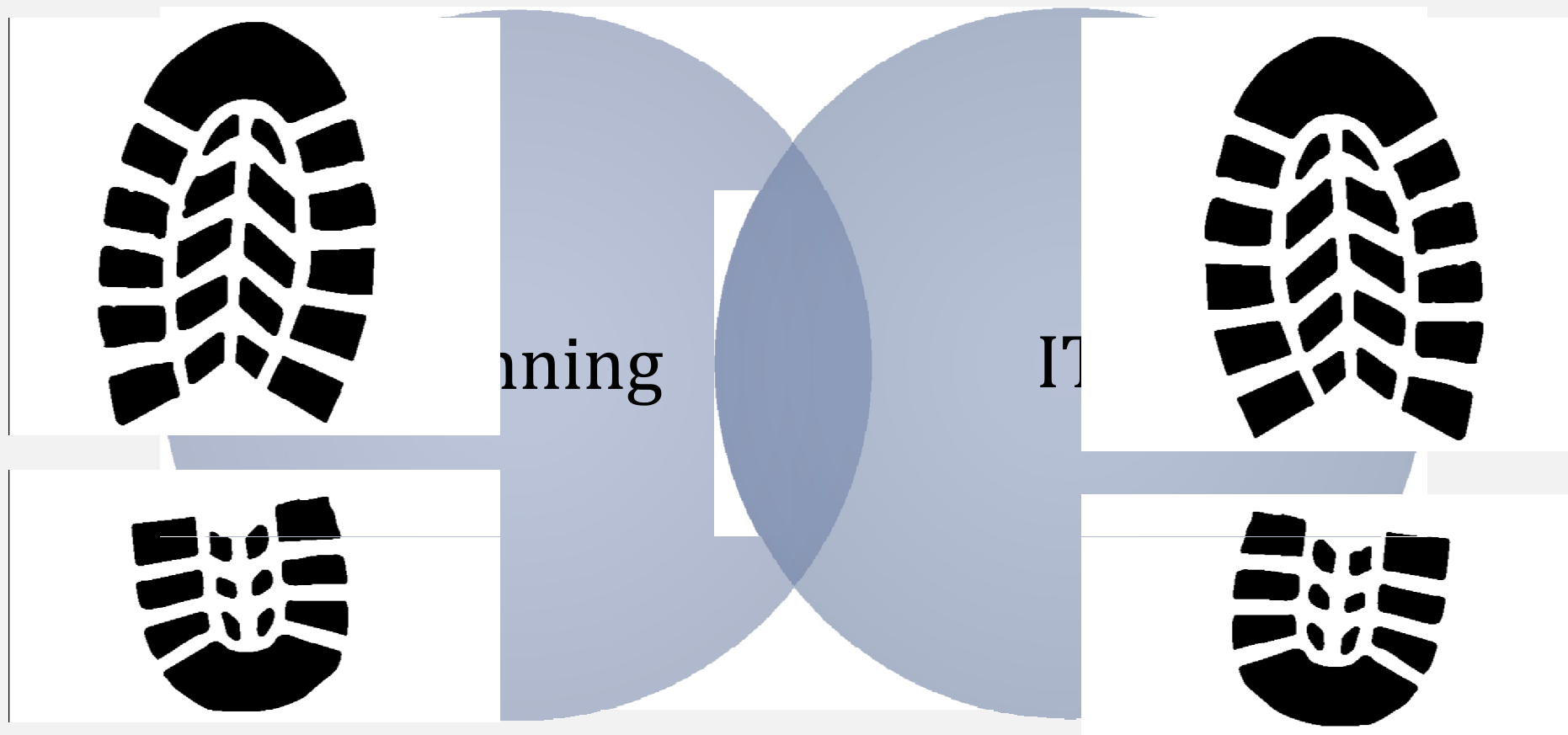


Vancouver: Towards Becoming A Smart City

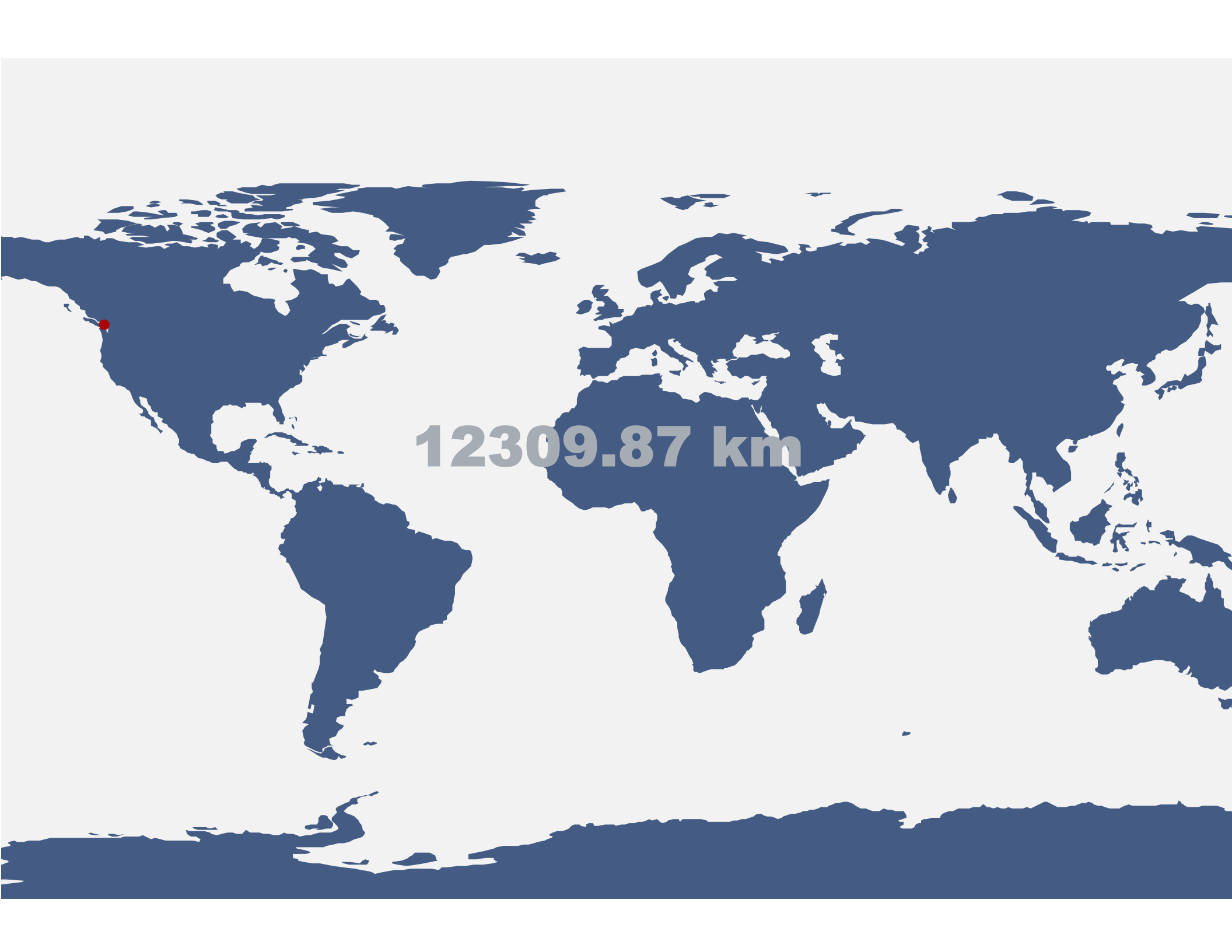
Dan Campbell – City of Vancouver, GIS Group

