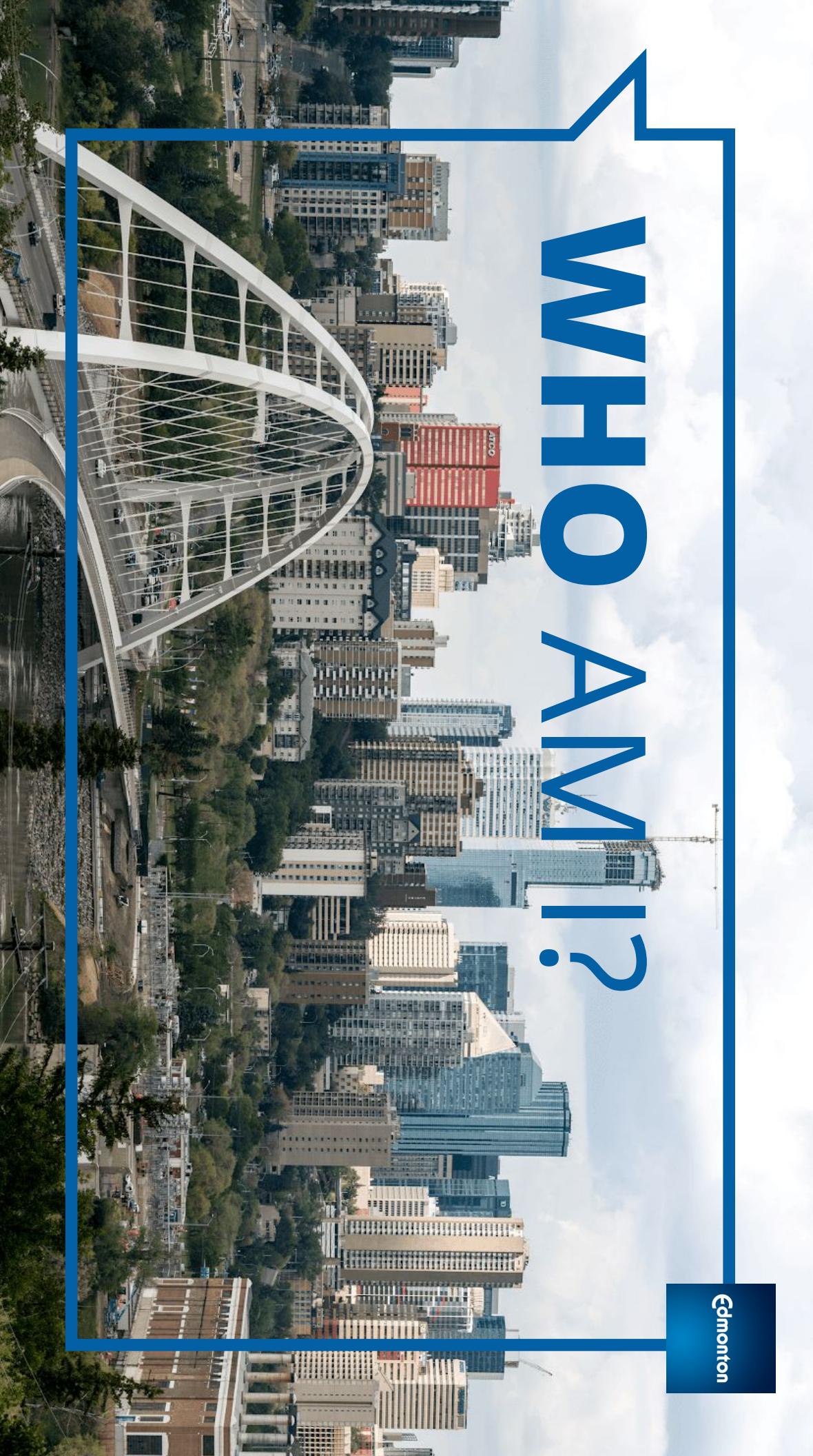


# THE CITY OF THE FUTURE:

Edmonton's Journey as an Open City  
and emergence as a Smart City

*Norman Mendoza,  
Manager Business and Technology Innovation, Edmonton*

Edmonton



WHOA!

Edmonton

# OPEN DATA PROGRAM

City of Edmonton's Open Data Portal

Your data. Connect, download, analyze.

Please click here to review our Terms of Use.

Open Data 101

Catalogue

Stories

+1 / Suggest A Dataset

Citizen Dashboard

EPS Dashboard

Open Budget

Open Data Toolkit

311 EDMONTON

Open Up Your Data

odx Business ready.

Open DATA 150 CANADA

Edmonton Open Data is

Open Data 150 Canada

Edmonton

# Open City Policy & Open City Refresh Report

OPEN CITY AND TECHNOLOGY  
FINANCIAL AND CORPORATE SERVICES  
CITY OF EDMONTON



CITY POLICY	
POLICY NUMBER:	CS1
ADOPTED BY:	City Council
SUPERSEDES:	New
DATE:	April 14, 2015
PREPARED BY:	Corporate Services Department
TITLE:	Open City Policy
<b>Policy Statement:</b>	
As an Open City, the City of Edmonton will create opportunity for diverse input and participation, inviting Edmontonians to play a larger role in shaping the community and enabling social and economic development.	
Definitions:	
In this policy, the following words have the following meanings:	
(a) "Open City" means the City's perspective of government transparency and innovation.	
(b) "Open Government" means a philosophy of government transparency and innovation, emphasizing accountability increased by the release of data and opportunities created by those values and by the release of City information.	
<b>The purpose of this policy is to:</b>	
articulate the City's commitment to bring to action the Open City principles of transparency, accountability, collaboration, inclusiveness and innovation.	
1. The City will:	
<ul style="list-style-type: none"><li>• Manage information and data assets as a strategic resource: The City will manage its information and data as a key decision-making tool, in a manner that is informed and shared. By ensuring information and data are open by default and private in doing what is personal to Edmontonians, the City will share information and data in various formats and more publicly and succinctly to relevant policy, legislation and funding priorities related to our goals and by doing so, creating opportunities to foster a collaborative environment, priorities and standards: The City will ensure municipal activities reflect community values, priorities and standards.</li></ul>	
<b>REFERENCE:</b> The Way Ahead: City Way Ahead Strategic Plan, 2012-2018 Strategic Goals, 2014 Open City Institute, 2014	



# International Open Data Charter

Edmonton



## International Open Data Charter

- In March of 2017, **Edmonton was the first organization in Canada and the United States to adopt the International Open Data Charter.**
- In late 2017, the province of Ontario and the Government of Canada also declared their commitment.
- **We are committed to upholding international best practices standards.**

