

OPEN DATA AND OPEN APPLICATIONS: OPEN POSSIBILITIES

May 2010

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Agenda

- ◆ What is 'Open Data'?
- ◆ Open Data in Government
- ◆ Open Data in Cities
- ◆ Open Data Applications
- ◆ Trends
- ◆ Demonstrations
- ◆ Q&A

It's Bugged, Mate

It's Bugged, Mate

What's bugged?

Road



Where?

90 Maribyrnong Street, Footscray, VIC

Go

[Incidents](#) | [Councils](#) | [Home](#)

** Regretably this site is not affiliated with [Lonely Planet](#)

However [@madlep](#) and [@wanderingken](#) may have had something to do with it, and they may both work for Lonely Planet.

At the moment, this is just a tech-demo-prototype we threw together at the Canberra [govhack](#) hack day in October 2009.

No one associated with any government agency is officially looking at this data or acting on it
Bugger's you enter here effectively fall into a black hole - but hey, still play around with it please :)

What is Open Government?

- ◆ Government initiative(s) to promote *transparency*, *public participation* and *collaboration*
- ◆ Global initiatives – Europe, Americas, etc.
- ◆ Common Principles:
 - ◆ **Transparency** – to enable greater accountability, efficiency, and economic opportunity by making government data and operations more open.
 - ◆ **Participation** – to create early and effective opportunities to drive greater and more diverse expertise into government decision making.
 - ◆ **Collaboration** – to generate new ideas for solving problems by fostering cooperation across government departments, across levels of government, and with the public
- ◆ Gov 2.0 = “Platform for Open Government”.

Open Data in Government

- ◆ Data generated by government organizations made available to the Public *free of restriction* (issued with EULA)
 - ◆ Timely, accessible, non-proprietary
 - ◆ Low-cost, generates more value than the data itself
 - ◆ Stimulates community development and citizen participation
- ◆ “The benefits to the City of Toronto are extremely significant. Individuals will find new ways to apply this data, improve city services, and expand their reach...the public can help us to improve services and create a more liveable city. And as an open government, sharing data increases our transparency and accountability” – Mayor David Miller, April 2009
- ◆ Why ‘Open Data’ in Cities?
 - ◆ Data is ‘local’ and ‘relevant’ to citizens, inherent ‘buy-in’

Open Data in Cities...

City	Date of Activity	Action	Note	Website
Washington, DC	October 2008	Created a data portal on city website and launched apps for democracy	Action was taken by the CIO , no city motion passed. Currently launching a second apps for democracy contest.	http://data.octo.dc.gov/
Toronto, ON	April 2009	Announces intention of creating open data website	Mayor David Miller announces Toronto will create an open data website by fall of 2009 at Mesh og conference	http://www.toronto.ca/open
Vancouver, BC	May 2009	Vancouver City Council Passes the Open Motion	Beta 2 of Open Data website.	http://data.vancouver.ca
San Francisco, CA	June 2009	City of SF posts a craigslist request looking for developers to help create a data.gov like site for the city	No motion passed, there is an OpenSF blog where current activities and ideas are shared.	www.DataSF.org
Nanaimo, BC	June 2009	City launches an open data website	No motion passed.	http://www.nanaimo.ca/datafeeds/
New York City, NY	June 2009	A bill is being circulated by Council Member Gale Brewer	Has announced a " Big Apps " competition for apps that use 80 soon to be released city data sets.	N/A
Calgary, AB	July 2009	City of Calgary tables an Open Motion to be debated		N/A
Portland, OR	June 2009	Data portal being revamped (original created in 2000).	Availability of City metadata and GIS datasets.	http://www.portlandonline.com/omf/?c=28144
Ottawa, ON	April 2010	Open Data Hackfest	City Council considering release of data sets and apps competition.	
Edmonton, AB	Jan 2010	Launched Open Data Catalog.	Catalog uses MS OGDI and Azure	http://data.edmonton.ca

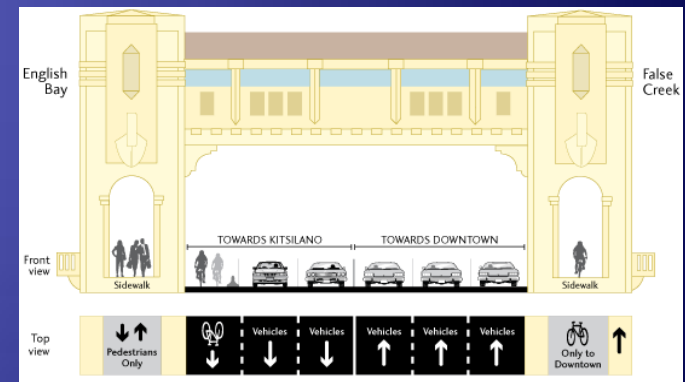
Open Government and Social Networking

- ◆ Governments now using social networking tools to communicate and 'collaborate' with citizens
 - ◆ Blogs – often used for citizen interaction
 - ◆ Facebook – many Gov orgs have FB accounts
 - ◆ Twitter – many Gov orgs and individuals use Tweets
 - ◆ YouTube – Public information videos

