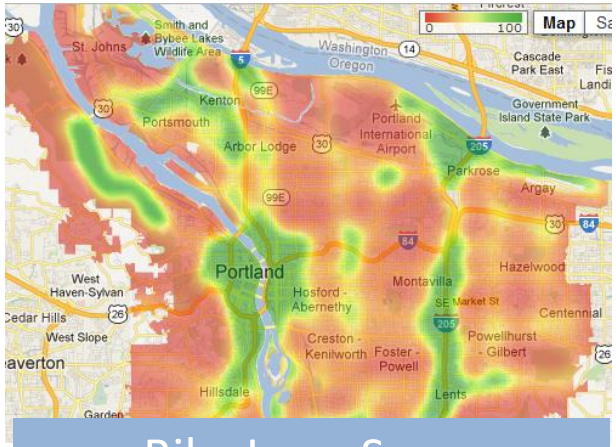


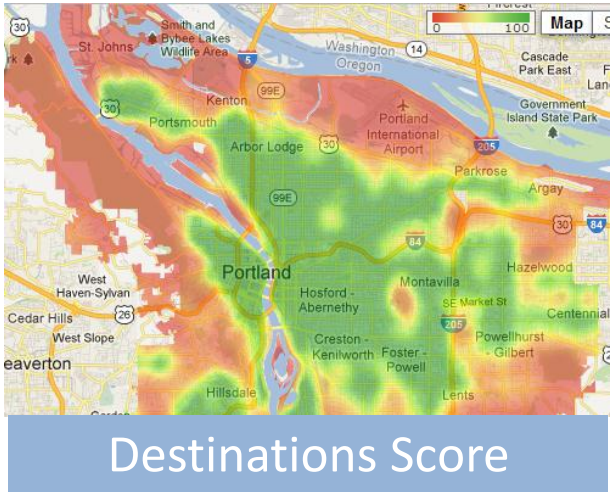
Challenges: Developing the Score

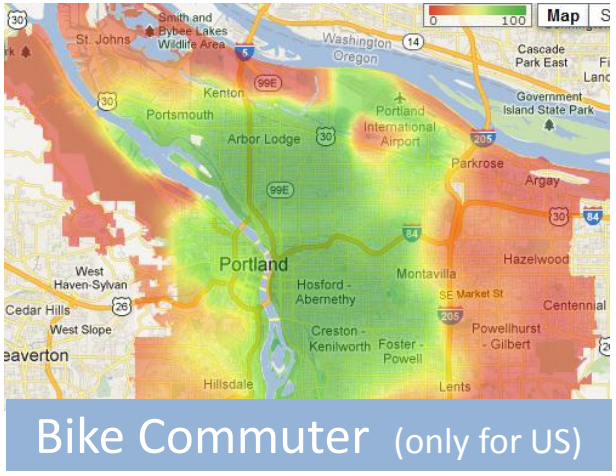
- Decisions, decisions….
  - Evidence-informed, where possible (e.g., thresholds for detour)
  - Weighting bike facility types
    - cycle tracks (2), off-street paths (2), residential bikeways (1.5), bike lanes (1)
  - Environmental factors versus social factors
- Key messages
  - Within cities versus between cities