# Leader in Open Government

Edmonton



# Open Data by the Numbers

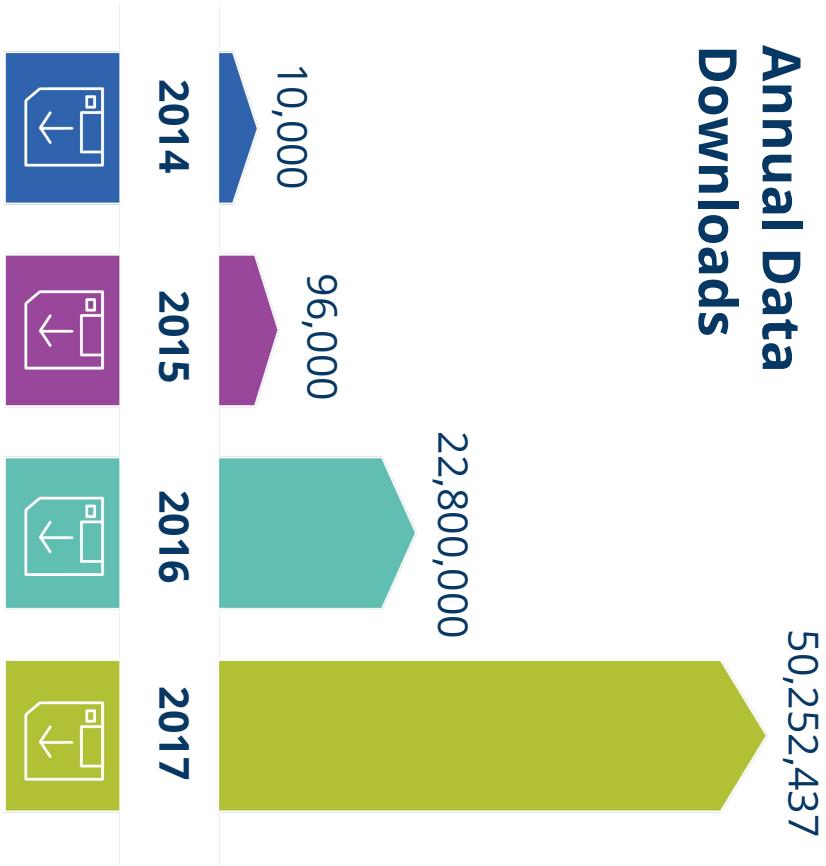
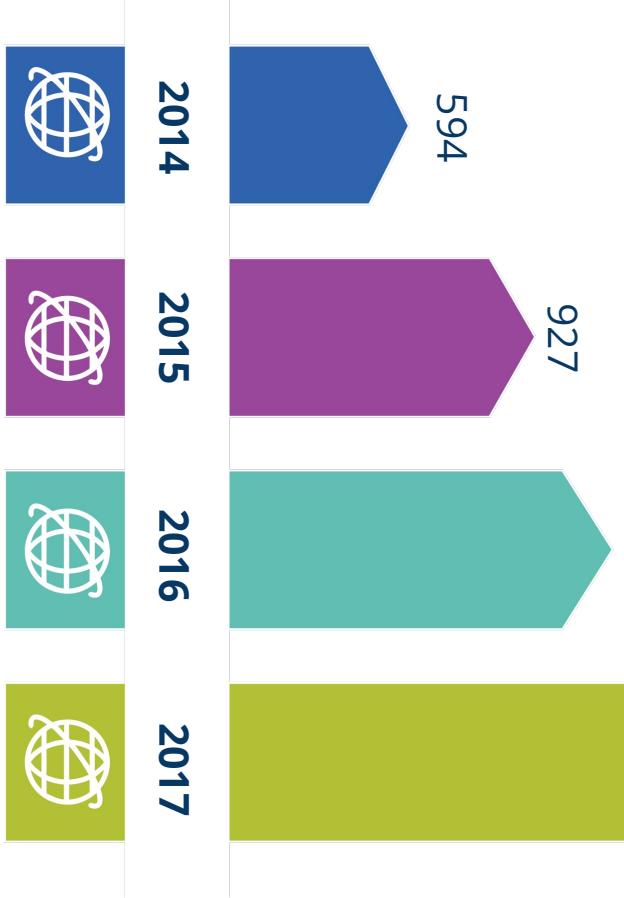
Edmonton