- ◆ Citizens collaborate across variety of interfaces and devices

- ◆ 'Case Study' in Open Government
City of Vancouver – Burrard Bridge Trial

"Interestingly however, the City of Vancouver has opted to share the raw data on a regular basis, as well as blog about the trial and give citizens an opportunity to leave comments and feedback. Indeed, the whole Burrard Street Lane Trial website - including twitter account and facebook page - is a well organized affair. Unsurprisingly, the data shows that the number of people cycling over the bridge has increased significantly." eaves.ca, August 2009



Engaging Citizens on Local Issues

CITY OF VANCOUVER **Burrard Bridge Lane Reallocation Trial**

Residents Business Visitors Jobs with the City Services Departments City Projects Pay & Purchasing

Burrard Bridge Lane Trial



In the conversation

- About the trial
- Background
- Why this bridge?
- Safety
- Sustainability
- Accessibility
- Options?



A positive step towards safer and more sustainable transportation options.

THE CITY OF Edmonton

ATTRACTIONS & RECREATION BUSINESS BYLAWS & LICENCES CITY GOVERNMENT

Home > For Residents > Public Involvement > Social Media

For Residents

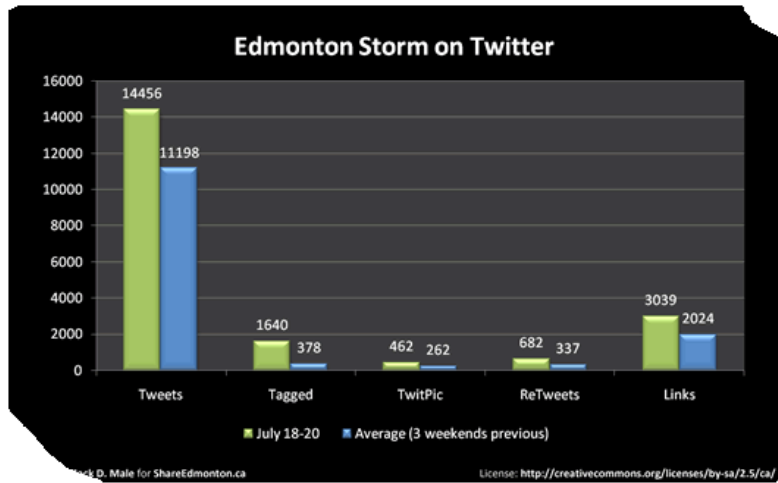
- 311
- Emergency Services
- Flooding & Sewers
- Garbage & Recycling
- Pay Bills, Taxes and Tickets
- Pest Management
- Pets
- Public Involvement**
 - Citizen Panel
 - Public Involvement in City Planning
 - Social Media
 - Services & Programs

Social Media

The City of Edmonton is using several social media services to improve connections with Edmontonians, and people around the world.

Also known as "new media" or "Web 2.0" applications, social media tools give residents access to conversations with City employees, more immediate information, or rich multi-media experiences depending on the social media tool.

- City of Edmonton Twitter account
- City of Edmonton Facebook fan page
- City of Edmonton YouTube Channel
- Edmonton Stories web space
- Edmonton Stories Twitter account
- Edmonton Stories Facebook page
- Expo2017 bid Facebook page



CALGARY HERALD
Division of Canwest Publishing Inc.

Home News Opinion Business Sports Entertainment Life Health Technology

Calgary | Alberta | Politics | National | World | Good News | Weather | Traffic Cams | Today's Paper

Calgary alderman vows to oppose Memorial Drive closure 'madness'

By A FERGUSON, CALGARY HERALD APRIL 16, 2009 COMMENTS (71)

PHOTOS (1)



CALGARY - Ald. Ric McIver says he'll fight the partial closure of Memorial Drive.

MORE ON THIS STORY

- Calgary merchants leery of limiting cars on Memorial Drive

Crowdsourcing

- ◆ **Crowdsourcing** = the act of taking a task traditionally performed by an employee or contractor, and outsourcing it to an undefined, generally large group of people invited to develop solutions, as community-based, and often for large amounts of data.
- ◆ **Examples:**

guardian.co.uk | **TheObserver**

[News](#) | [Sport](#) | [Comment](#) | [Culture](#) | [Business](#) | [Money](#) | [Life &](#)

[News](#) > [Politics](#) > [House of Commons](#)

MPs set to desert House of Commons in droves

The expenses scandal not only destroyed the public's faith in those who were abusing the system, but also the innocent. Hundreds of MPs are now considering giving up the job, leaving their seats open to inexperienced 'professional' politicians

Toby Helm and Anushka Asthana
The Observer, Sunday 9 August 2009

Investigate your MP's expenses

Join us in digging through the documents of MPs' expenses to identify individual claims, or documents that you think merit further investigation. You can work through your own MP's documents, or those of any MP. Start reviewing. (Update, Fri pm: we now have a virtually complete set of documents you should be able to find your MP's) Already created

Documents. **23,361** of you have reviewed
5 to go...