A Foot In Two Worlds









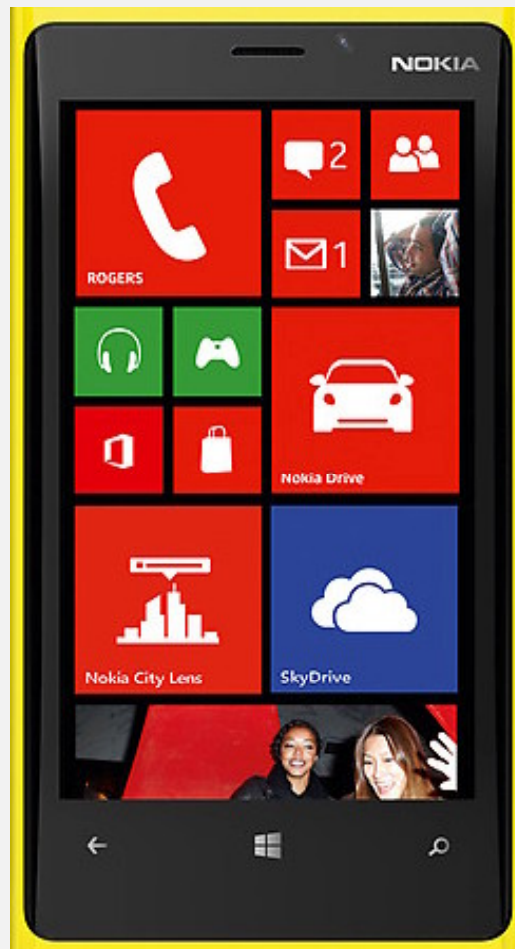
12309.87 km

Vancouver Demographics

In Vancouver, 56.0% of the population reported English only as mother tongue, 1.1% reported French only, and 40.3% reported only a non-official language, in 2011.

Mother tongue	Number	Percentage of non-official language	Percentage of total population
Panjabi (Punjabi)	147,725	15.1	6.4
Cantonese	133,405	13.6	5.8
Chinese, n.o.s.	115,635	11.8	5.0
Mandarin	92,420	9.4	4.0
Tagalog (Pilipino, Filipino)	68,285	7.0	3.0
Korean	45,305	4.6	2.0
Persian (Farsi)	35,725	3.6	1.6
Spanish	34,590	3.5	1.5
German	28,590	2.9	1.2
Hindi	26,165	2.7	1.1

Smart Phone



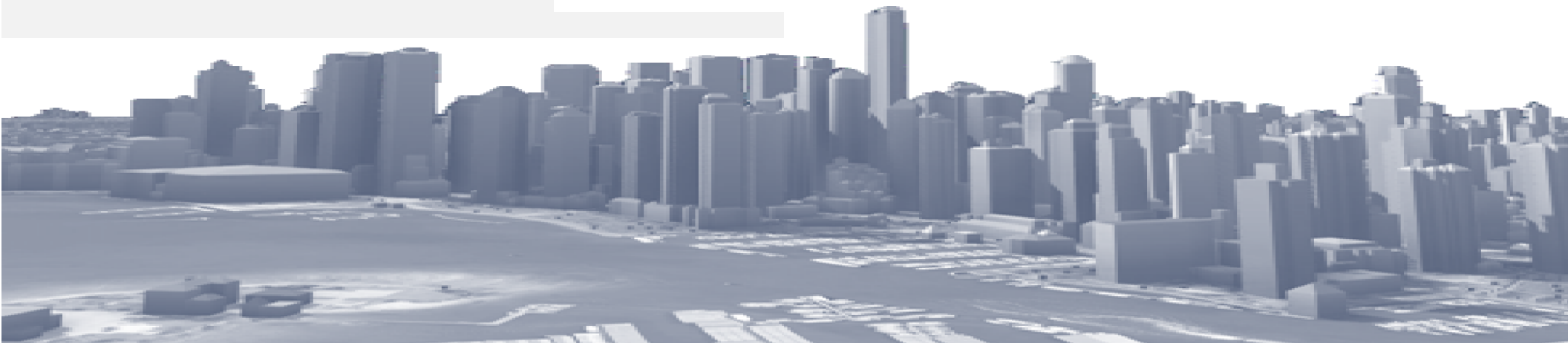
Smart Car



Smarties



Smart Cities?



5 Key Events

Digital Cities Initiative

Data base city modelling

2010 Winter Olympics

Greenest City Initiative

City of Vancouver Digital Strategy

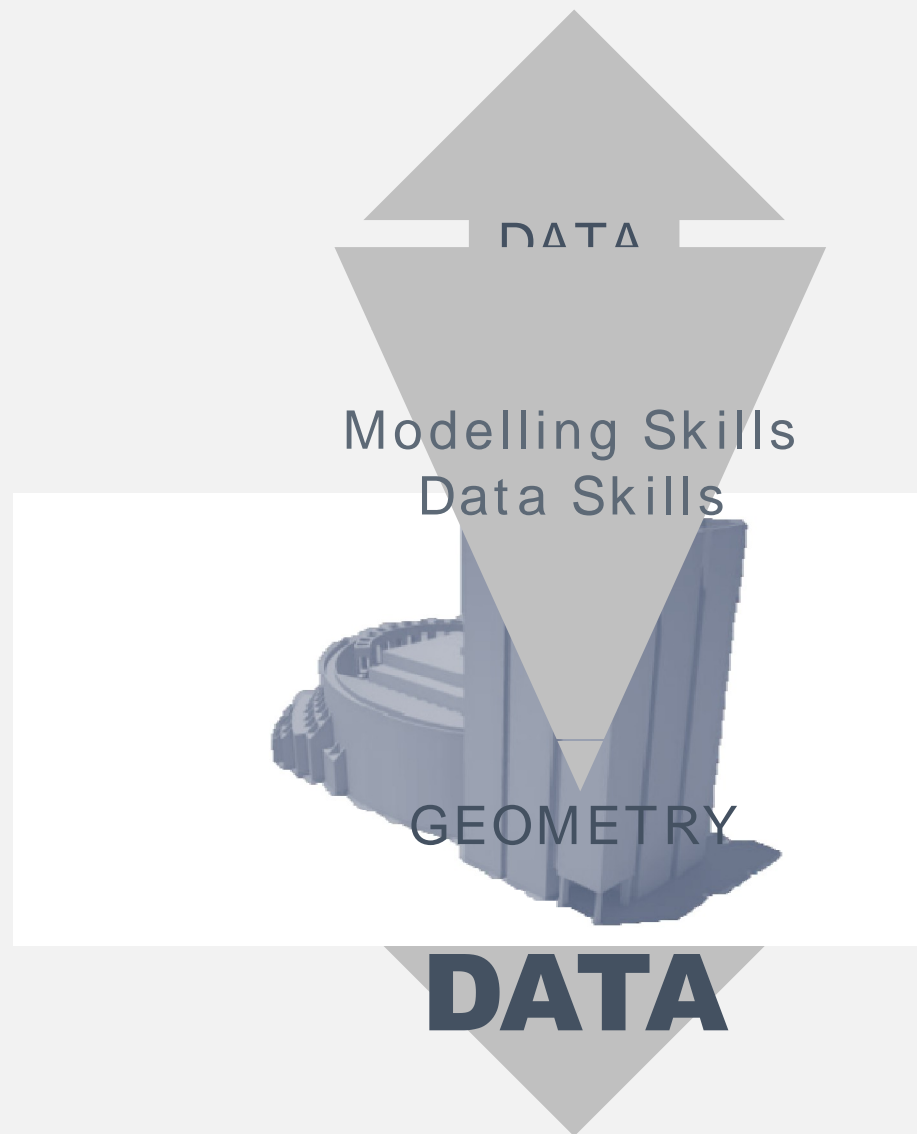
Kindergarten For Smart Cities?

Early education in becoming a smart city
Digital Cities Partnership with Autodesk

An Olympic Legacy



Data Driven 3D Modelling







Greenest City

Greenest City 2020 is a bold initiative that will address Vancouver's environmental challenges. Through a set of measurable and attainable targets, we will put the city on the path to sustainability, and make us the greenest city in the world by 2020.

