



# WCCD

# THE WORLD COUNCIL ON CITY DATA

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BETTER DATA FOR BETTER DECISIONS

Dr. Patricia L. McCarney

Rural Talks:  
Climate Change In Huron

Blyth Ontario  
October 23 2019

<http://www.dataforcities.org/>

Twitter: @WCCityData

Facebook: WCCityData

**GLOBALLY STANDARDIZED CITY DATA**

**AND**

**THE WORLD COUNCIL ON CITY DATA**

# Cities and the Challenges of Comparative Data



ISO 37120

**World Council on City Data**

# **CITY DATA ACROSS THE WORLD IS UNEVEN –**

- \* DIFFERENT DEFINITIONS OF WHAT IS  
BEING MEASURED**
- \* DIFFERENT METHODOLOGIES ON HOW  
MEASUREMENT IS UNDERTAKEN**
- \* AND ACCORDING TO DIFFERENT  
BOUNDARIES OF THE CITY BEING MEASURED**

**MIT → World Bank → Canada**





The **first** ISO  
standard for cities.

Published July 2014

WCCD Launched  
July 2014



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WORLD COUNCIL  
ON CITY DATA

ISO  
37120

104  
Indicators



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# 19 themes



Economy



Education



Energy



Environment &  
climate change



Finance



Governance



Health



Housing



Population &  
social  
conditions



Recreation



Safety



Solid Waste



Sport & Culture



Telecommunication



Transportation



Urban/local  
agriculture & food  
security



Urban Planning



Wastewater



Water



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# WCCD CERTIFICATION LEVELS

**ISO 37120**



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**ISO 37120**



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| ASPIRATIONAL          | BRONZE                       | SILVER                        | GOLD                          | PLATINUM                      |
|-----------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 30-44 Core Indicators | 45-59 Indicators             | 60-75 Indicators              | 76-90 Indicators              | 91-104 Indicators             |
|                       | 45 Core +<br>0-14 Supporting | 45 Core +<br>15-30 Supporting | 45 Core +<br>31-45 Supporting | 45 Core +<br>46-59 Supporting |



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**ISO 37120**

# WORLD COUNCIL ON CITY DATA

**WELCOMING CITIES OF ALL SIZES  
TO BECOME ISO 37120 CERTIFIED**

|                        |
|------------------------|
| 0 – 50,000             |
| 50,000 – 100,000       |
| 100,000 – 250,000      |
| 250,000 – 500,000      |
| 500,000 – 750,000      |
| 750,000 – 1,000,000    |
| 1,000,000 – 5,000,000  |
| 5,000,000 – 10,000,000 |
| 10,000,000 +           |

# ISO TC268 WORKING GROUP ON CITY INDICATORS





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**Beyond ISO 37120 –  
Two new  
demand driven city data standards**

**ISO 37122 –  
INDICATORS FOR SMART CITIES**

**ISO 37123 –  
INDICATORS FOR RESILIENT CITIES**

**WCCD ISO CERTIFIED CITIES**  
**WORKING WITH 100 CITIES ACROSS 38 COUNTRIES**

The map displays the following cities and regions:

- North America:** SURREY, PORTLAND, LOS ANGELES, SAN DIEGO, CIUDAD JUÁREZ, TORREÓN, GUADALAJARA, LEÓN, BOSTON, CAMBRIDGE, WHITBY, OAKVILLE, MISSISSAUGA, VAUGHAN, TORONTO, SHAWINIGAN, SAINT-AUGUSTIN-DE-DE-SMAURES, QUÉBEC CITY, WELLAND, DORAL, PIEDRAS NEGRAS, BOGOTÁ, BUENOS AIRES.
- Europe:** KÓPAVAGUR, ZWOLLE, AMSTERDAM, THE HAGUE, ROTTERDAM, LONDON, AALTER, PORTO, SINTRA, BARCELONA, VALENCIA, HELSINKI, EINDHOVEN, GĐYNIA, KIELCE, HEERLEN, KOPRIVNICA, ZAGREB, TBILISI, AMMAN, ARRİYADH, DUBAI, MAKKAH, AHMEDABAD, SURAT, PUNE, MINNA, CAPE TOWN, TSHWANE, JOHANNESBURG.
- Asia:** SHANGHAI, HAIPHONG, TAIPEI, TAINAN CITY, MAKATI, JAMSHEDPUR, VIJAYAWADA.
- Australia:** GREATER MELBOURNE, MELBOURNE, BRISBANE.