## Cumulative Data Assets Released

1,550

## Annual Data Downloads

50,252,437



# Open Data by the Numbers

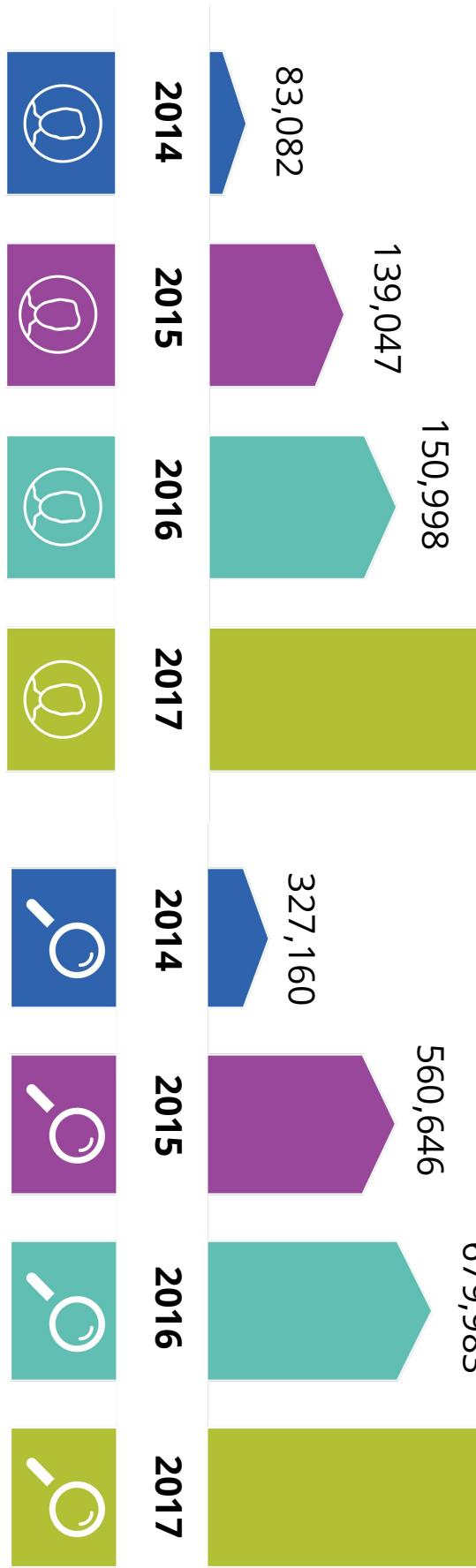
Edmonton

Number of  
Annual Users

234,397

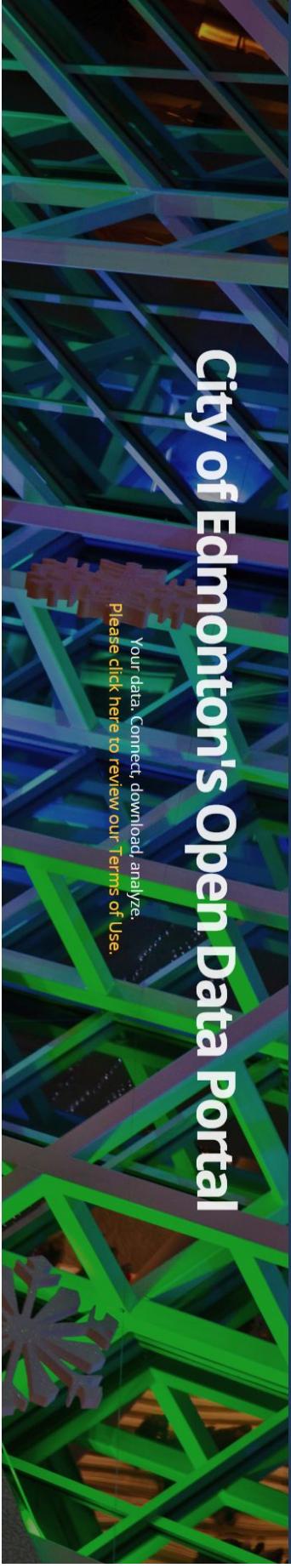
Number of Annual  
Views by Users

1,247,392



# Open Data Portal [data.edmonton.ca](http://data.edmonton.ca)

Edmonton



Edmonton

Home Catalogue Applications Open Data Blog About Citizen Connect Terms of Use Site Maintenance Schedule Site Analytics

Search

Sign In

## City of Edmonton's Open Data Portal

Your data. Connect, download, analyze.  
Please click here to review our Terms of Use.

 <b>Open Data 101</b> Tips & Tricks for using this site	 <b>Catalogue</b> Access our open data catalogue	 <b>Stories</b> Stories about data? Access them here!	 <b>+1 / Suggest A Dataset</b> +1 / Suggest a New Dataset: Why Not Do Both?	 <b>Open Budget</b> Access our Open Budget web application	 <b>Open Data Toolkit</b> Access our Toolkit: Check out how we got to where we are today!
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**OPEN  
DATA  
TECH**



**Socrata**  
technologies



**SAFE SOFTWARE**

**+ tableau**



Edmonton



**ArcGIS**



**KNIME**  
Open for Innovation

# OPEN DATA APIs

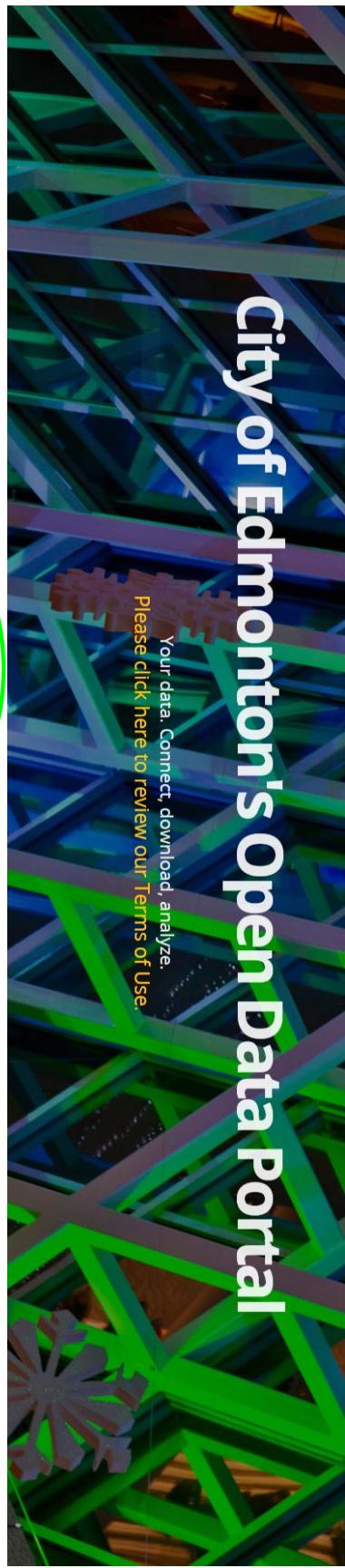
- Export
- APIs
- Odata



Edmonton

# City of Edmonton's Open Data Portal

Your data. Connect, download, analyze.  
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 <b>Citizen Dashboard</b> Access our Citizen Dashboard	 <b>Open Data 101</b> Tips & Tricks for using this site	 <b>Catalogue</b> Access our open data catalogue	 <b>Stories</b> Stories about data? Access them here!	 <b>+1 / Suggest A Dataset</b> +1 / Suggest A New Dataset : Why Not Do Both?
 <b>EPS Dashboard</b> Access Edmonton Police Service's Dashboard	 <b>Open Budget</b> Access our Open Budget web application	 <b>Open Data Toolkit</b> Access our toolkit: Check out how we got to where we are today!		
 <b>OPEN</b>				

Edmonton

<p>New Site Ctrl-N</p> <p><b>Corporate Services</b></p> <p>Financial Services and Utilities</p> <p>Sustainable Development</p>	<p><b>2016 Street Construction Projects (Map VIEW)</b> <span style="border: 1px solid #ccc; padding: 2px;">Transportation</span></p> <p>A list of special projects and major road construction planned for 2016.</p> <p>Tags: projects, street construction</p>	 Map <span style="border: 1px solid #ccc; padding: 2px;">Updated September 11, 2018</span> <span style="border: 1px solid #ccc; padding: 2px;">Views 95,651</span>
<p><b>Transportation Services</b></p> <p>Show All...</p>	<p><b>Tags</b> <span style="border: 1px solid #ccc; padding: 2px;">▼</span></p> <p>speed data collection</p> <p>speeding</p> <p>driver feedback sign</p> <p>insight community</p> <p>edmonton</p>	<p>Show All...</p>
<p><b>Traffic Disruptions</b> <span style="border: 1px solid #ccc; padding: 2px;">Transportation</span></p> <p>This dataset provides information about what's happening on Edmonton's roads that could impact your drive, including: ...</p> <p>More</p> <p>Tags: construction, traffic, disruptions</p>	<p> Dataset</p> <p>Updated January 8, 2019</p> <p>Views 92,720</p> <p> API Docs</p>	 Chart <span style="border: 1px solid #ccc; padding: 2px;">Updated October 20, 2017</span> <span style="border: 1px solid #ccc; padding: 2px;">Views 94,756</span>
<p><b>Current Road Projects</b> <span style="border: 1px solid #ccc; padding: 2px;">Transportation</span></p> <p>A dataset of road projects in the design, current or completes stages of the project.</p> <p>Tags: planning, current, construction, complete, design</p>	<p> Map</p> <p>Updated February 22, 2018</p> <p>Views 66,957</p>	<p> Dataset</p>
<p><b>Residential Snow Clearing Schedule</b> <span style="border: 1px solid #ccc; padding: 2px;">Transportation</span></p> <p>A list of all City of Edmonton transportation maintenance areas and the date on which each is scheduled for residential snow clearing. Does NOT include arterials or major routes...</p> <p>More</p>	<p>Updated January 18, 2019</p> <p>Views 65,119</p>	

## Traffic Disruptions

Transportation

View Data	Visualize	Export	API	...
-----------	-----------	--------	-----	-----

This dataset provides information about what's happening on Edmonton's roads that could impact your drive, including:

Major road closures and detours, Road construction, Travel delays and special events that impact traffic.