Greenest City

PMS 358	PMS 359	PMS 360	PMS 361	PMS 362	PMS 363	PMS 364
			VANCOUVER			
PMS 365	PMS 366	PMS 367	PMS 368	PMS 369	PMS 370	PMS 371
		SINGAPORE				
PMS 372	PMS 373	PMS 374	PMS 375	PMS 376	PMS 377	PMS 378
				THE HAGUE		

Smart City Indicators

Open Data

Transparency

Green Urban Planning

Inclusive

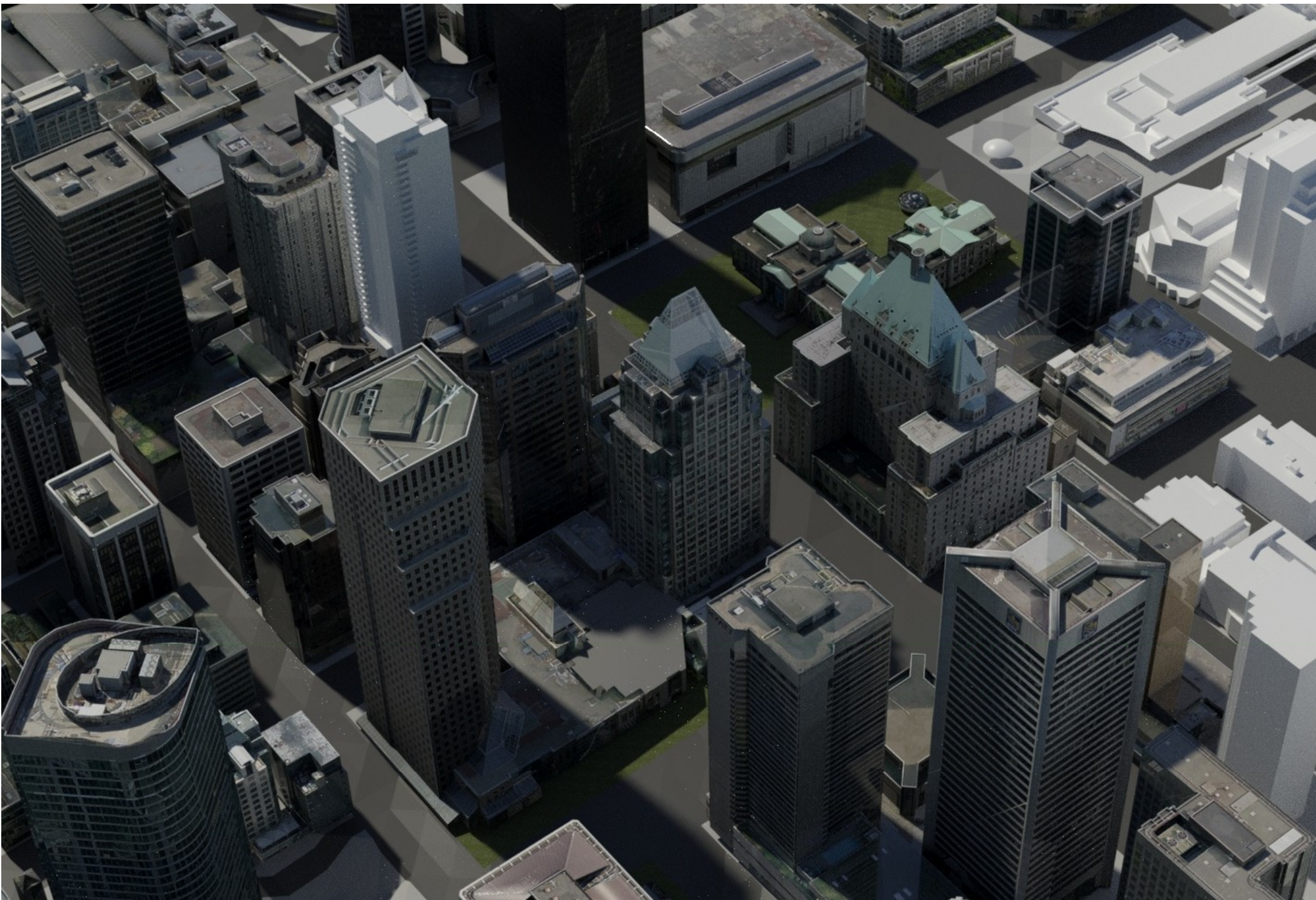
Embrace Creativity

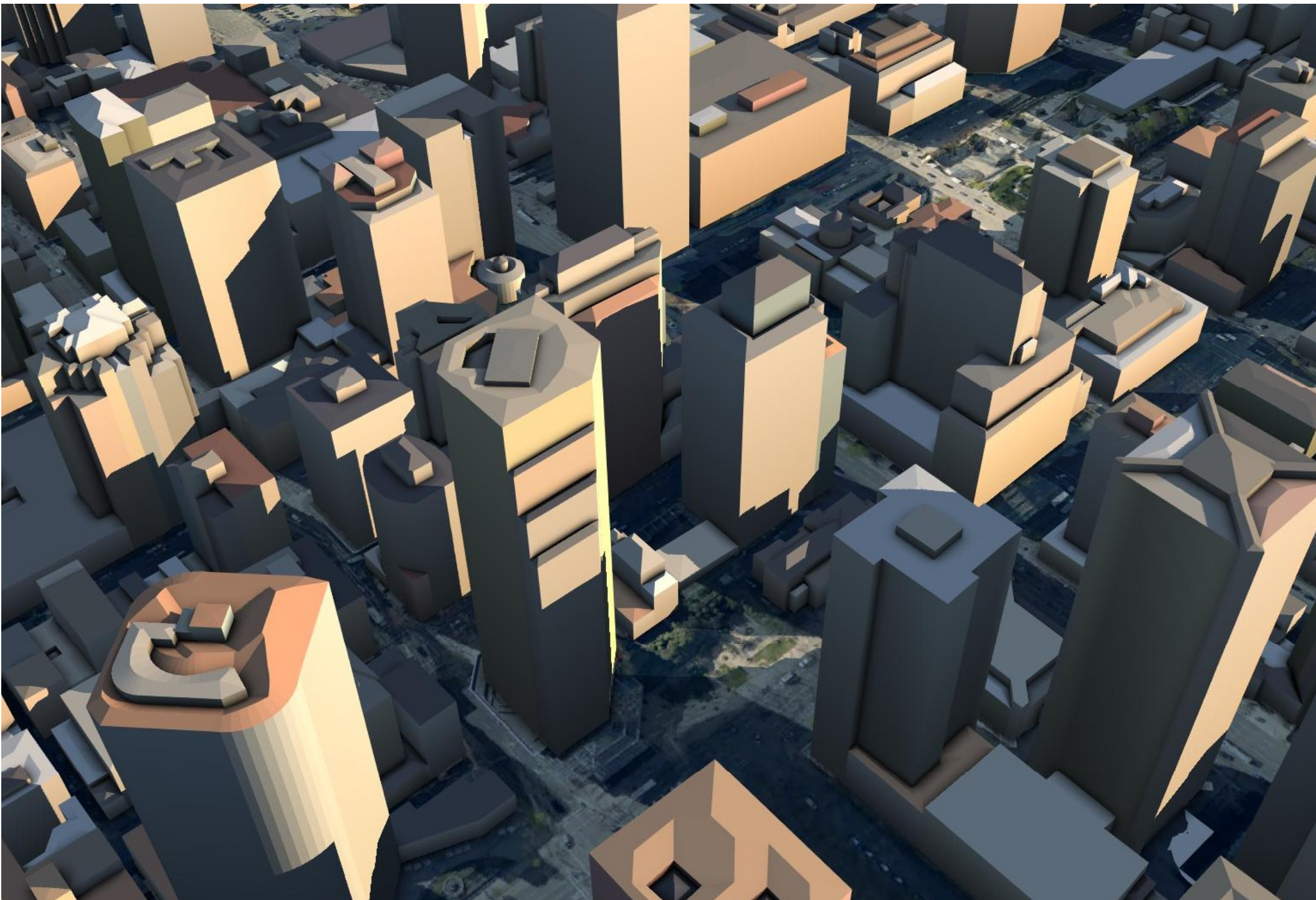
Mixed modal access

Green energy

City Models Are Like Real Cities

They evolve organically







The Sylvia
Henriquez Partners Architects
Heritage A Municipal Designation
1986

Nelson Place
Honeyman & Curtis
Heritage B
1969

Hendry House
Wilding & Jones, J A Murray associated architects
Heritage A
1970

St Paul's Hospital
Robert F Tegen
Heritage A
1912

Sunset Plaza
C B K Van Norman & Associates, IBI/HB (proposed addition)
Heritage A
1969



The Medieval BIM Approach

**BUILD
INCREMENTALLY
METHODICALLY**



Being Smart About Smart Cities

10 Smartest Cities In North America (2013)

Fast Company Magazine

Seattle

Boston (San Francisco tie)

San Francisco (Boston tie)

Washington D.C.