A world map showing the locations of 50 cities and regions. The map is color-coded by continent: North America (light blue), South America (light green), Europe (light orange), Africa (light yellow), Asia (light purple), and Australia (light pink). Lines connect the city names to their respective locations on the map. The cities are: KOPAVAGUR, ZWOLLE, OSLO, HELSINKI, AMSTERDAM, EINDHOVEN, THE HAGUE, GDNIA, ROTTERDAM, KIELCE, LONDON, HEERLEN, AALTER, KOPRIVNICA, ZAGREB, PORTO, SINTRA, BARCELONA, TBILISI, VALENCIA, AMMAN, ARRIYADH, DUBAI, SHANGHAI, HAIPHONG, TAIPEI, TAINAN CITY, MAKATI, JAMSHEDPUR, VIJAYAWADA, AHMEDABAD, SURAT, PUNE, MINNA, MAKKAH, CAPE TOWN, TSHWANE, JOHANNESBURG, BRISBANE, GREATER MELBOURNE, MELBOURNE, BUENOS AIRES, BOGOTÁ, LEÓN, GUADALAJARA, TORREÓN, CIUDAD JUÁREZ, SAN DIEGO, LOS ANGELES, PORTLAND, SURREY, CAMBRIDGE, WHITBY, OAKVILLE, MISSISSAUGA, VAUGHAN, TORONTO, BOSTON, WELLAND, QUÉBEC CITY, SAINT-AUGUSTIN-DE-DESSAURES, SHAWINIGAN, DORAL, and PIEDRAS NEGRAS.



# HOW DOES ROTTERDAM PROMOTE ACTIVE TRANSPORTATION?

Kilometres of bicycle paths  
and lanes per 100 000  
population

102.2

Rotterdam  
Netherlands

ISO 37120



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# HOW IS OAKVILLE IMPROVING AIR QUALITY?

Fine particulate matter (PM  
2.5) concentration ( $\mu\text{g}/\text{m}^3$ )

7.03

Oakville  
Canada



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# HOW DO LONDONERS GET TO WORK?

Percentage of commuters  
using a travel mode to work  
other than a personal vehicle

74%

London  
England

ISO 37120



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# HOW IS SURREY INVESTING IN CAPITAL INFRASTRUCTURE?

41.1%

Capital spending as a  
percentage of total  
expenditures

Surrey  
Canada

ISO 37120



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# HOW IS KÓPAVAGUR PROMOTING ECONOMIC PROSPERITY?

42

Percentage of persons in full-time employment

Kópavagur  
Iceland

ISO 37120



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# HOW WELL DOES MY CITY CONSERVE WATER?

Total water consumption  
per capita (litres/day)

325

Cambridge  
Canada

ISO 37120



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# HOW ECONOMICALLY ATTRACTIVE IS MY CITY?

Assessed value of commercial  
and industrial properties as a  
percentage of total assessed  
value of all properties

69.1%

Dubai  
UAE

ISO 37120



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**HOW PROSPEROUS IS  
MY CITY?**

**12,316**

Number of Businesses per  
100,000

**Los Angeles  
USA**

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# HOW IS MY CITY ATTRACTING DIVERSE ECONOMIC INVESTMENT?

Number of businesses per  
100,000 population

11,790

Mississauga  
Canada

ISO 37120



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## HOW CLEAN IS MY AIR?

Fine particulate matter  
(PM2.5) concentration

5.9  
 $\mu\text{g}/\text{m}^3$

Annapolis Valley  
Canada



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# HOW IS SAN DIEGO DRIVING SMART CITY INNOVATIONS?

Number of new patents per  
100,000 population per year

383.8

San Diego  
USA

ISO 37120



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# HOW IS SOUND MANAGEMENT DRIVING INVESTMENT AND GROWTH IN SAINT- AUGUSTIN-DE- DESMAURES?

Own-source revenue as a  
percentage of total  
revenues

95.1%

Saint-Augustin-de-  
Desmaures  
Canada



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# HOW IS TORONTO INVESTING IN A “SMARTER” FUTURE?

Number of higher education  
degrees per 100,000  
population

47,014

Toronto  
Canada

ISO 37120



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ON CITY DATA



# HOW IS VAUGHAN ATTRACTING A DIVERSE AND EDUCATED POPULATION TO BECOME A GLOBALLY CONNECTED CITY?

Percentage of population that  
are foreign born

46%

Vaughan  
Canada

VAUGHAN CITY HALL

ISO 37120



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# HOW CONNECTED IS AMSTERDAM?

Commercial air connectivity  
(number of non-stop  
commercial air destinations)

220,326

Amsterdam  
Netherlands

ISO 37120



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# HOW GREEN IS MY CITY?

Green area (hectares) per  
100 000 population

1,489

**Helsinki**



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# HOW IS MY CITY BECOMING A SMART AND CONNECTED CITY?

424

Kilometres of light  
passenger public  
transport system per  
100,000 population

Welland  
Canada

ISO 37120



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WORLD COUNCIL  
ON CITY DATA

# HOW IS SHAWINIGAN PROMOTING EMPLOYMENT OPPORTUNITIES AND INVESTING IN A PROSPEROUS FUTURE?

Fine particulate matter  
(PM<sub>2.5</sub>) concentration

6.7  $\mu\text{g}/\text{m}^3$

Shawinigan  
Canada

ISO 37120



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ON CITY DATA



# HOW IS MY CITY CREATING DIVERSE ECONOMIC OPPORTUNITIES?

City's unemployment rate

4.6%

Québec  
Canada

ISO 37120



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# USING THE DATA: REPORTS AND APPLICATIONS

- Infrastructure Investment / Baselines and Benchmarking
- Competitiveness / FDI / Investable Cities
- Smart Cities
- Resilient Cities – Risks and Insurance
- Sustainable Development (UN)



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A Siemens Velaro train, white with red accents, is stopped at a modern city center train station. The train's front display shows 'CITY CENTRE' and the number '202'. The platform has yellow tactile paving and red overhead signs. The background shows the station's glass and steel structure.