### About this Dataset

Updated	January 18, 2019
Data Last Updated	Metadata Last Updated

January 18, 2019

January 18, 2019

### General Information

Primary Dataset or View	Primary
Spatial	

Primary  
Spatial

View Data	Visualize	Export	API	...
-----------	-----------	--------	-----	-----

each is scheduled for residential snow clear

Access this Dataset via SODA API



The Socrata Open Data API (SODA) provides programmatic access to this dataset including the ability to filter, query, and aggregate data.

Updated

January 18, 2019

Data Provided by  
City of Edmonton

API Docs

Developer Portal

API Endpoint

<https://data.edmonton.ca/resource/2p9r-pjcg>

JSON

[Copy](#)

# Tools in the API Docs

Edmonton

## App Tokens

All requests should include an app token that identifies your application, and each application should have its own unique app token. A limited number of requests can be made without an app token, but they are subject to much lower throttling limits than request that do include one. With an app token, your application is guaranteed access to its own pool of requests. If you don't have an app token yet, click the button to the right to sign up for one.

Once you have an app token, you can include it with your request either by using the `x-app-token` HTTP header, or by passing it via the `$app_token` parameter on your URL.

[Signup for an app token!](#)

## Fields

Each column in the dataset is represented by a single field in its SODA API. Using filters and SoQL queries, you can search for records, limit your results, and change the way the data is output.. For example, you could filter this dataset by its `maintenance_area_number` field using a query like the following:

For richer filtering, you can combine filters together by stacking parameters on your URL or by using SoQL queries. Learn more about each of the fields in this dataset by clicking the headers below, or read more about the SODA API using the navigation at the top of the page.

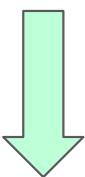
## Code Snippets

The following are grab-and-go code samples you can use with popular programming languages and data science tools.

[jQuery](#) [Python](#) [Pandas](#) [PowerShell](#) [RSocrata](#) [SAS](#) [soda-ruby](#) [SODA.NET](#) [Stata](#)

jQuery makes it super simple to fetch and parse JSON from an API endpoint.

```
$.ajax({  
  url: "https://data.edmonton.ca/resource/2p9r-pjcg.json",  
  type: "GET",  
  data: {  
    "limit": 5000,  
    "$app_token": "YOURAPPTOKENHERE"  
  },  
  done: function(data) {  
    alert("Retrieved " + data.length + " records from the dataset!");  
  },  
  console.log(data);  
});
```



- Filter code samples from different languages
- Easily accessible from the data
- Easily export the data

# Developer Portal

Edmonton



Welcome to this Edmonton's Open Data Portal API, powered by Socrata  
For more information on how to access this dataset via the Socrata Open Data API, read on. Additional information on query functionality, code samples, and libraries can be accessed using the navigation above.

## Traffic Disruptions

👉 Good to go! You're already using the latest version of this dataset API.

This dataset provides information about what's happening on Edmonton's roads that could impact your drive, including: Major road closures and detours, Road construction, Travel delays and special events that impact traffic.

### Getting Started

All communication with the API is done through HTTPS, and errors are communicated through HTTP response codes. Available response types include JSON, XML, and CSV which are selectable by the "extension" (.json, etc.) on the API endpoint or through content-negotiation with HTTP Accepts headers.

This documentation also includes inline, runnable examples. Click on any link that contains a gear symbol next to it to run that example live against the Traffic Disruptions API.

If you just want to grab the API endpoint and go, you'll find it below.

▶ try it | docs | copy | json ▾

[View dataset >](#)

🔗 <https://data.edmonton.ca/resource/ju4q-wjfd.json>

Learn more about:

- Getting started with the SODA Consumer API

⬇ Download & Export

Just want to grab this dataset in bulk  
to analyze offline? You can use the



**OPEN  
DATA  
REFLECTIONS**

YOUR  
SPEED  
**92**

MAXIMUM  
**90**

Edmonton

# What We Found

*"What is the most significant factor holding your organization back from using data and analytics to drive more day-to-day decisions?"*

- 46% lack of information about the available data and contact person
- 42% data is not integrated
- 39% lack of skills/training/education
- 29% poor data quality



# What We Found

- Many employees lack the skills/training for self-serve analytics
- Majority of users still using Excel/Google Sheets for analysis
- Strong demand for Data preparation, integration and analysis training