[Privacy policy](#) to find out how we use your data. You must also read [Terms of use](#). By reviewing pages, you are agreeing that you have read the [Terms of use](#) and that you agree to them.

Items so far.

Data.Gov

◆ <http://www.data.gov/>

The screenshot shows the Data.gov homepage with a navigation menu, a main banner for the Federal IT Dashboard, and introductory text for new visitors.

WEDNESDAY, AUGUST 12, 2009 Text A+ A- A

DATA.GOV

Share | Facebook | Email | Star | Twitter

HOME | CATALOGS | STATE/LOCAL | ABOUT | FAQ | CONTACT US | SUGGEST OTHER DATASETS

DISCOVER. PARTICIPATE. ENGAGE.

Search the following Data.gov catalogs:

- "RAW" DATA CATALOG
- TOOL CATALOG
- GEODATA CATALOG

FEATURED TOOL: THE NEW FEDERAL IT DASHBOARD

A journey towards greater Transparency and Accountability. Analyze and Evaluate a portfolio of over 7000 Information Technology investments.

[VIEW THIS TOOL >](#)

1 2 3 4 5

Welcome to Data.gov

The purpose of Data.gov is to increase public access to high value, machine readable datasets generated by the Executive Branch of the Federal Government. Although the initial launch of Data.gov provides a limited portion of the rich variety of Federal datasets presently available, we invite you to actively participate in shaping the future of Data.gov by suggesting additional datasets and site

How to use Data.gov

Data.gov includes searchable **data catalogs** providing access to data in three ways: through the "raw" data catalog, the tool catalog and the geodata catalog. Please note that by accessing datasets or tools offered on Data.gov, you agree to the **Data Policy**, which you should read before accessing any dataset or tool. If there are additional datasets that you would like to see included on this

Washington DC

- ◆ Open Data 'Pioneers'
- ◆ First Open Data Catalog - <http://data.octo.dc.gov/>
- ◆ DC App Store
- ◆ <http://appstore.dc.gov>

The screenshot displays the DC.gov website's DC App Store. At the top, there is a search bar and navigation links for 'Service Request Center', 'Area Residents', 'Business & Non-Profit', 'Visitors', 'Media', and 'Government'. The main content area is divided into three columns:

- Featured Apps:** Promotes the 'Data Catalog' app, highlighting its role in providing open data from multiple agencies in Atom format.
- Top Government Apps:** Lists popular government-built apps such as 'DC Atlas' (GIS functionality), 'DC Wi-Fi Hot Spot Map', 'Emergency Information Center', 'Where is my Bus?', and 'Summary Reports'.
- Top Non-government Apps:** Lists popular apps built by individuals or companies, including 'Park It DC', 'DC Historic Tours', 'iLive.at', and 'AreYouSafe DC'.

Additional sections include 'Browse Categories' (Education, Public Safety, Economic Development, etc.) and 'Submit Your App'.

Open Data - Applications

- ◆ Typically developed by Public
 - ◆ 'Community' developers
 - ◆ Local citizens
- ◆ Often called 'Mash-Ups'
 - ◆ Typically utilize mapping capabilities
 - ◆ Often use GPS and mobile capabilities
- ◆ Often utilize 'crowdsourcing'
- ◆ Open data protocols
 - ◆ E.g. KML, XML, RSS
- ◆ Often 'free' and 'open' toolsets...
 - ◆ Drupal, PHP, OGD, MediaWiki, Python, Google Maps etc.

Open Data Applications e.g.

- ◆ Everyblock – www.everyblock.com
 - ◆ [MSNBC Acquires 'Hyper-Local' EveryBlock.com](#)
- ◆ OpenStreetMap – www.openstreetmap.org
- ◆ MySociety.Org (UK) – www.mysociety.org
 - ◆ FixMyStreet – www.fixmystreet.com
 - ◆ Travel Time – [Travel Maps](#)
 - ◆ TheyWorkForYou – www.mysociety.org/projects/theyworkforyou