# CITY INFRASTRUCTURE

## Data-driven Investment & Decision Making

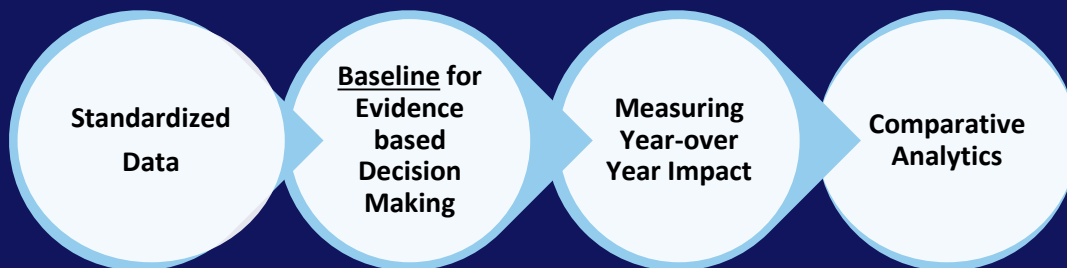
WCCD ISO 37120 CERTIFIED CITY DATA



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# DATA DRIVEN INFRASTRUCTURE INVESTMENT



**DATA IS THE ESSENTIAL STARTING POINT**



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Infrastructure  
Canada



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**DATA TO INFORM AND DRIVE  
COMPETITIVENESS STRATEGY AND ATTRACT  
FOREIGN DIRECT INVESTMENT**



# TORONTO REGION

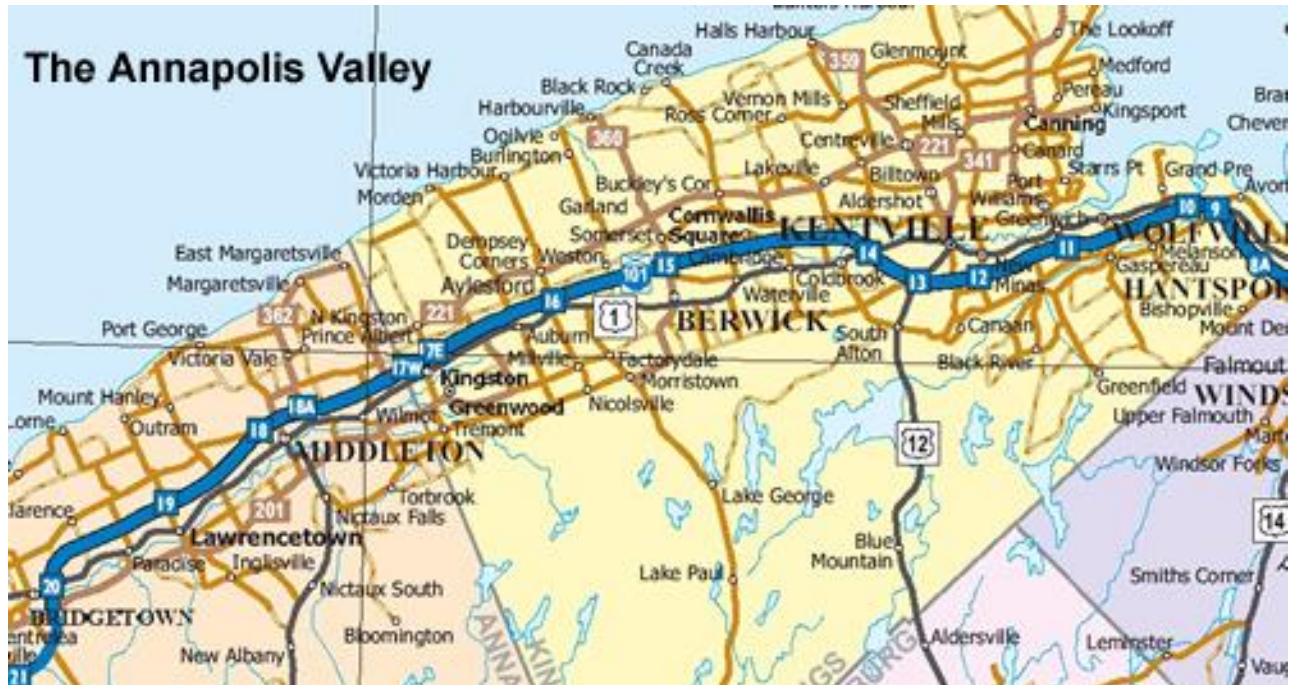
## RESPONSE TO AMAZON HQ2 RFP



# **Annapolis Valley – Nova Scotia**

## **Certifying the first**

### **"Smart+Sustainable Rural Region"**



# WHAT ARE CITY LEADERS SAYING ABOUT THE WCCD ACROSS CANADA?



*Jeff Cantwell*  
Mayor, *Wolfville*

“Increasingly, local decisions are being driven by global initiatives and scientific data. Communication is vital if we are to continue to function as a federation of communities across this great Dominion and continue to offer Canadians, no matter where they choose to live, work and play, an opportunity to compete in and contribute to the well-being of their respective communities. **Understanding where one’s community stands in relation to others, as a comparison, allows one to measure its growth against a standardised benchmark.** We are excited about the growth and expansion of the WCCD network in Canada which will allow Wolfville and the Annapolis Valley an opportunity to better understand their successes and challenges in a Canadian and global context.”