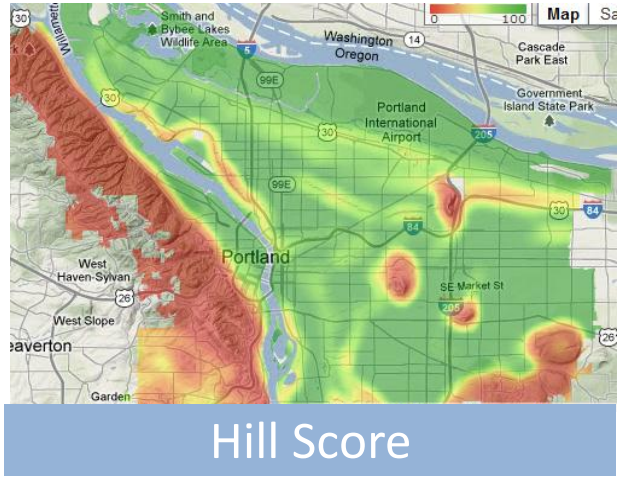


Looking within Portland

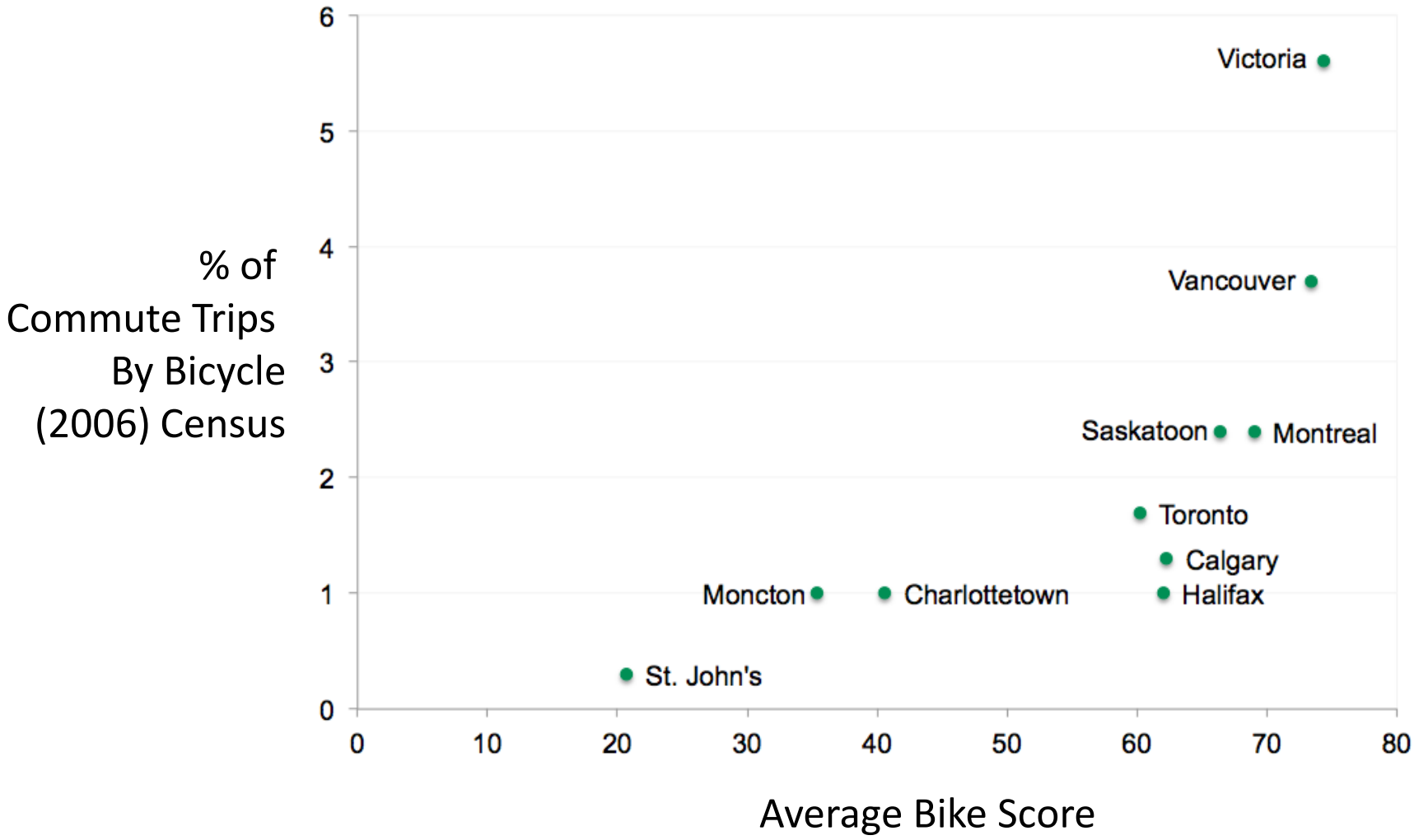








Bike Score versus Actual Cycling



Uptake

- Launch May 14, 2012 – Bike Month in the US
- Radio: NPR, CBC, CKNW, News1130….
- Print:
- Blogosphere and Twitter

- Key feedback – municipal planners
- Webinar in summer 2012

Conclusions

- Novel example of taking research into practice
- Success based on partnership, cooperation
- Key uses:
  - for transportation planners, to identify locations for new cycling routes
  - for engineers, to design bikeable facilities
  - for the public, to choose where to live that supports an active lifestyle, to advocate for change in low scoring areas, to motivate cycling in high scoring areas
- Beta version
  - 26 cities complete, more to come
  - currently only heat maps, location-based Bike Scores to come this year

Contact Walk Score for info on creating Bike Score in your municipality

thanks

Josh Herst
Angie Weddell

Canadian Institutes of Health Research

www.cyclingincities.spph.ubc.ca

www.walkscore.com/bike