DC - Apps for Democracy

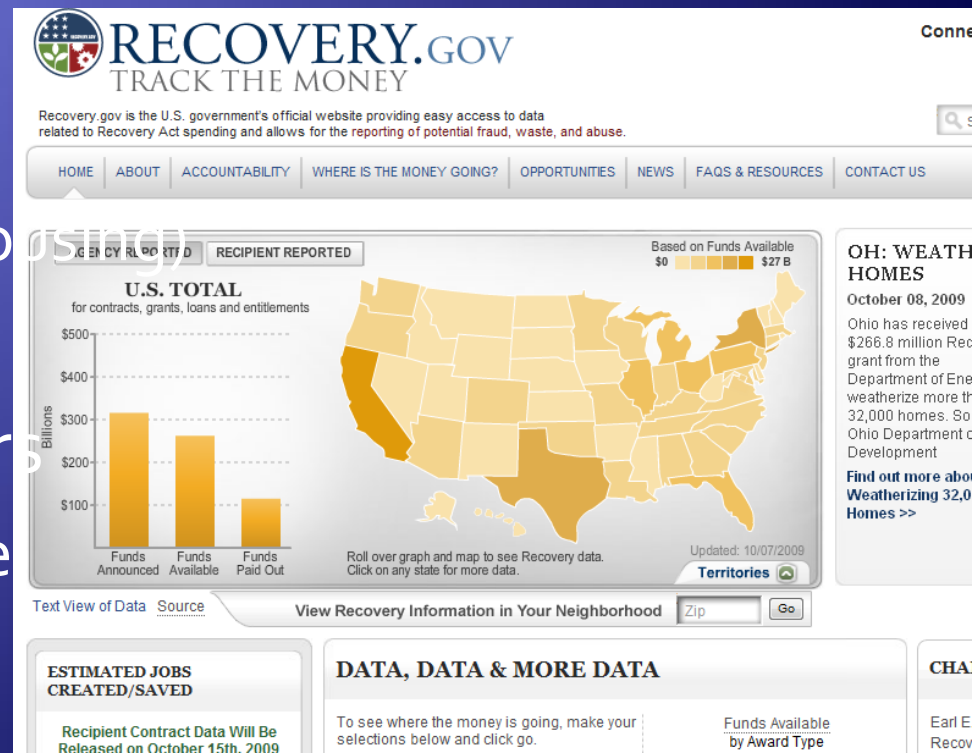
- ◆ www.appsfordemocracy.org

“The first edition of Apps for Democracy yielded 47 web, iPhone and Facebook apps in 30 days - a \$2,300,000 value to the city at a cost of \$50,000 ([all apps created are here](#)). Our mission with "Community Edition" is two fold: to engage the populace of Washington, DC to ask for their input into the problems and ideas they have that can be addressed with technology and then to build the best community platform for submitting 311 service requests to the city. [Submit your ideas and problems here!](#)”

“Armed with insights from all corners of DC, we'll hold an innovation contest with **\$34,000 in potential prizes!** [Sign up to Build Apps for Democracy!](#)”

US Recovery.Gov

- ◆ Public facing web portal
 - ◆ Citizens and Communities track stimulus funding
- ◆ Technology Platform
 - ◆ SharePoint
 - ◆ Amazon Web Services
 - ◆ SQL Server (data warehouse)
 - ◆ ESRI
- ◆ Independent Developer
 - ◆ Smartronix, Synteractive



EU Water Watch

- ◆ <http://eoe.eea.europa.eu/>
- ◆ Combines Gov statistics with public feedback
- ◆ Interactive, 2-way communications with ratings
- ◆ Downloadable Gadget for Windows 7

Eye On Earth | Water watch

Search:

Show this on the map

- EEA water quality rating
- User rating

Help

To view and rate quality of a bathing site:

- Zoom in to the selected bathing site or type name into search bar
- If cluster symbol is displayed, zoom in further to individual representation
- Click on icon to display historical assessments and open pop-up rating system
- Click on other icons, for detail view on other locations
- Zoom out to go back to original view

PLAGE CAMP LONG

Details | Pictures(0) | Webcams(0)

Rate & Comment

Authentication

Login Name:

Password:

Log in | [Create an account](#)

Near real time data

Date	Water quality	User rating
7/9/2009		
31/8/2009		

Historical assessments

Year	EEA Rating	User Rating
2008		(5)
2007		
2006		
2005		
2004		
2003		

User comments

No comments

1 km

EU Eye on Earth

- ◆ <http://www.eyearth.eu/>
- ◆ Global observatory for environmental factors
 - ◆ Air and Water Quality
- ◆ Combines Gov statistics with public feedback
- ◆ Interactive, 2-way communications with ratings



Open Data Apps - GIS

- ◆ Mapping
- ◆ Localization
- ◆ Relevance

Google maps

Transit


Plan a trip using public transportation


Use Google Maps to

- Get step-by-step transit directions
 - [in your web browser](#)
 - [on your mobile phone](#)
- Find transit stops in your area
- View station information and schedules

Join the [transit partner program](#)