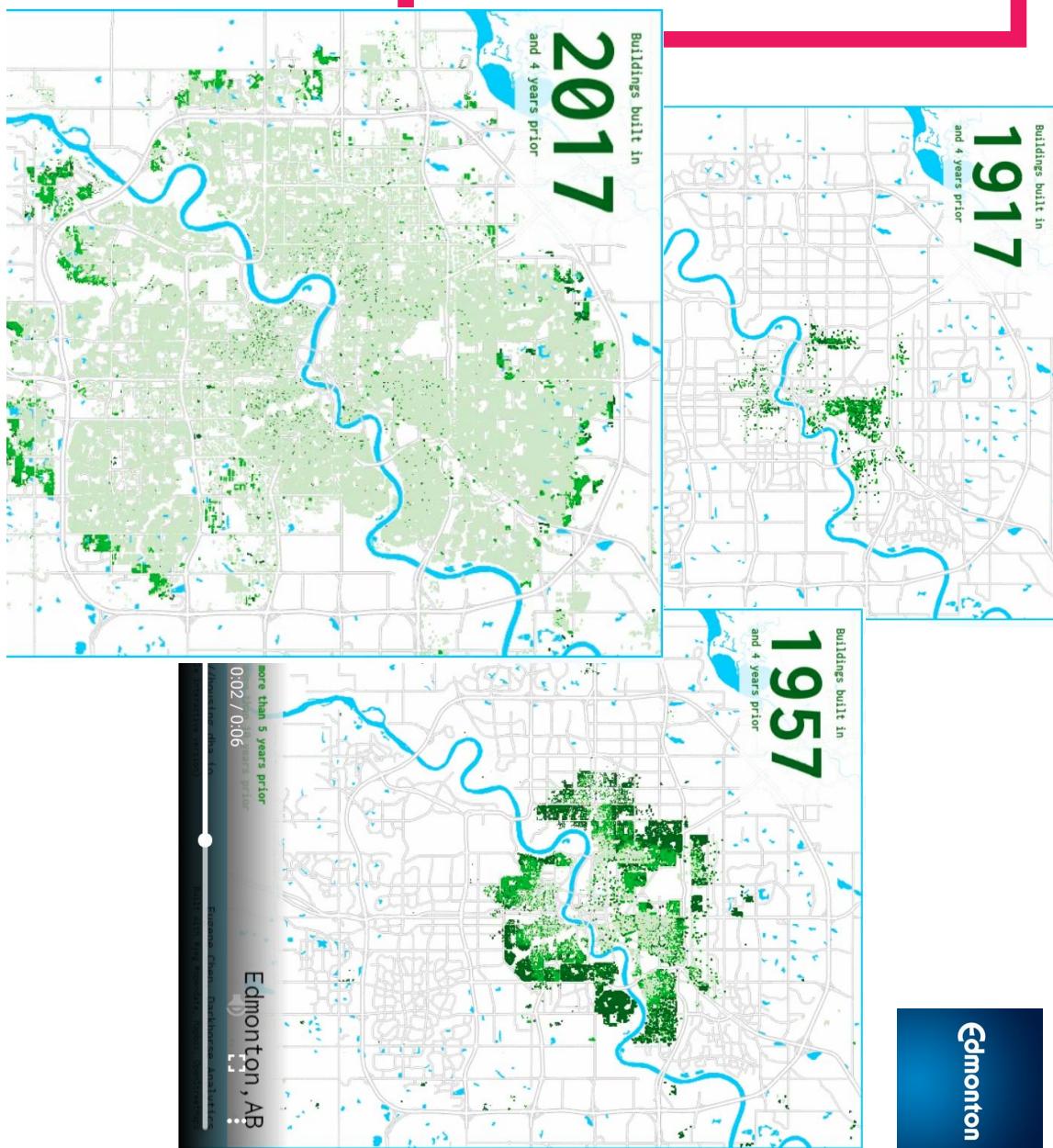


# Key Focus Areas



Edmonton

# OPEN DATA USES



# Recent Open Data Releases

Edmonton



Driver Feedback Signs  
and Speed Survey



Visualizing Water  
Consumption



Mapping Historic  
Properties and Resources

# Open Data for Business



Census



Business Licensing

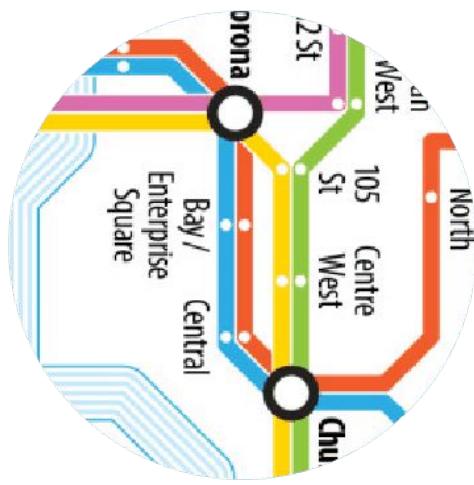


Pet Licensing

Edmonton

# Open Data and Citizen Analysis

Edmonton



Understanding Property  
Addressing Poverty &  
Tax Assessments  
Homelessness  
Visualizing Route  
Maps

# How do members of the community view Open Data?

*"It's great how we can do cutting edge stuff using open source tools"*

*"Open Data creates a community for developers and programmers"*

*"Helps reduce barriers for young coders and programmers to foster a new wave of innovation"*

# OPEN DATA INTERACTIVE

**KIDS MAP**

**WINTER**

**SUMMER**

**Kids Map of Edmonton: Winter**

**Welcome to the Kids Map of Edmonton: Winter Edition**

Although the temperature may drop during winter, children's activity levels don't! Use this map to explore fun-filled indoor and outdoor activities in Edmonton.

If you have an account, log in to add your own activities to the map!

**Legend**

- Attraction
- Public Library
- Recreation Facility
- Child-Friendly Business
- Outdoor Pool
- Water Park
- Stake Park
- Youth Program
- Pop Up Play
- Play Space

**Kids Map Legend**

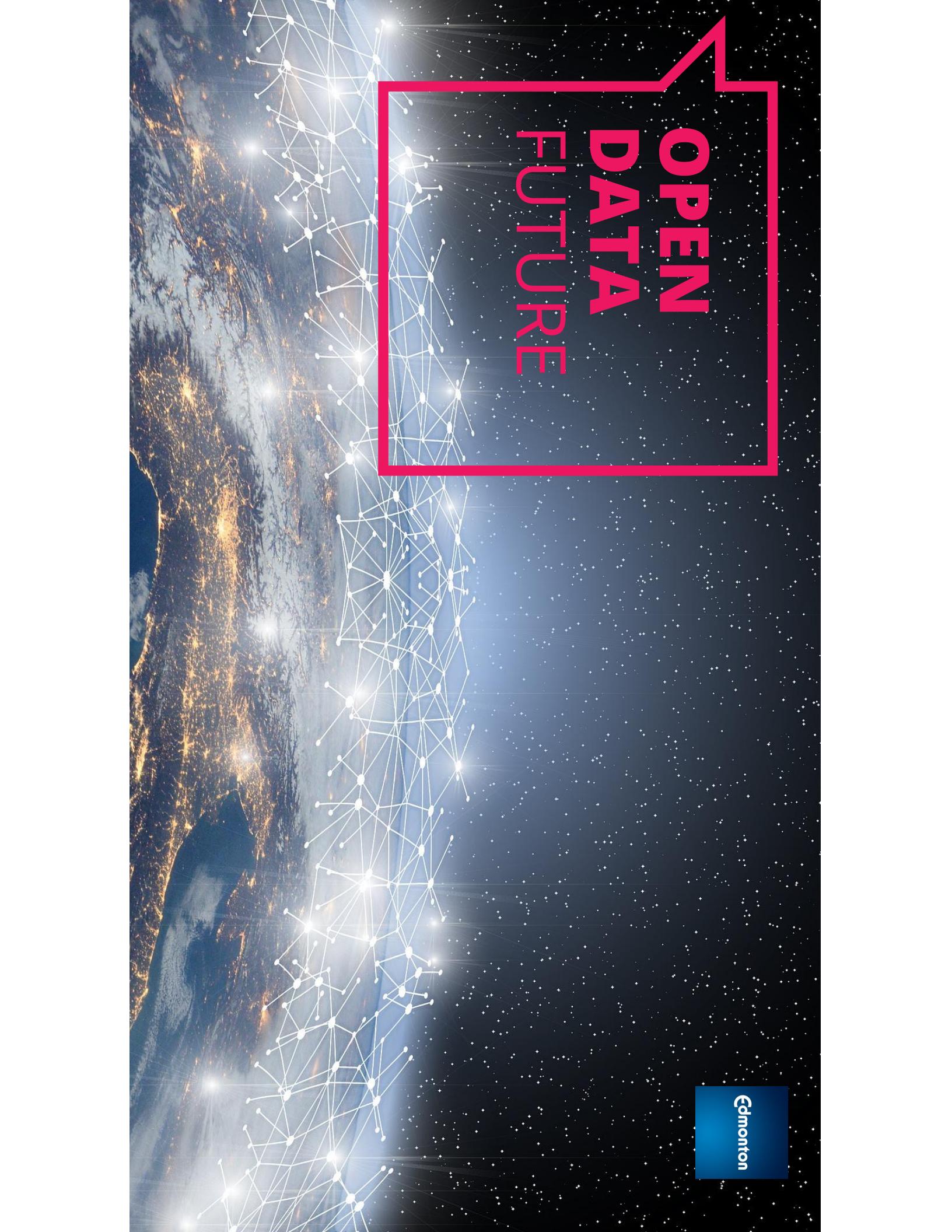
- Arts
- Attractions
- Child-Friendly Businesses
- Community Programs
- Outdoor Parks
- Ringsparks
- Public Waterparks
- Recreation Centres
- Snowshoeing
- Trenggong Hills
- Winter Festivals
- Winter Picnic Spots