# WHAT ARE CITY LEADERS SAYING ABOUT THE WCCD ACROSS CANADA?

“As Mayor of this small town of 3,800 people, I am very excited on what such an endeavour [WCCD ISO 37120 certification] means to us. As you are aware, the ISO 37120 standard measures activity using 100 indicators across 17 themes [and] include cities like Toronto, Quebec, Amsterdam, Boston and Barcelona. No reason why the little Town of Windsor, can't be part of the global picture and the changes taking place. Being known as a Smart Region will showcase our communities on the international stage and position us as a leader in rural investment readiness and competitiveness.”



Anna Allen,  
Mayor, Windsor



# Investable Cities Index

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City Data for City Leaders



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# **Canadian Cities on the Global Stage**

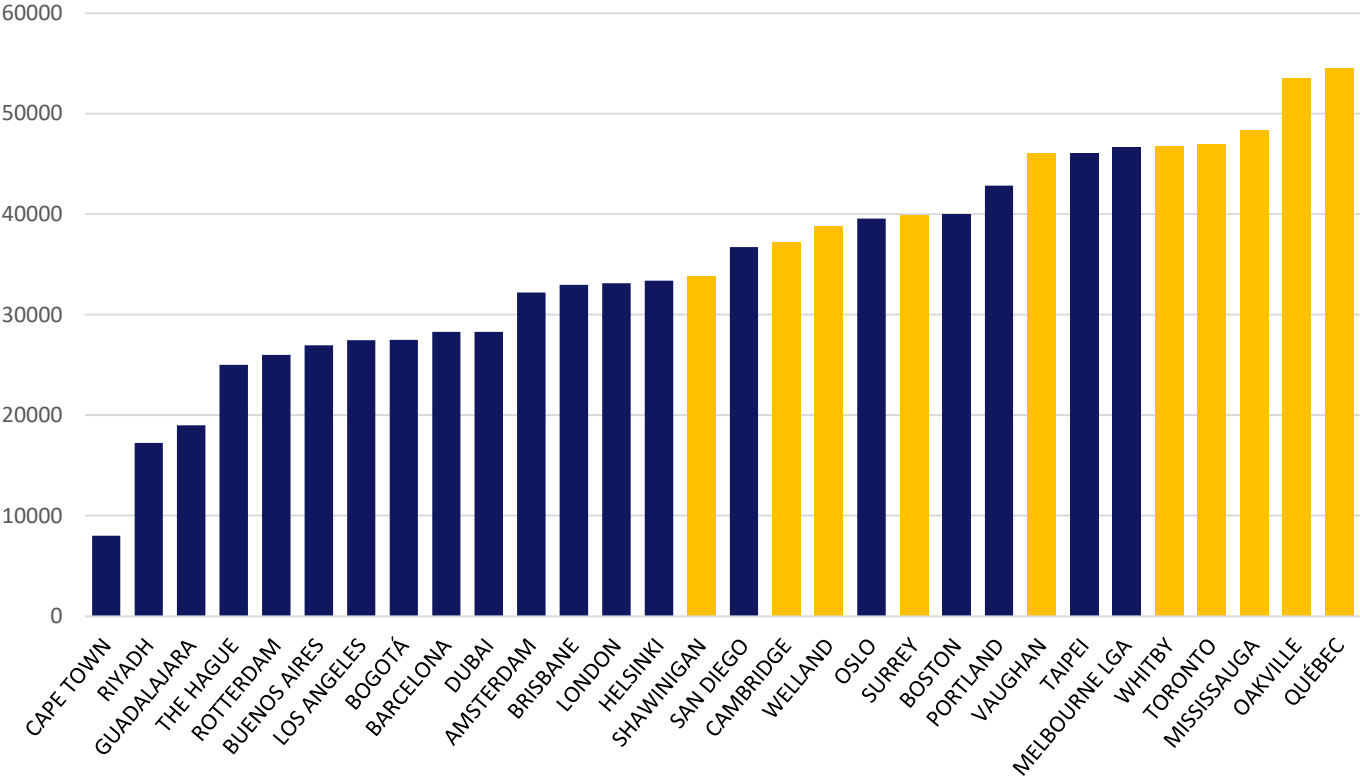


**WCCD**

**EDUCATION**

# WCCD ISO 37120 Indicator 6.7:

Number of higher education degrees per 100,000 population





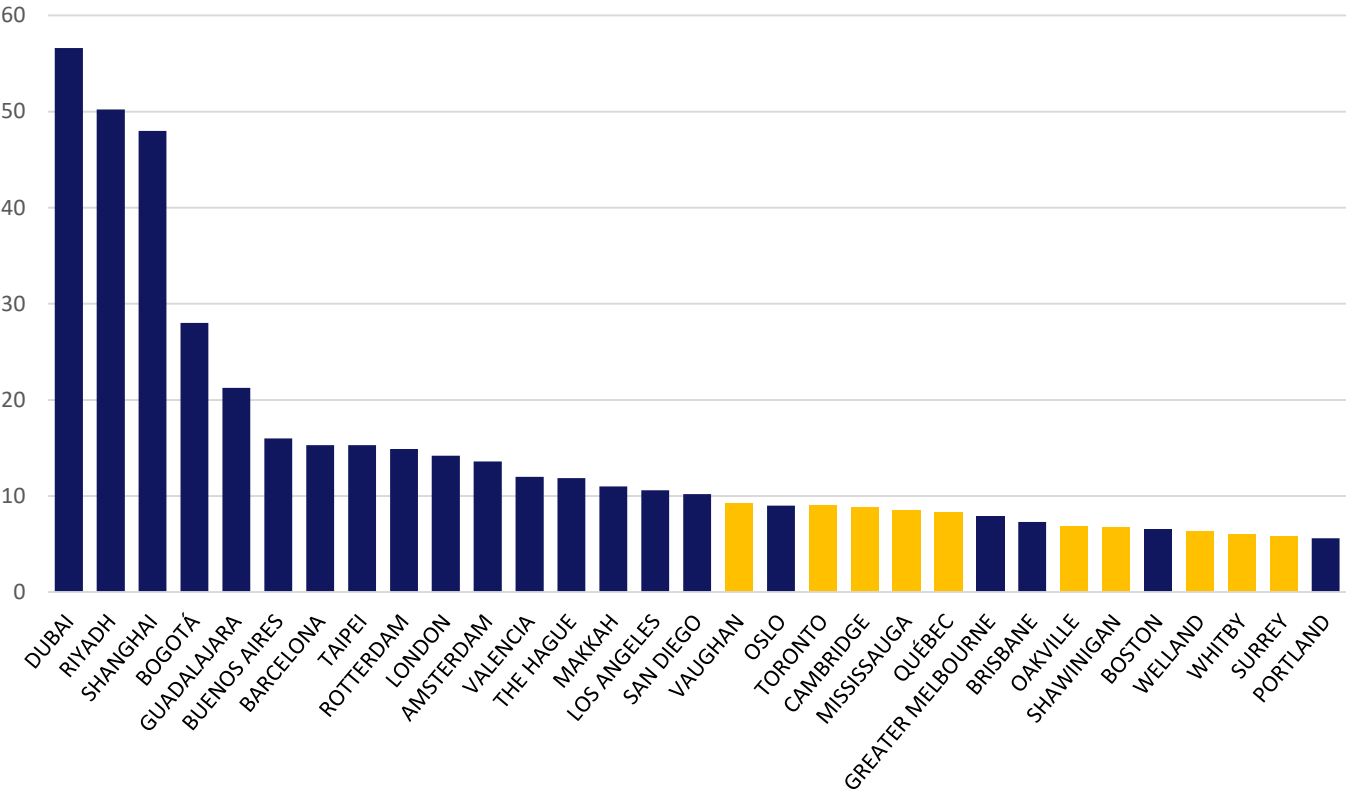


**WCCD**

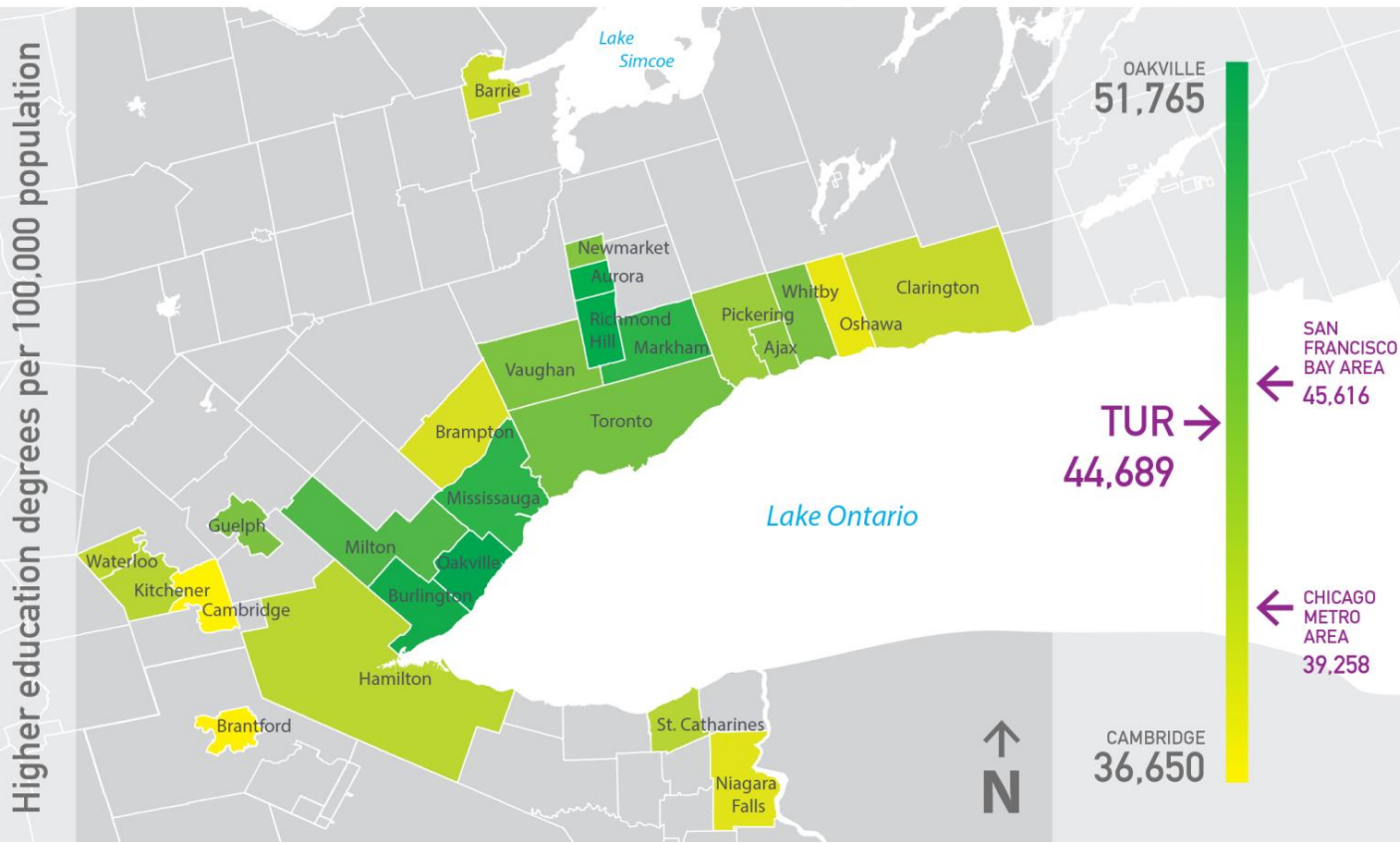
**ENVIRONMENT**

# WCCD ISO 37120 Indicator 8.1:

## Fine particulate matter (PM2.5) concentration



# Toronto Urban Region – Higher Education Degrees





Toronto