Get transit directions

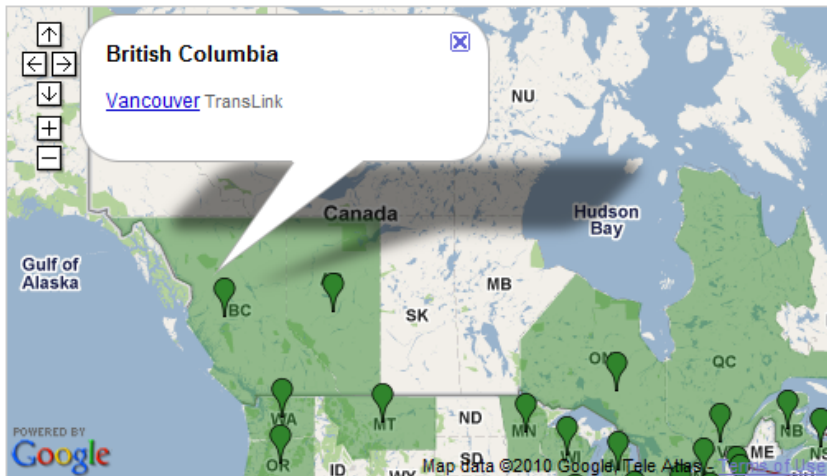
 Start address

 Destination address

Leave

See what cities are covered (more than 446) [View text only version](#)

Recent highlights: [Boston](#) [Los Angeles](#) [Wellington](#) [Valencia](#) [Brussel](#)



The map displays the geographical layout of Canada with various provinces and territories labeled (e.g., BC, AB, SK, MB, ON, QC, NS). Numerous green location pins are scattered across the map, indicating the presence of public transit services. A prominent callout box is overlaid on the western coast of Canada, specifically pointing to British Columbia, with the text 'British Columbia' and a sub-link 'Vancouver TransLink'. The map also shows the Gulf of Alaska to the west and Hudson Bay to the east. The bottom of the map area includes the text 'POWERED BY Google' and 'Map data ©2010 Google, Tele Atlas'.

City of Nanaimo - GIS

- ◆ “Google Earth Capital of the World”
- ◆ <http://www.nanaimo.ca/datafeeds/>

TIME Allianz

IN PARTNERSHIP WITH **World**
Main • Postcards • Global Adviser • Olympics • Videos • Podcast

People **Nominate An Everyday**
ALL-STAR **NOMINATION DEADLINE**
AMONG US

POSTCARD FROM NANAIMO
How Google Earth Ate Our Town
By **ROB SHAW** Monday, Mar. 10, 2008

Interactive
A Global Index of Postcards

More Postcards From

- In India, a Celebrity Wedding Nearly Derailed by Scandal
- Down and Out in

The skyline in Nanaimo, British Columbia on Vancouver Island.
Don Denton / CP

Print Email Share Facebook Twitter More

Home / Departments / Information Technology / **Nanaimo Data Catalog**

Nanaimo Data Catalog

Beta

The City of Nanaimo is dedicated to providing residents with the highest possible level of service. Part of this service includes making data available to the public to allow them to make the best possible decisions, to understand the City's business, and to engage in the democratic process to the fullest extent possible.

The City has a strong history of making this data available, from building permit and business license searches, to geographic information in CityMap and Google Earth, through to fire incident reporting and more.

This page follows the strong lead of initiatives like the [DC Data Catalog](#), and [Data.Gov](#) in gathering all of the City's open data sources in a central location for ease of access by the public.

NAME	HTML	FEEDS	KML	SHAPE	GOOGLE MAPS
Bid Opportunities					
Budget Forum					
Building Permit Applications					
Building Permit Statistics					
Building Permits Completed					
Building Permits Issued					
Business Licences					
Cadastre					
Fire & Rescue Incident Response					