New York

Toronto

Vancouver

Portland

Chicago

Montreal

City of Vancouver Digital Strategy

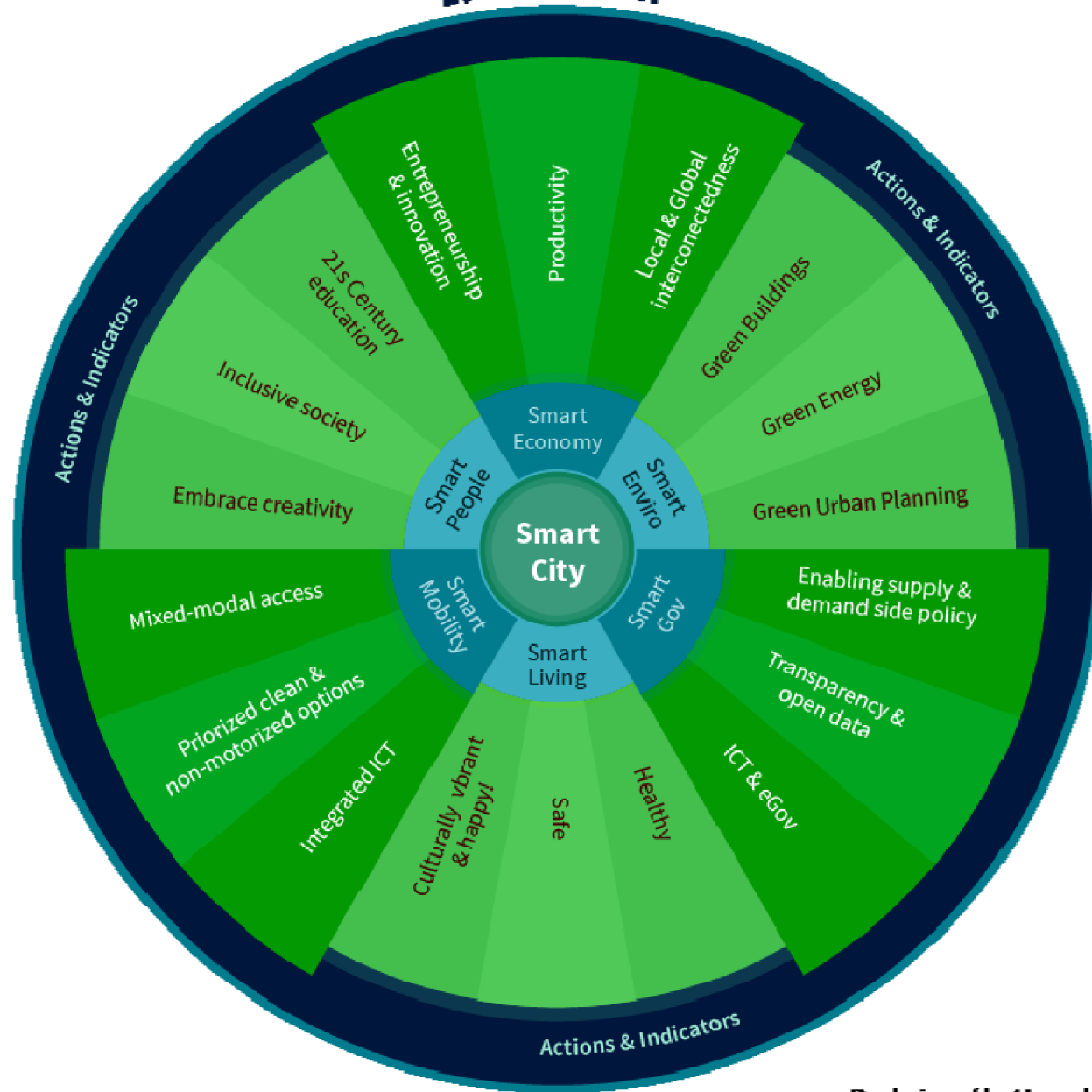
The Vision

Enhance multidirectional digital connections amongst citizens, employees, business, and government.

Defining ‘digital’

A broad range of technology that enables new methods of engagement and service delivery supported by a robust and accessible digital infrastructure and open government ecosystem.

BY BOYD COHEN



Re-designed by Manuchis.

Digital Strategy Pillars

Engagement & Access

How the City and it's constituents engage with each other, through transactional service delivery, collaboration and communication. The digital divide is the other aspect of this focus area – access to technology and education to increase digital literacy

Infrastructure & Assets

Focuses on digital infrastructure and assets.

This includes below and above ground physical assets such as conduit, fibre, and poles.

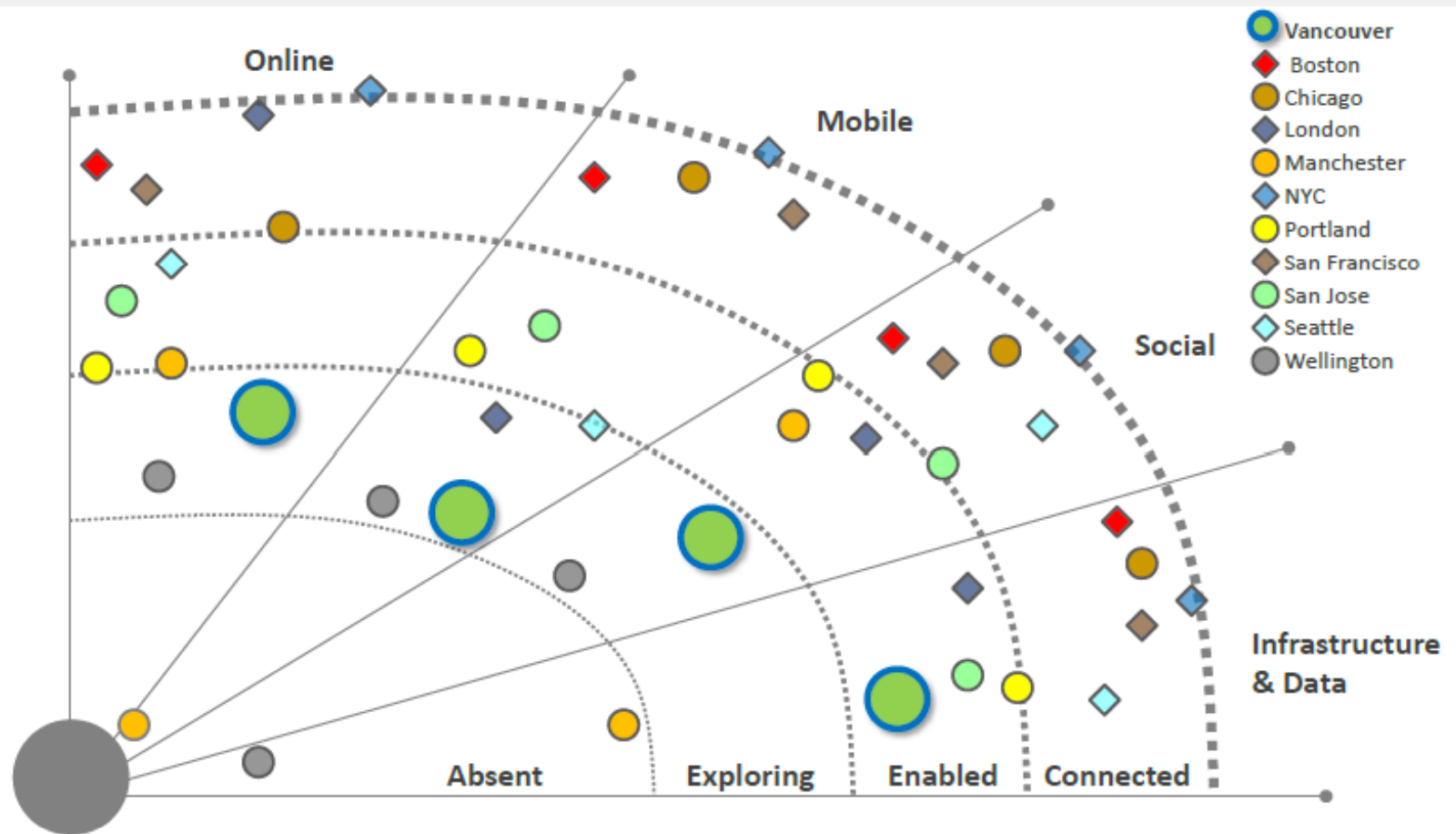
Digital assets include software, hardware, and data.