**Legend**

- Find address or place

**Edmonton**

**Kids Map of Edmonton: Summer 2018**



OPEN  
DATA  
FUTURE

Edmonton

# Edmonton's Open Data - Moving Forward

Edmonton

Continue to cater  
to data experts



Maps and visualizations

Enhance quality and  
connectedness



Citizen Connect and  
other integrated apps



Integrate with other  
orders of Government  
data



Partnerships with  
academia



Working closely with  
Residents



Storyboarding data  
processes



Provide foundation for  
innovation and app  
development



More historical granular  
data to allow longer  
trending



# SMART CITIES

*'A Smart City is not just about technology. It is about creating and nurturing a resilient, livable, and workable City through the use of technology, data and social innovation.'*

~ City of Edmonton

Edmonton

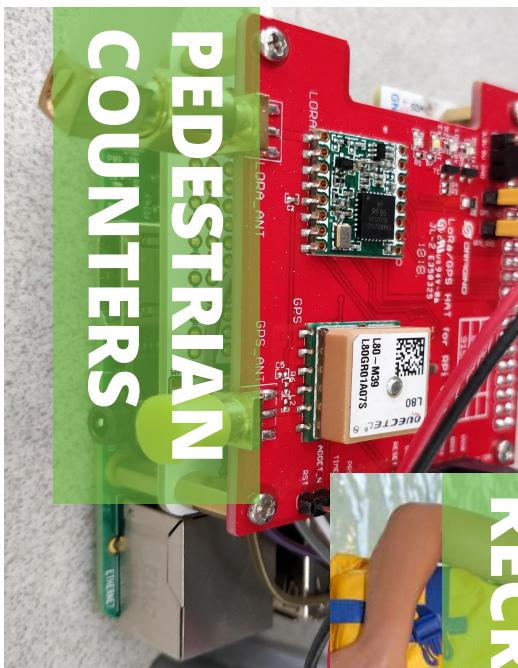
# SENSORS

## SMART BUS



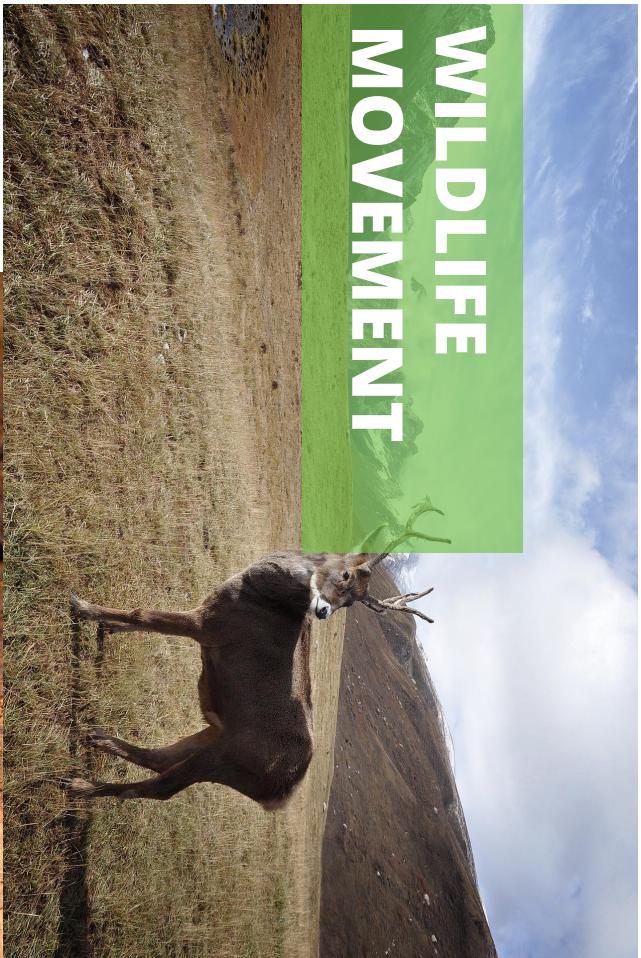
Edmonton