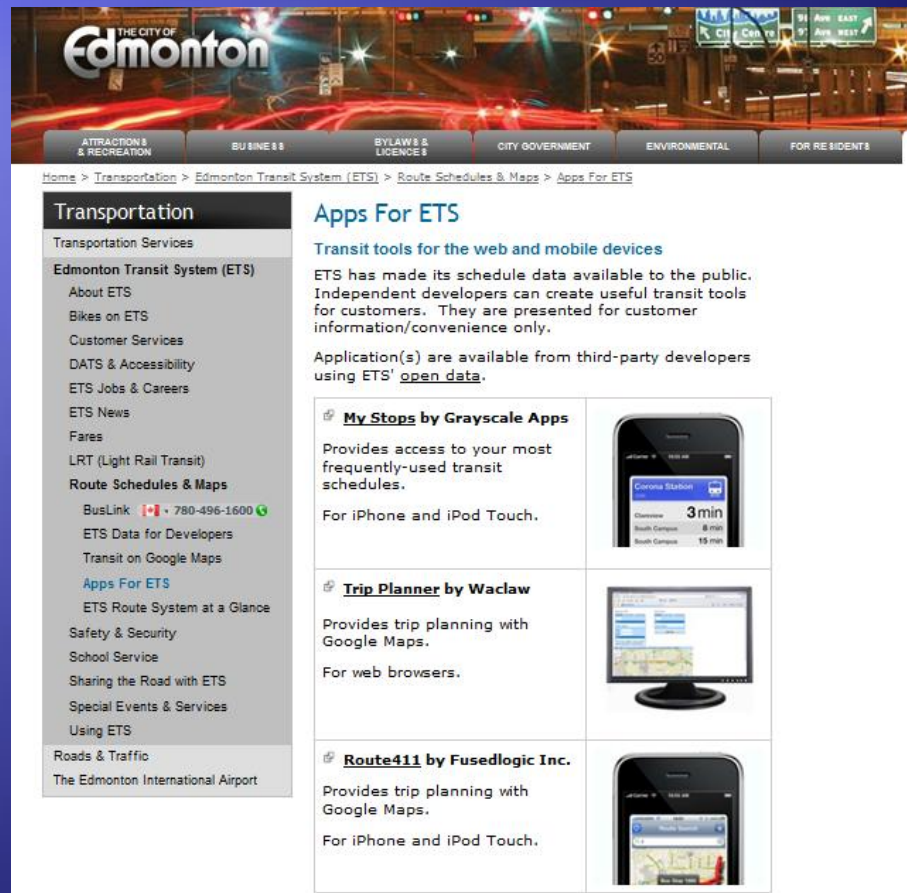
A data feed of all reported Fire and

Open Data Apps - Mobile

- ◆ Data on the go
- ◆ Timeliness
- ◆ Location relevance
- ◆ Mobility
- ◆ Social Networking
- ◆ Washington DC - [Stumble Safely](#)
- ◆ Vancouver – [VanTrash](#)
 - ◆ Collections reminder service

Edmonton – Transit Apps

- ◆ <http://www.edmonton.ca/transportation/ets/apps-for-ets.aspx>



Transportation

Transportation Services

Edmonton Transit System (ETS)

- About ETS
- Bikes on ETS
- Customer Services
- DATS & Accessibility
- ETS Jobs & Careers
- ETS News
- Fares
- LRT (Light Rail Transit)
- Route Schedules & Maps**
 - BusLink ☎ 780-496-1600
 - ETS Data for Developers
 - Transit on Google Maps
 - [Apps For ETS](#)
- ETS Route System at a Glance
- Safety & Security
- School Service
- Sharing the Road with ETS
- Special Events & Services
- Using ETS

Roads & Traffic

The Edmonton International Airport

Apps For ETS

Transit tools for the web and mobile devices


ETS has made its schedule data available to the public. Independent developers can create useful transit tools for customers. They are presented for customer information/convenience only.

Application(s) are available from third-party developers using ETS' [open data](#).

My Stops by Grayscale Apps

Provides access to your most frequently-used transit schedules.


For iPhone and iPod Touch.



Trip Planner by Waclaw

Provides trip planning with Google Maps.


For web browsers.



Route411 by Fusedlogic Inc.

Provides trip planning with Google Maps.

For iPhone and iPod Touch.



Vancouver - VanTrash

- ◆ Tracks garbage collection by area
- ◆ Users can sign-up
- ◆ Reminders via E-Mail
- ◆ Built using open-source on Github

Vantrash
Online trash reminder service

VanTrash helps you manage your neighbourhood garbage schedule more effectively.
You can find out your garbage schedule, download the schedule to your calendar or set a reminder to your email. Never forget to take the garbage out again.

To start, simply click on the zone in which you live or search for your address below, then click "Remind me".

[Map](#)
[Frequently Asked Questions](#)
[Tell a friend](#)
[Donate](#)
[Technical API](#)
[Follow us on Twitter](#)

Trash Removal Services
Get Rid Of Your Bulk Trash
Today. Get A Free Estimate.
Book Online!
www.1800GotJunk.com/JunkRemoval