Economy

Focuses on the digital economy with respect to supporting growth in the digital sector and enabling all businesses to benefit from digital infrastructure and digital services offered by the City.

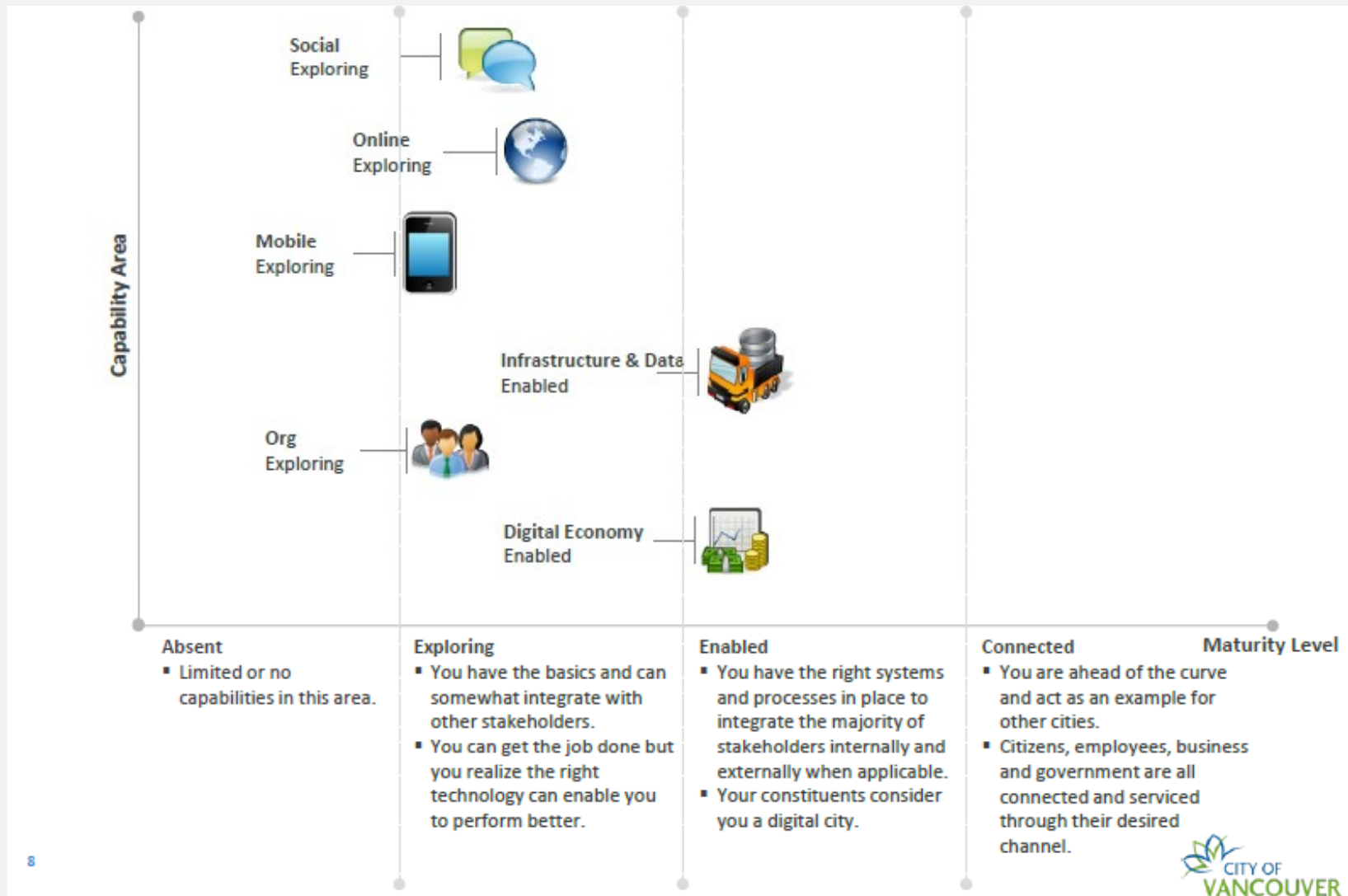
Organizational Digital Maturity

This encompasses digital governance, enabling City employees with tools that foster both a digital culture and encourages innovation.



1. The analysis was focused on the cities as organizations.
2. Data was not normalized to conduct assessment.
3. Vancouver Public Library or Vancouver Police Department digital readiness was not included in the assessment.
4. Boston, Portland, San Francisco, San Jose, and Seattle were assessed using the PwC capability metrics by the VSR.
5. The assessment was completed in the fall of 2012.