## RECREATION

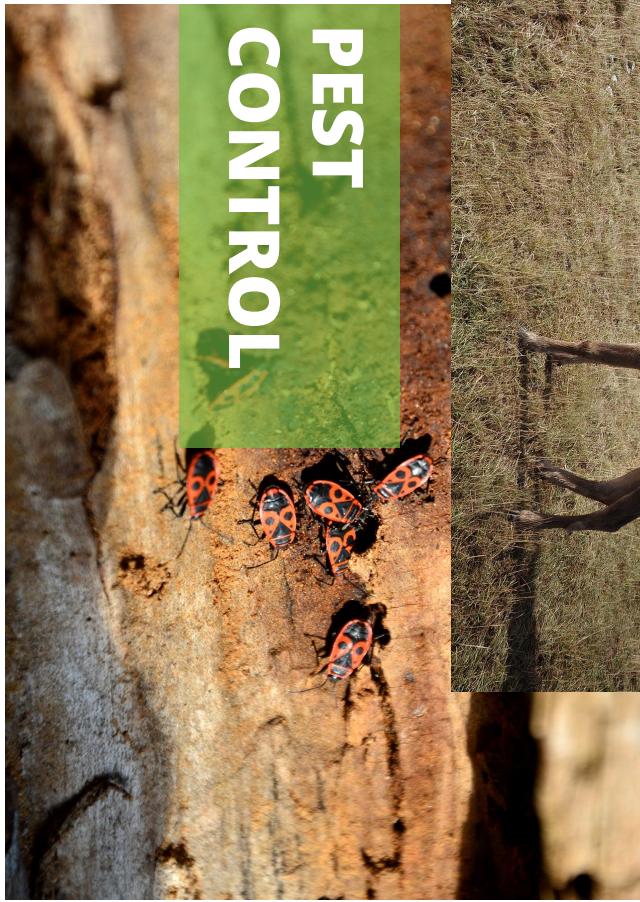


# SENSORS

## WILDLIFE MOVEMENT

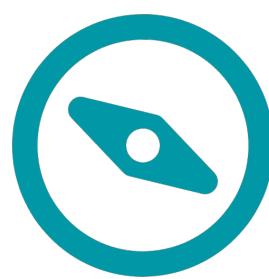


## PEST CONTROL



Edmonton

**NETWORKS**



**SENSOR  
NETWORKS**

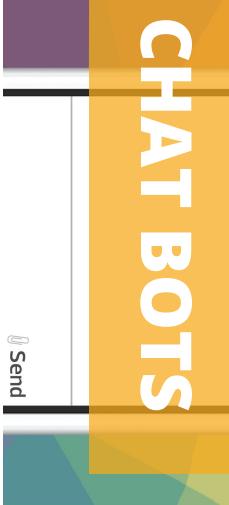


**OPEN CITY  
WIFI**

Edmonton

# ARTIFICIAL INTELLIGENCE

## BUILDING PERMITS

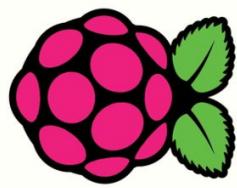


Send messages on  
your phone

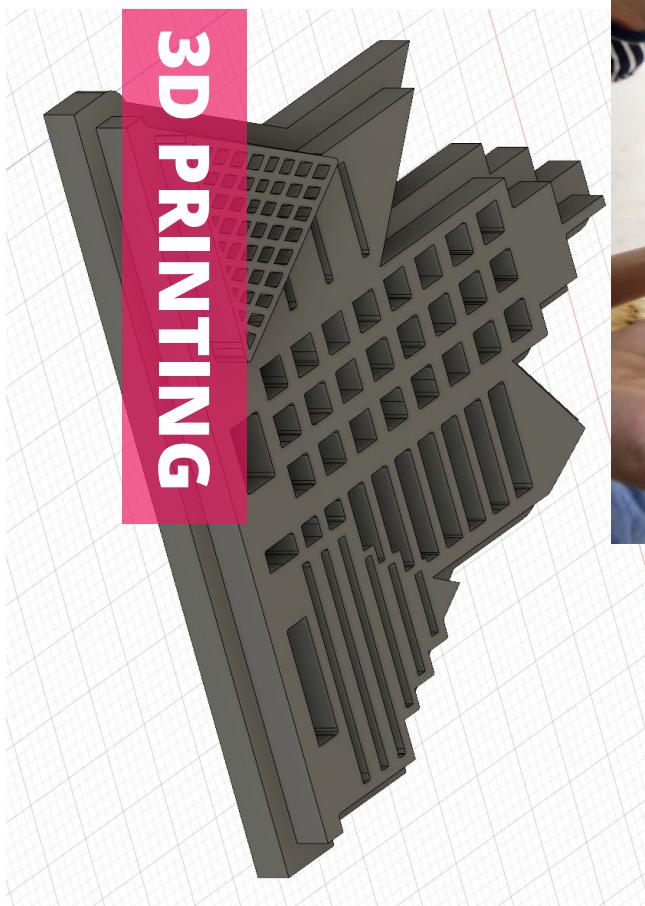
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# EMERGING TECHNOLOGY

RaspberryPi



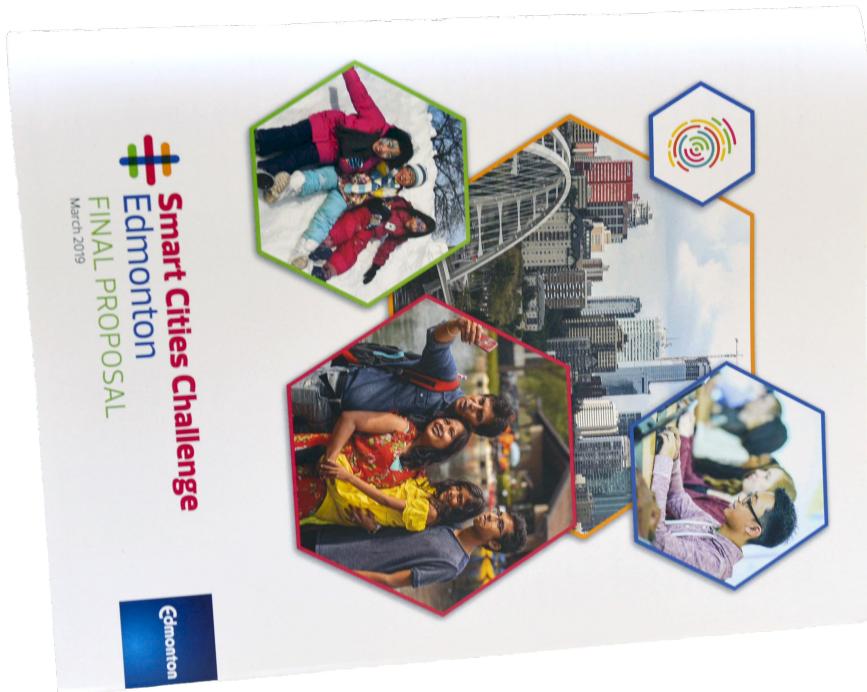
## 3D PRINTING



Edmonton

# CITY OF EDMONTON

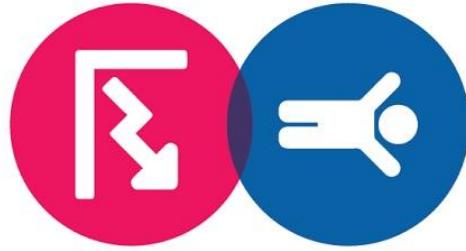
## SMART CITIES CHALLENGE



**Smart Cities Challenge**  
Edmonton



# OUR VISION



## 1. To improve quality of life for residents.

The City of Edmonton and partners will implement changes to policies, programs and services to positively impact the health and well-being of residents.