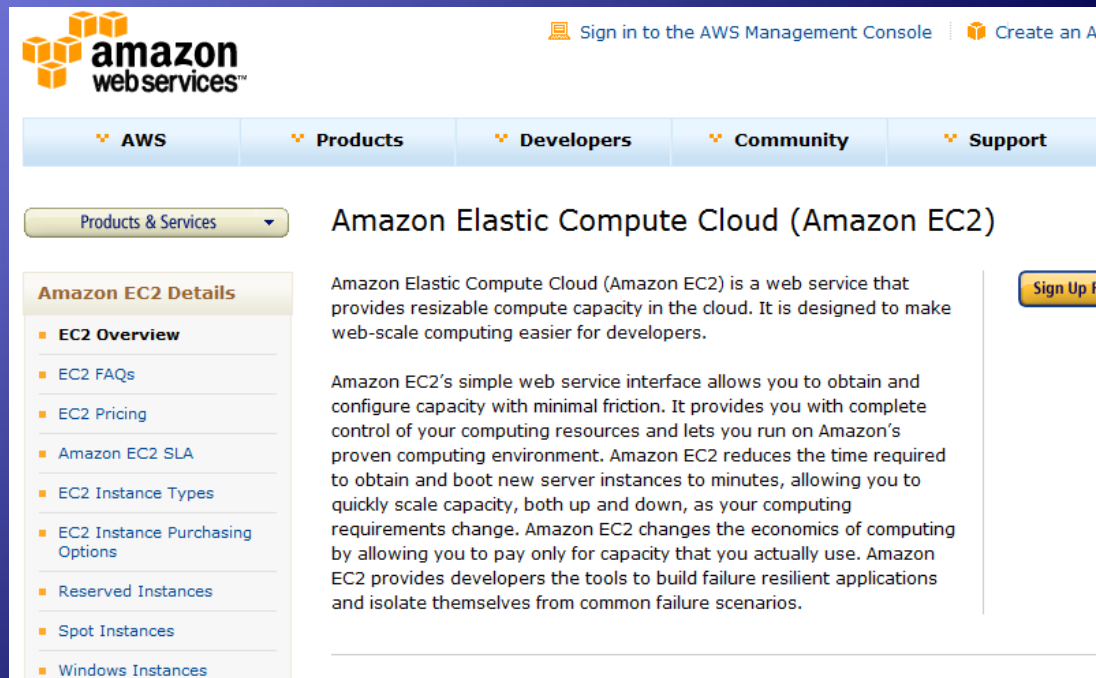
Event Calendar Software
Graphical Calendar Scheduling
& Extensive Event
Management Features
www.EventPro.net

POWERED BY Google
1 mi
2 km

Sea Island
Vancouver International Airport
Burkeville

Open Data Apps - Cloud

- ◆ Cloud inherently 'open'
- ◆ Low-cost
- ◆ Minimal infrastructure impact
- ◆ Fast time-to-market



The screenshot displays the AWS website interface. At the top, the Amazon Web Services logo is visible on the left, and navigation links for "Sign in to the AWS Management Console" and "Create an Account" are on the right. Below the logo, a horizontal navigation bar contains links for "AWS", "Products", "Developers", "Community", and "Support". A "Products & Services" dropdown menu is open, showing a list of services including "Amazon EC2 Details". The "Amazon EC2 Details" section is expanded, listing various EC2-related topics such as "EC2 Overview", "EC2 FAQs", "EC2 Pricing", "Amazon EC2 SLA", "EC2 Instance Types", "EC2 Instance Purchasing Options", "Reserved Instances", "Spot Instances", and "Windows Instances". The main content area features the heading "Amazon Elastic Compute Cloud (Amazon EC2)" and a detailed description of the service, highlighting its scalability and cost efficiency. A "Sign Up" button is visible on the right side of the page.

Edmonton – Open Data Catalog

- ◆ Launched Jan 13th 2010
- ◆ Built using MS Open Government Data Initiative (OGDI) and Windows Azure
 - ◆ Data hosted in 'Cloud'
- ◆ <http://data.edmonton.ca>



THE CITY OF
Edmonton
Open Data Catalogue

Data Catalogue

The City of Edmonton Open Data catalogue increases the accessibility of public data managed by the City. As part of an initiative to improve the accessibility, transparency, and accountability of City government, this catalogue provides access to City managed data sets in machine-readable formats.

If you would like to only show data sets in a particular category, choose one of the categories from the drop-down menu below. Click the name of the data set in the table to see further details and browse the data.

Datasets can also be queried and downloaded using a REST api, for details on this see the [Developer Guide](#).

By downloading or accessing this data, you are agreeing to be bound by the City's [Terms of Use](#) and [Legal Disclaimer](#).