Chicago



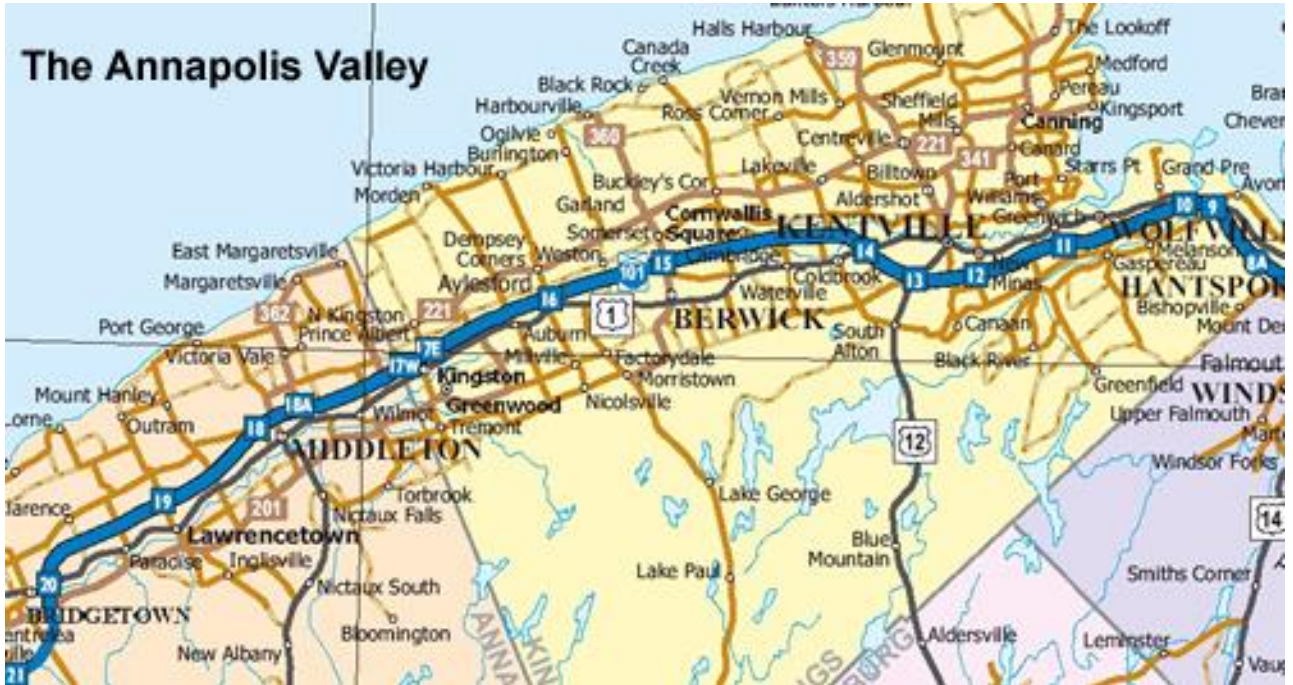
San Francisco



Shanghai-Nanjing



# **Annapolis Valley – Nova Scotia Certifying the first “Smart+Sustainable Rural Region”**



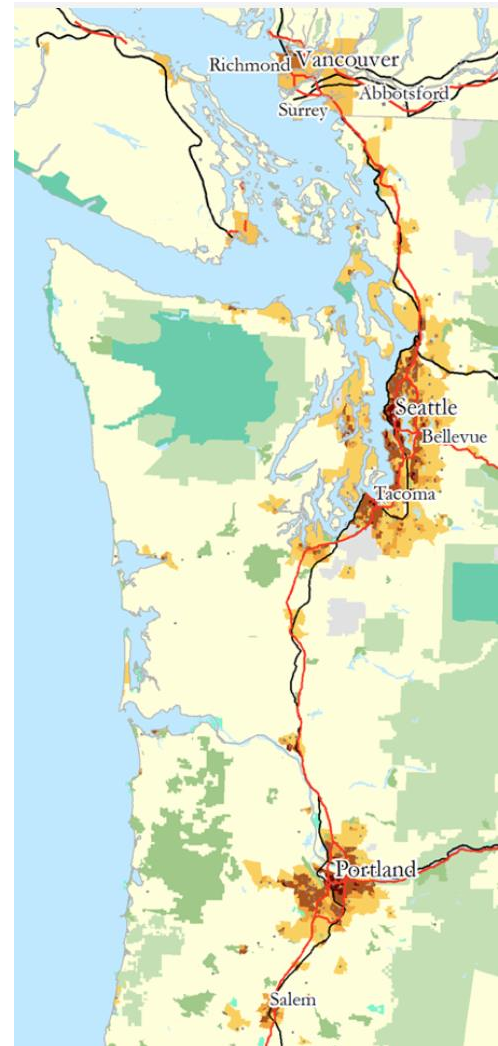
# Communities and Regions

Lower Tier and  
Upper Tier  
Municipalities –  
Aggregating  
the Data



# The Cascadia Corridor Driving Urban Innovation

Vancouver and Surrey  
Seattle  
Portland



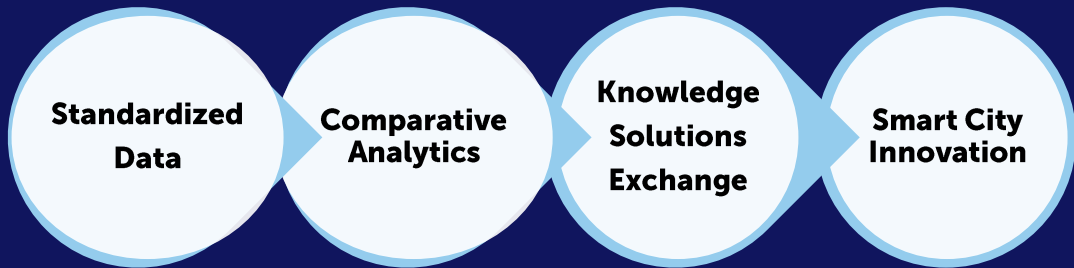


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**ISO 37122 –  
INDICATORS FOR SMART CITIES**



# DATA FOR SMART CITIES



Standardized data facilitates **city to city learning**, encourages **city solutions to travel globally** and fosters **smart city innovation**



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**ISO 37123 –  
INDICATORS FOR RESILIENT CITIES**

The availability of ISO standardized metrics for resilience will assist cities to prepare for, recover from and adapt to shocks and stresses.



86  
Street

86 STREET  
8 TO  
1000' N





**DATA FOR SUSTAINABLE CITIES**

**THE WCCD AND ISO 37120  
LOCALIZING THE UNITED NATIONS  
SDGS**



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# The United Nations Sustainable Development Goals