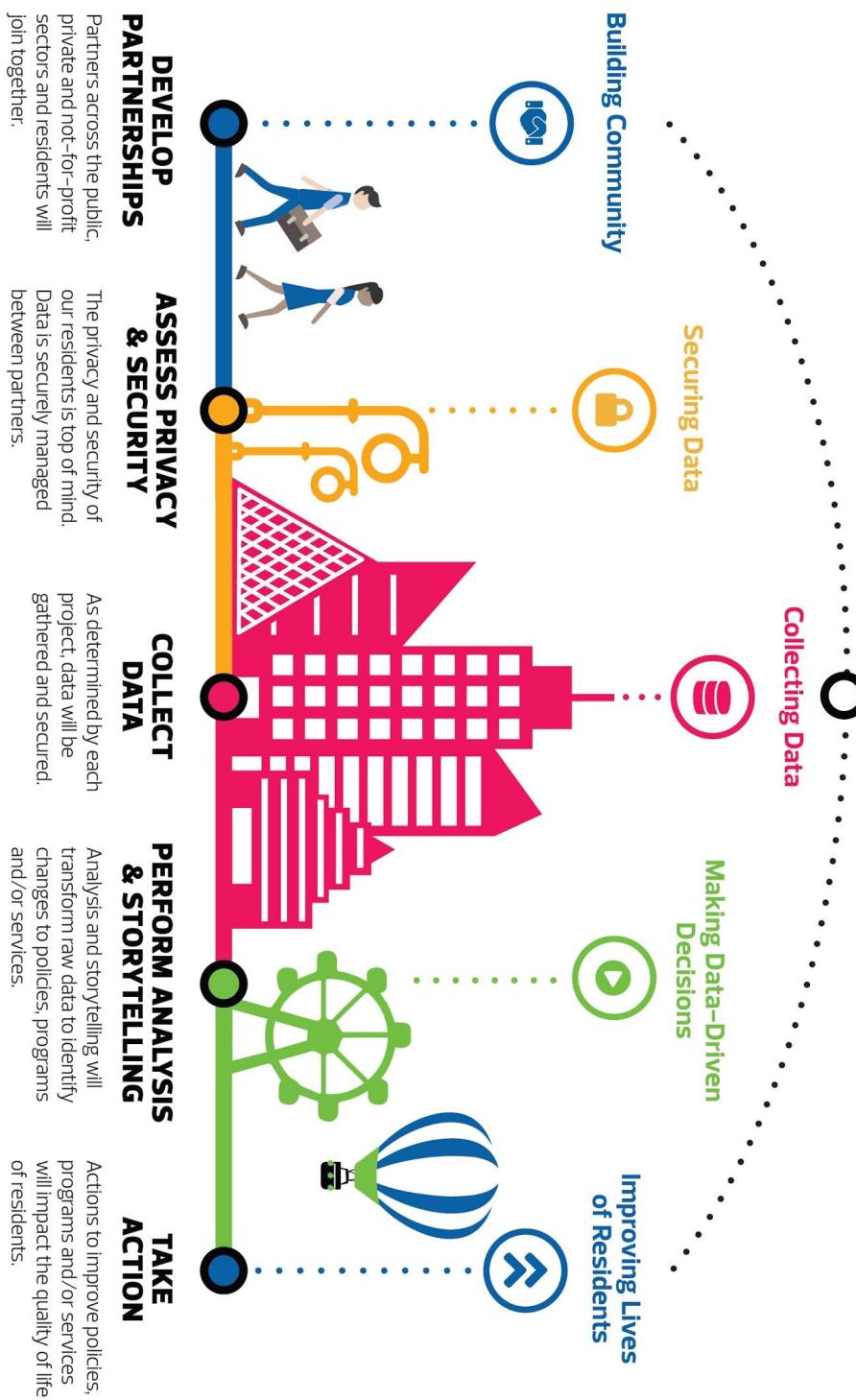
## 2. To transform how municipalities across Canada work with residents and partners to achieve excellence in data and technology.

The City of Edmonton will lead the creation of a municipal-focused digital innovation collective that spans communities across Canada in order to build capacity for resident-driven open data and analytics. This would also extend to First Nations, Metis and Inuit communities.

Edmonton

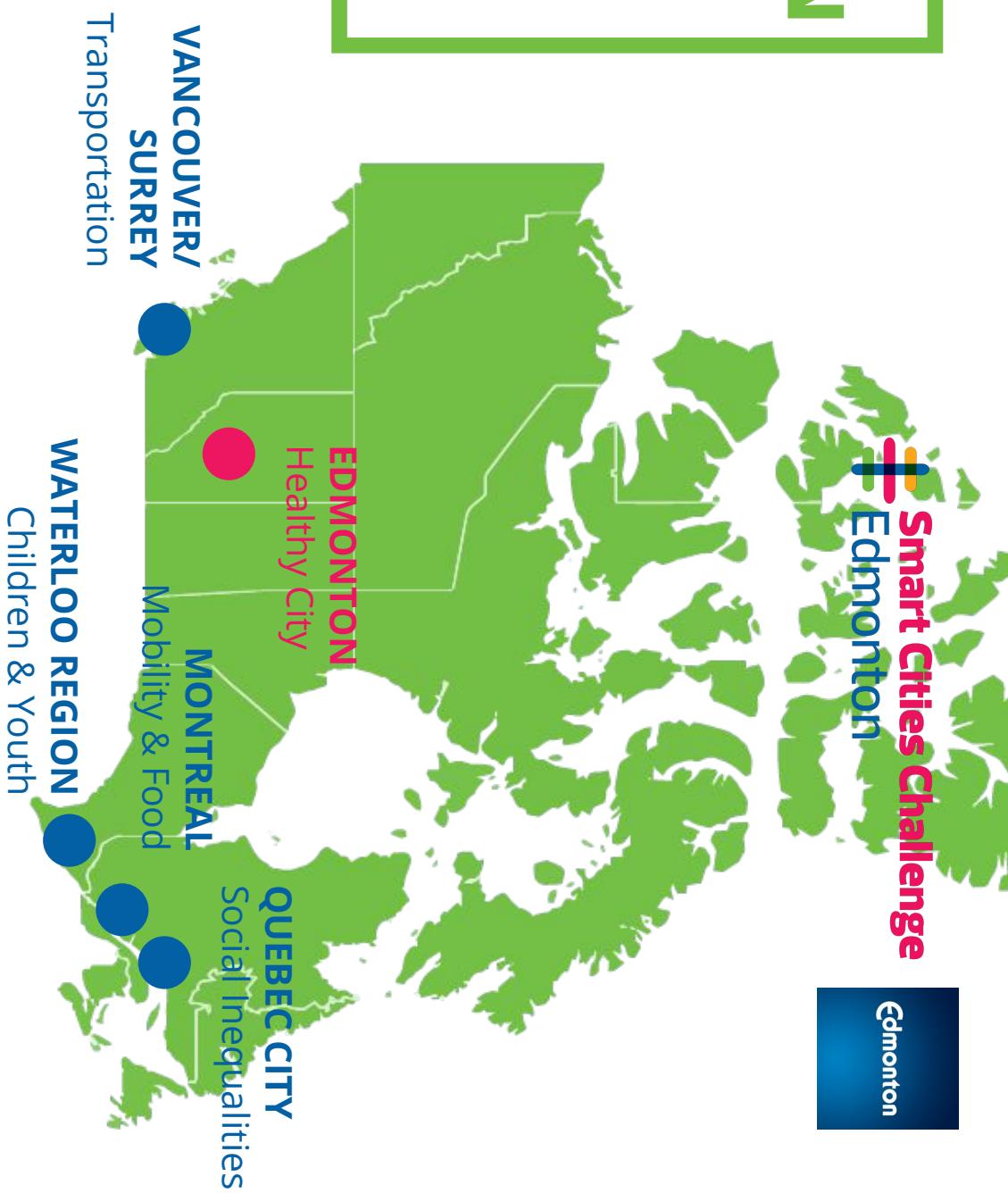
# SMART CITY FRAMEWORK

FEEDBACK  
LOOP



Edmonton

# \$50 MILLION CATEGORY BIDS



Edmonton

**THANK**

**YOU**

**Edmonton**