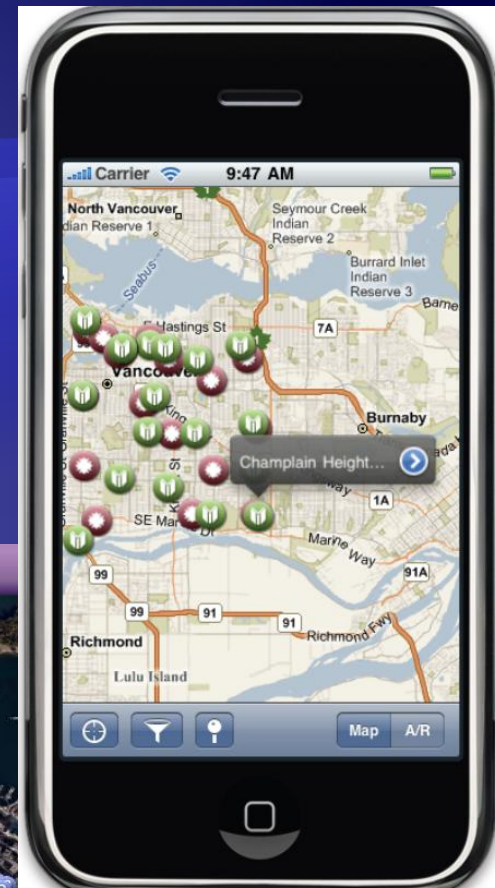
Open Data Apps - Integration

- ◆ Social Networking
- ◆ Commercial Data
- ◆ Open Data
- ◆ Cloud
- ◆ VanPark2010

The screenshot displays the VanPark2010 web application interface. The top navigation bar includes options for 'Road', 'Aerial', 'Bird's eye', and 'Streetside' views. The main content area is divided into two panels. The left panel, titled 'Vancouver Street Parking', contains several interactive controls: a checked 'Enable Vancouver Parking Layer' option, 'Parking rates' sliders (set from 1.00 to 5.00), 'Parking limits' sliders (set from 2.00 to 3.00), and a 'Legend' with color-coded boxes for rates from \$1.00/hour to \$5.00/hour. Below the legend are 'Commercial Parking Lots' with logos for 'impark', 'ADVANCED PARKING SYSTEMS LTD.', and 'Metro parking'. The right panel shows a map of Vancouver with a grid of colored lines representing parking rates across different streets. The map includes labels for various streets and parks such as Stanley Park, Jericho Beach Park, and Vanier Park.

VanGuide

- ◆ Incorporates Cloud, mapping, social networking and iPhone
- ◆ ODAF
Open Source
on Codeplex



City of Miami – Open 311

- ◆ <http://miami311.cloudapp.net>
- ◆ Allows citizens to report and track non-emergency incidents
- ◆ Combines mapping with 'Cloud'



Open Possibilities

- ◆ Build Apps for <http://data.edmonton.ca>

- ◆ E.g. re-use VanTrash
- ◆ E.g. re-use VanGuide (ODAF)

- ◆ Build Apps for <http://www.datadotgc.ca/>

- ◆ Enter Apps Competition

- ◆ E.g. [Apps4Edmonton](#) – May 21st
- ◆ E.g. [Make Web, Not War](#) – May 20th



MONETIZATION \$\$\$

Open Government Data Initiative

- ◆ Open Government Data Initiative (OGDI)
- ◆ Cloud Computing Application
 - ◆ Runs on Windows Azure
- ◆ OGDI Data Site - <http://ogdisdk.cloudapp.net/>
- ◆ Open Application
 - ◆ OGDI Source code is free and customizable
 - ◆ code can be used to publish data on the Internet in a Web-friendly format with easy-to-use, open RESTful API
 - ◆ API's can be accessed from Silverlight, Flash, JavaScript, PHP, Python, Ruby, mapping web sites, etc.
- ◆ Windows Azure Services Platform
 - ◆ E.g. SQL Azure Services



Microsoft - OData

- ◆ Open Data Protocol (OData)
 - ◆ Formerly 'data services protocol'
 - ◆ HTTP, AtomPub, JSON
- ◆ Published via Open Specification Promise
- ◆ RESTful way of exposing OGD I uses
- ◆ Breaks down data 'silos'
 - ◆ E.g. ODBC for Open Data
- ◆ <http://odata.org>
- ◆ [IBM WebSphere eXtreme Scale Project](#)

Visual Fusion in the Cloud

- ◆ Built by Partner – IDV Solutions
- ◆ MS Technologies
 - ◆ Windows Azure
 - ◆ Sharepoint (geospatial)
 - ◆ Silverlight (SpatialWiki)
 - ◆ Bing Maps
- ◆ Combined with:
 - ◆ Wikipedia, MapPoint
 - ◆ Visual Fusion Contribute (iPhone)
- ◆ Utilizes OGD with Data.gov data sources
 - ◆ Supports KML/KMZ, ATOM, GeoRSS, WMS
- ◆ <http://visualfusion.cloudapp.net>

Q&A

Further Resources

- ◆ [MS Interoperability & Open Government](#)
- ◆ David Eaves Blog – <http://eaves.ca>
- ◆ Open Government Data Initiative – [OGDI](#)
- ◆ IDV Visual Fusion – [Mashups in Sharepoint](#)
- ◆ [Microsoft - Shared Source Initiative](#)
- ◆ David Crow's Blog - [Open Government](#)
- ◆ Open Data Application Framework (ODAF) on Codeplex – <http://odaf.codeplex.com/>
- ◆ [MS Interoperability & Innovation](#)