Digital Maturity

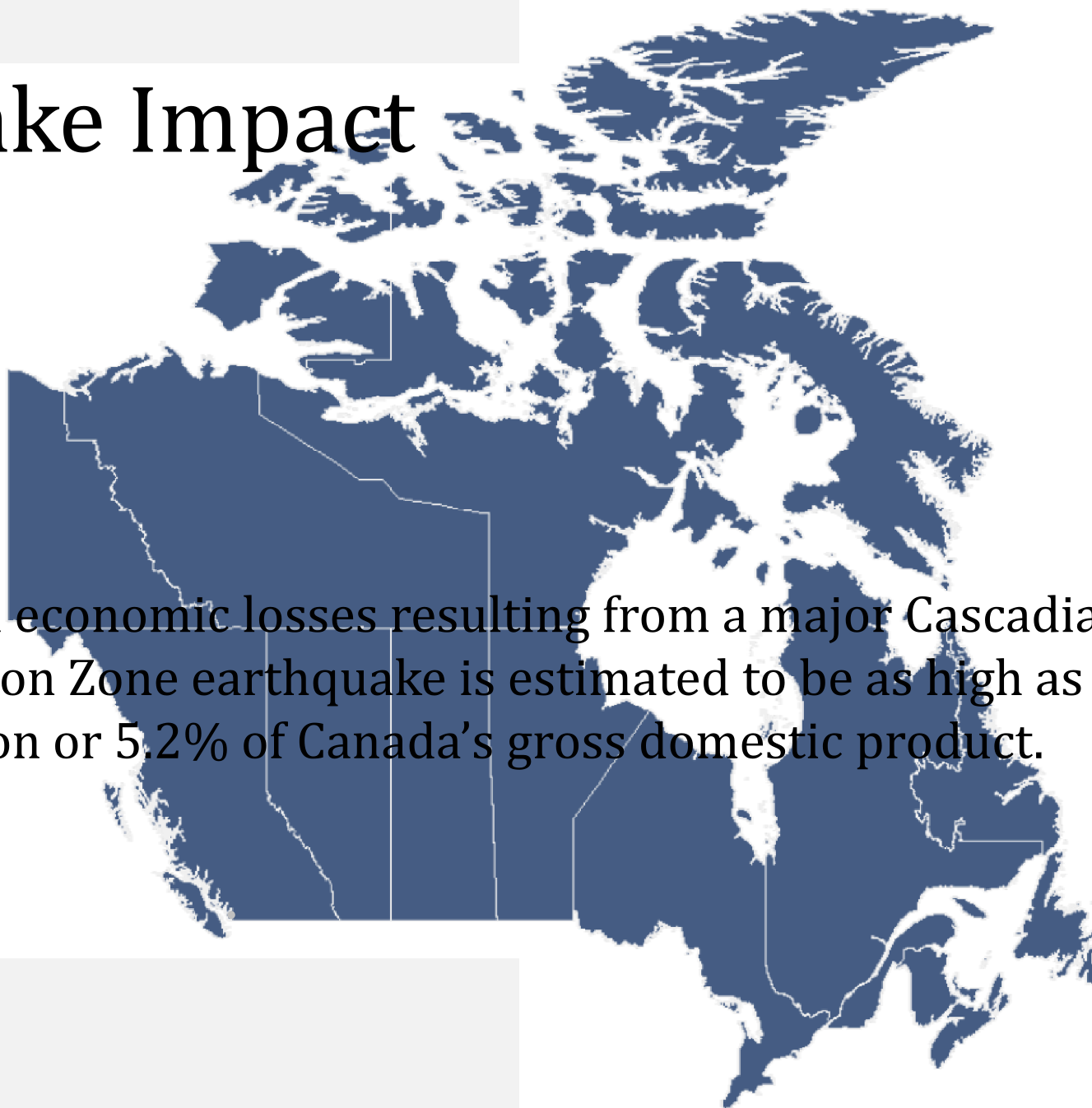


Getting Your House In Order

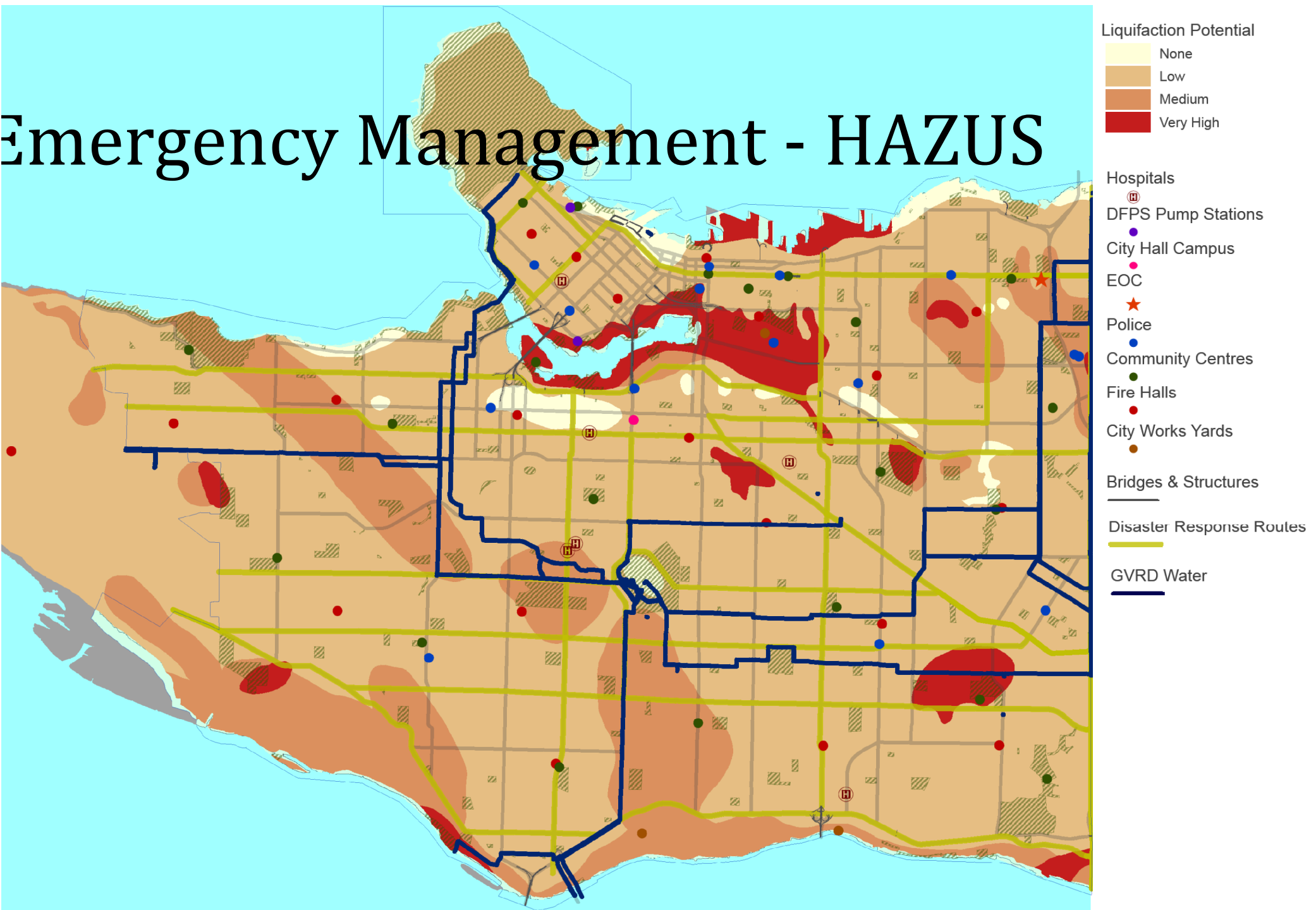
What we have learned from HAZUS and POSSE

Earthquake Impact

Potential economic losses resulting from a major Cascadia Subduction Zone earthquake is estimated to be as high as \$75 billion or 5.2% of Canada's gross domestic product.



Emergency Management - HAZUS



HAZUS Experience

We don't have all the data we thought we did

We are not sure who is responsible for the data

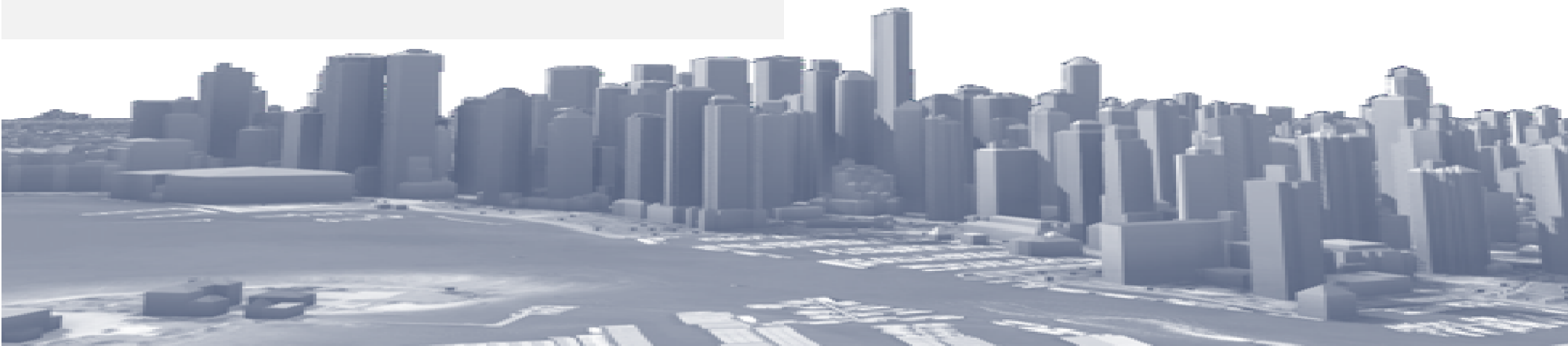
How can data and process for one project be leveraged towards others?