## 17 Goals for 2030

**1** NO POVERTY



**2** NO HUNGER



**3** GOOD HEALTH



**4** QUALITY EDUCATION



**5** GENDER EQUALITY



**6** CLEAN WATER AND SANITATION



**7** CLEAN ENERGY



**8** GOOD JOBS AND ECONOMIC GROWTH



**9** INNOVATION AND INFRASTRUCTURE



**10** REDUCED INEQUALITIES



**11** SUSTAINABLE CITIES AND COMMUNITIES



**12** RESPONSIBLE CONSUMPTION



**13** PROTECT THE PLANET



**14** LIFE BELOW WATER



**15** LIFE ON LAND



**16** PEACE AND JUSTICE



**17** PARTNERSHIPS FOR THE GOALS



**THE GLOBAL GOALS**  
For Sustainable Development

# WCCD CITY DATA FOR THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS 2018



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# CAMBRIDGE



## HOW IS CAMBRIDGE EMBRACING THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS?

6.4%

City's unemployment rate

ISO 37120



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ISO 37120

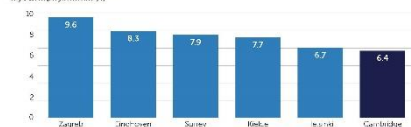
The first international standard for city data – 100 city indicators  
Cambridge, Canada is ISO 37120 Platinum certified by the World Council on City Data

Great Data for a Great City

6.4% CITY'S UNEMPLOYMENT RATE

### HOW DID CAMBRIDGE ACHIEVE THIS?

WCCD ISO 37120 INDICATOR 5.6  
City's unemployment rate (%)



#### Promoting business growth

Cambridge has been a model of growth since 2000, with a 10% increase in the number of businesses and a 10% increase in the number of employees.

#### Diverse labour sector

Cambridge has a diverse labour sector, with a mix of high-tech, creative, and service industries. This diversity helps to attract and retain talent.

#### Economic Partnerships

Cambridge has a strong network of economic partnerships, including the University of Cambridge, the Cambridge Science Park, and the Cambridge Enterprise Centre.

#### Embracing global goals and taking local action

As the future leader of the WCCD ISO 37120, Cambridge is not becoming a global leader in isolation, but by leading the way in the United Nations Sustainable Development Goals (SDGs). Cities have been emerging on the global stage as economic powerhouses, equipped to tackle a range of global challenges, including inequality, migration, unemployment, environmental degradation, and climate change. With a focus on SDG 8, Economic Growth and Economic Growth, Cambridge is dedicated to providing inclusive and sustainable economic growth, full and productive employment and decent work conditions for all, as a municipality that home to highly skilled talent and a high quality of life for its residents. Cambridge can offer a unique offering to meet growing business demand. Cambridge is currently home to a number of leading manufacturing sectors, including Canada's major engine, gearbox, and transmission manufacturers. The development of Grand Innovation, a new technology incubator focused on advanced manufacturing and cyber security, will provide innovative solutions, which will be a catalyst for economic development.

#### Small city, big prospects

City officials in Cambridge have long been championing local issues with a global perspective. Cambridge is joined as one of eight municipalities worldwide, the only ones in Canada to be part of the WCCD ISO 37120, a global initiative that aims to solve global problems through transparency and standardized data. Cambridge is the only city in the world that has been named a 'Global City' by the Economist Intelligence Unit (EIU). Cambridge has proven itself to be a leader in forward thinking innovation that inspires action to solve globally to a city around the world. Through the development of local initiatives, Cambridge is helping to solve global sustainability and improve quality of life for its residents. Since 2015, the Government, Financial Officers Association of the United States and Canada has presented Cambridge with a Canadian Award for 'Innovation, Spirit'. The award recognizes a city's commitment to transparency and full disclosure. Through open communication and maintaining high standards of revenue, Cambridge has created the financial independence needed to live the local on printing music.



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6.4% CITY'S UNEMPLOYMENT RATE

### WHICH CONTRIBUTES TO...



## CAMBRIDGE IN A GLOBAL CONTEXT

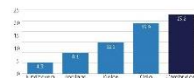
WCCD ISO 37120 INDICATOR 6.7

Number of higher education degrees per 100,000 population



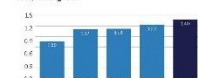
WCCD ISO 37120 INDICATOR 9.2

Capital spending as a percentage of total expenditures



WCCD ISO 37120 INDICATOR 19.4

Jobs/hectare ratio



WCCD ISO 37120 INDICATOR 5.6

Number of businesses per 100,000 population



## ABOUT THE WCCD

In seeking solutions to our rapidly urbanizing planet, the World Council on City Data (WCCD) is the global leader in standardizing city data - creating a global standard for cities, regions, and countries.

The WCCD is a joint partnership between the United Nations Development Programme (UNDP) and the United Nations World Institute for Development (UNWID). The WCCD is a global network of cities, regions, and countries, working together to create a global standard for city data.

The WCCD is a global network of cities, regions, and countries, working together to create a global standard for city data. The WCCD is a global network of cities, regions, and countries, working together to create a global standard for city data.



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**NETWORKS &  
PARTNERSHIPS**

# WCCD'S NETWORK OF GLOBAL PARTNERSHIPS



Ontario



Statistics  
Canada

Statistique  
Canada



UNIVERSITY OF  
TORONTO



UNDRR  
UN Office for Disaster Risk Reduction



SIEMENS

*Ingenuity for life*

TATA TRUSTS



المجلس التنفيذي  
THE EXECUTIVE COUNCIL



Statistics  
Netherlands



South African  
CitiesNetwork

TORONTO  
GLOBAL



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# DATA IS THE UNIVERSAL LANGUAGE



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