We are not as smart as we think we are.

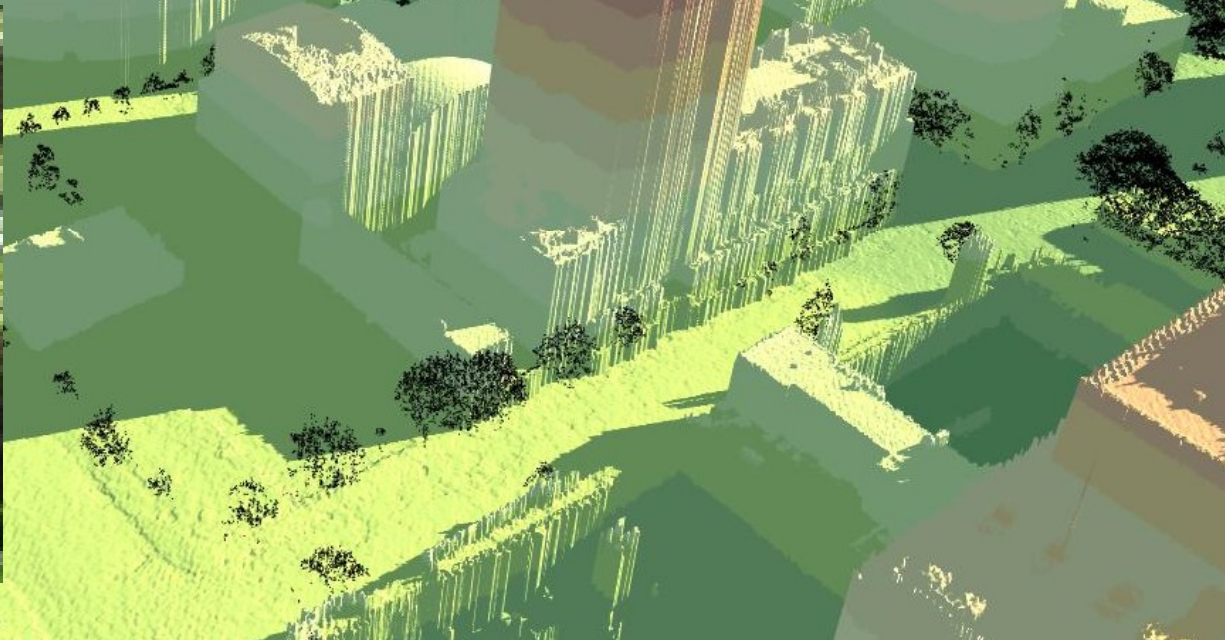
Coastal Flood Management



BIM



Urban Forest Strategy



Smart Cities – A Contentious Idea?

I have a lot of respect for these people as engineers but they are being asked to take on tasks that go far beyond engineering. Tasks that have to do with human and social engineering rather than technical engineering. Those are the kind of tasks I would prefer were taken on by human beings who are more well rounded, who know about philosophy and ethics, and know something about things other than efficiency, because it will not end well.

- *Yvgeny Morozov*

Suspicion of Big Solutions



The Original Smart City?

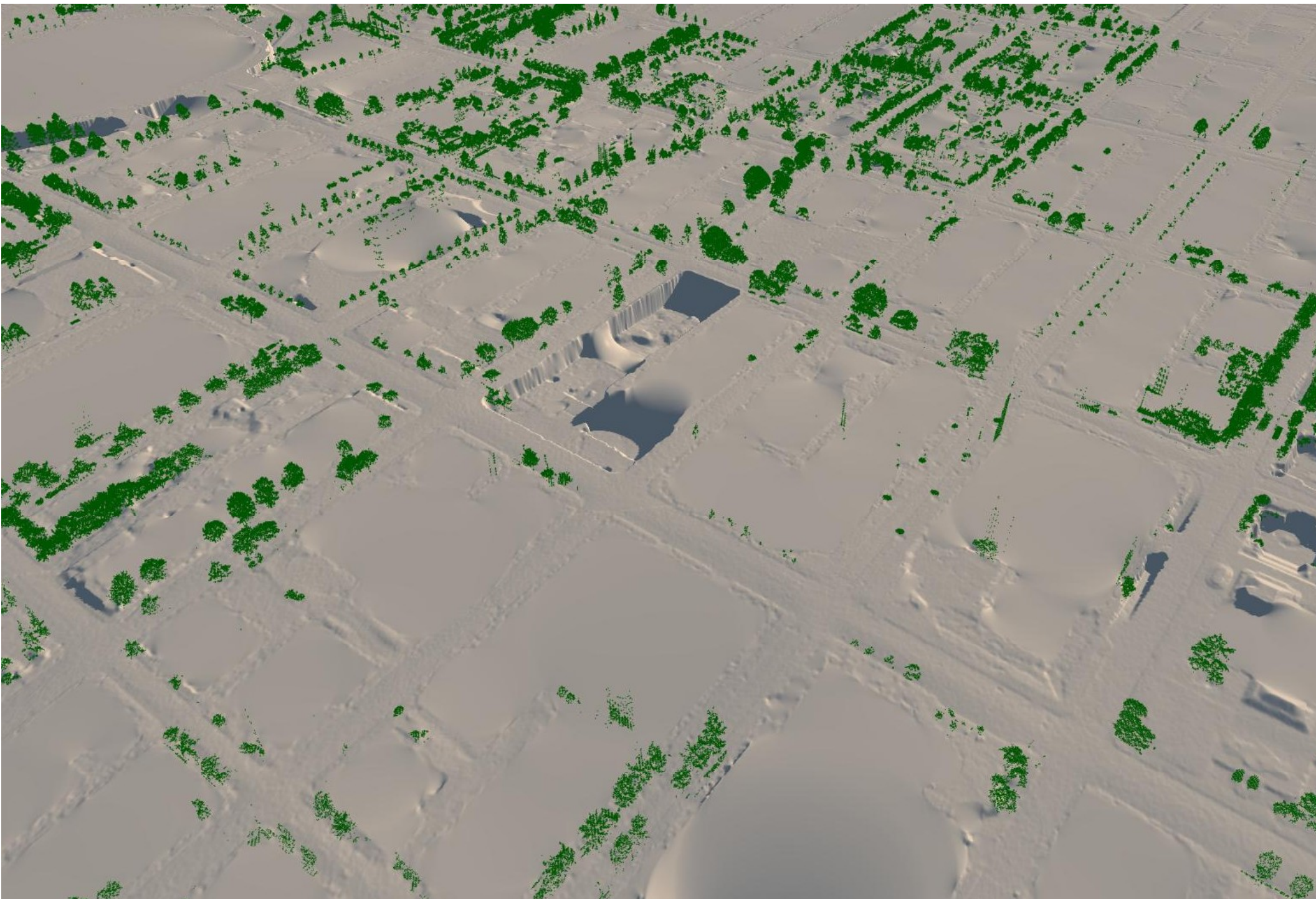
METROPOLIS

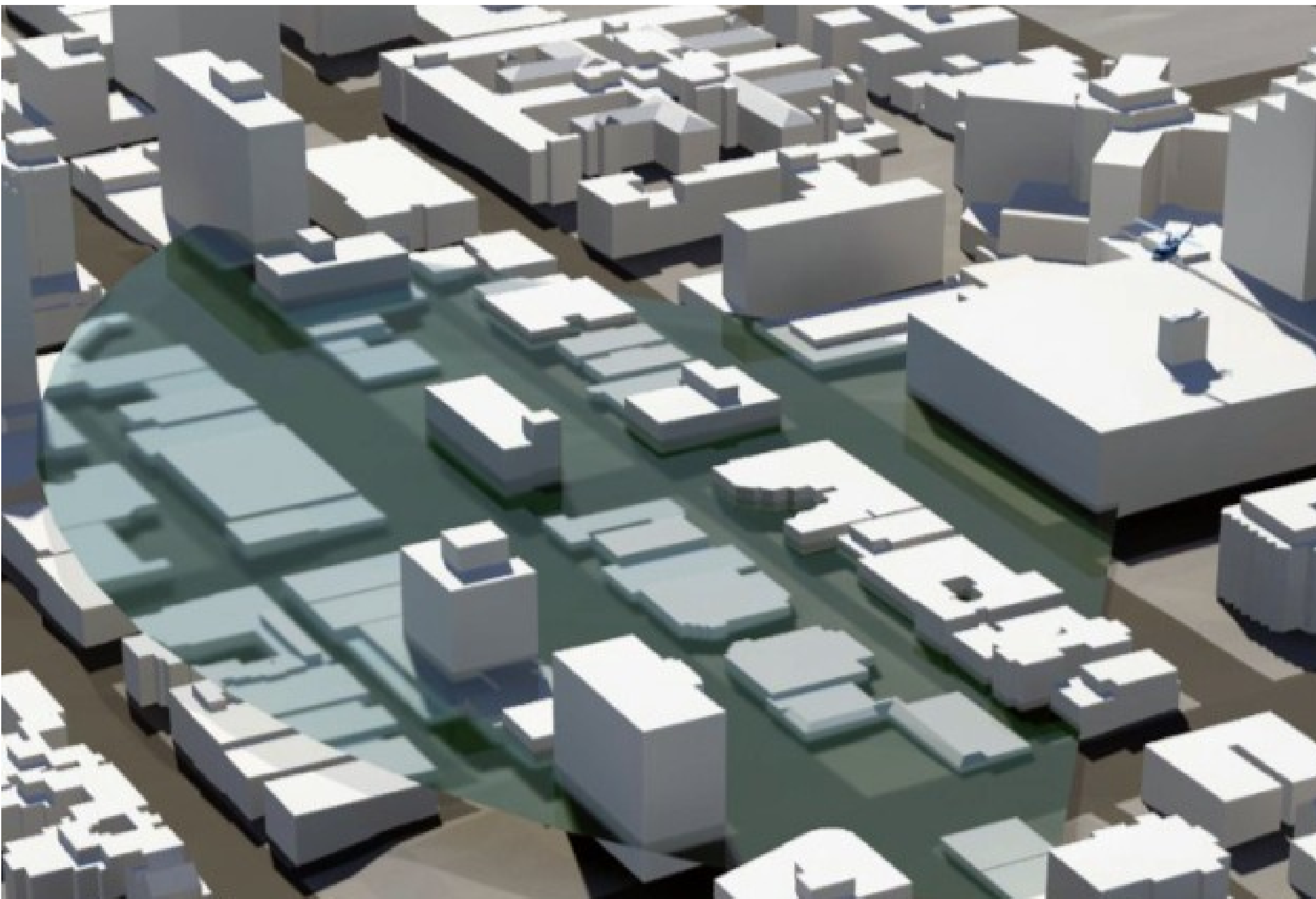
Here Be Monsters!



Things Cities Must Be Smart About

Zoning, subdivision, development review & processing, public consultation, infrastructure management, infrastructure design, heat analysis, paper map production, web mapping, public art database, social housing inventory, orthophotos, LiDAR, shadow analysis, energy analysis, 3D city modelling, massing development, view analysis, urban forest management, sea level rise analysis, earthquake mitigation, crime mapping, way finding, facilities management, election boundary redistricting, homeless inventory, bike routes and sharing, asset management, performance facilities management, parks inventory, emergency management, event management, animations, capacity analysis, population projections...and a whole lot of other stuff

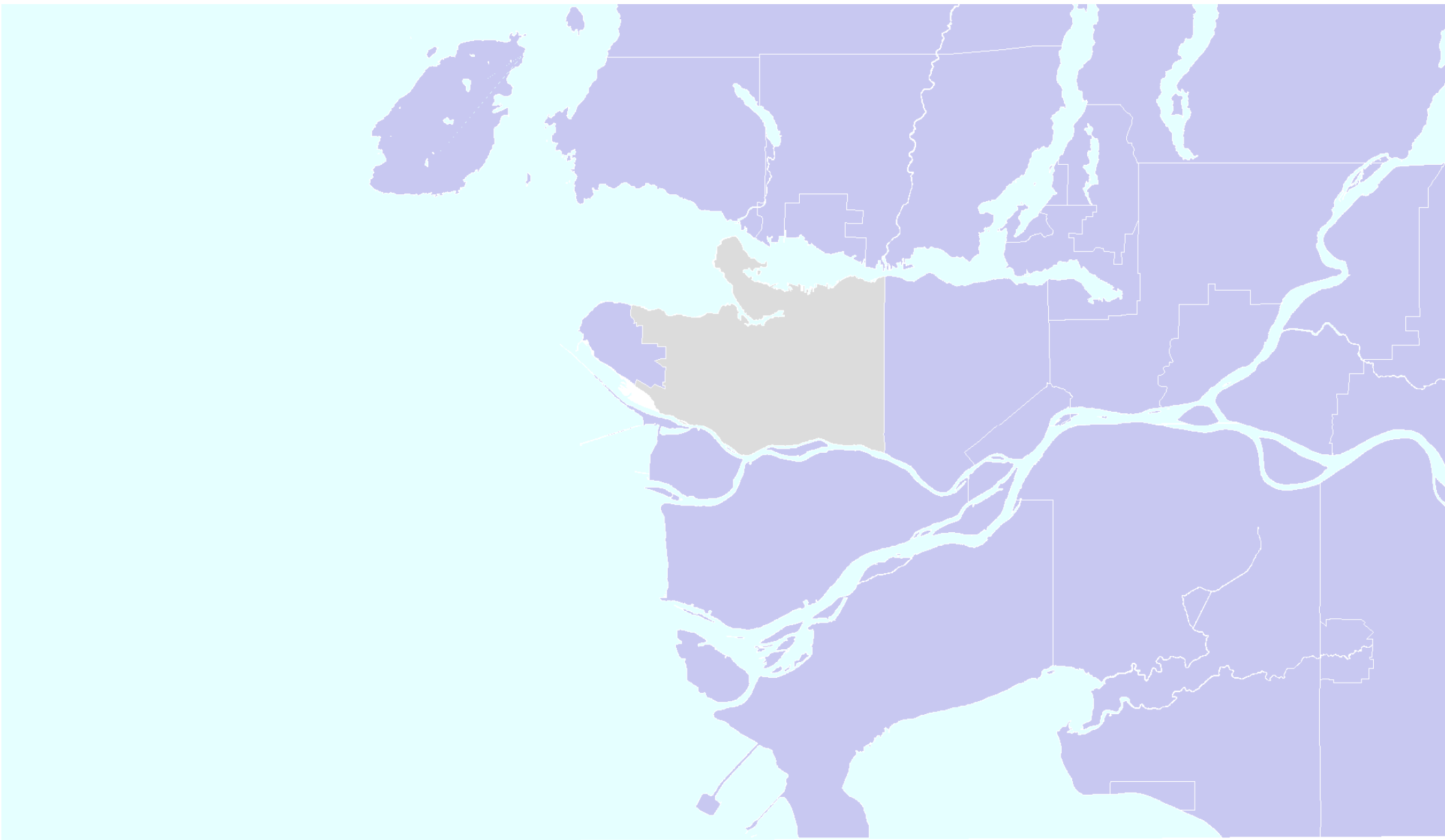




Privacy & Competitiveness

Our utility companies don't want their competitors to know what and where their cables and ducts are located

Energy consumption only available aggregated to the block level



U.S.A.

Tackling the Abstract Aspects of Cities

Social and cultural clash detection

- Density
- Noise
- Social mix
- Building character
- Scale of commercial development
- Traffic volume
- Cultural mix
- View analysis

Smart Citizens Drive The Growth of Smart Cities

Smart City – An Ephemeral Name?