

Web Mapping Solutions: Is It Possible To Please Everyone?

**Sean Simpson
GIS Manager
City of Surrey**

Organization Overview

City of Surrey 2nd largest in B.C.

GIS Section comprised of map specialists, analysts /
programmers

Semi-centralised GIS with enterprise GIS system

Develop in-house mapping solutions for public, staff, and
emergency services (Fire Department)

Our Vision

To be at the forefront of technical change and innovation

Vision to provide solutions that work on all platforms and devices
with same look and feel

Design all apps with mobile in mind prior to start

Lower cost of development compared to off-the-shelf product
with massive customization

Our Approach

Develop solutions in-house by GIS staff

Flexibility in UI, workflow, and custom tools

Utilize agile development – release frequent updates based on feedback

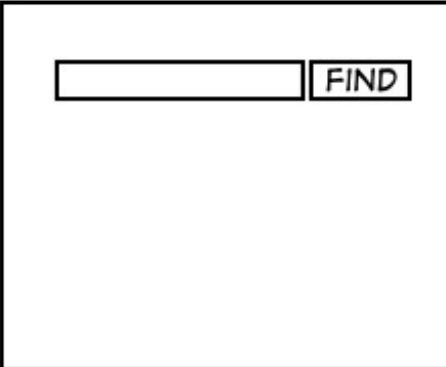
Meet with focus groups (mgrs, power users, staff, Utility companies, realtors, anyone willing to)

Hired external web design people to review interface

TYPICAL APPLE PRODUCT...



A GOOGLE PRODUCT...



FIND

YOUR COMPANY'S APP...

FIRST NAME:	<input type="text"/>	TYPE CD:	<input type="text"/>	4 - K
LAST NAME:	<input type="text"/>	TQP STAT:	<input type="checkbox"/> <input type="checkbox"/>	AA2-
SSN:	<input type="text"/>	FT/PT:	<input checked="" type="checkbox"/>	DK9B
ID:	<input type="text"/>	VER:	<input type="text"/>	KKA?
PHONE 1:	<input type="text"/>	CAT CD:	<input type="text"/>	CN3
PHONE 2:	<input type="text"/>	CITY:	<input type="text"/>	AA-9
ADDR 1:	<input type="text"/>	STATE:	<input type="text"/>	NEW
ACCT #:	<input type="text"/>	ZIP:	<input type="text"/>	DEL
		ORD #:	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> ? <input checked="" type="radio"/>	

STUFFTHATHAPPENS.COM BY ERIC BURKE

COSMOS: City of Surrey Mapping Online System

3 Versions

Desktop (Silverlight) – Jan 2012

Tablet (HTML 5 / Javascript / Sencha Touch) – Sep 2012

Smartphone (HTML 5 / Javascript / Sencha Touch) – Nov 2012



COSMOS
City of Surrey Mapping Online System

Version 1.0.1.8

Please select a Map Type

MyCOSMOS	Parks Map
City Map	Planning Map
Building Map	Sanitary Map
Drainage Map	Transportation Map
Infrastructure Map	Water Map

 feedback: email us

 help & tutorials

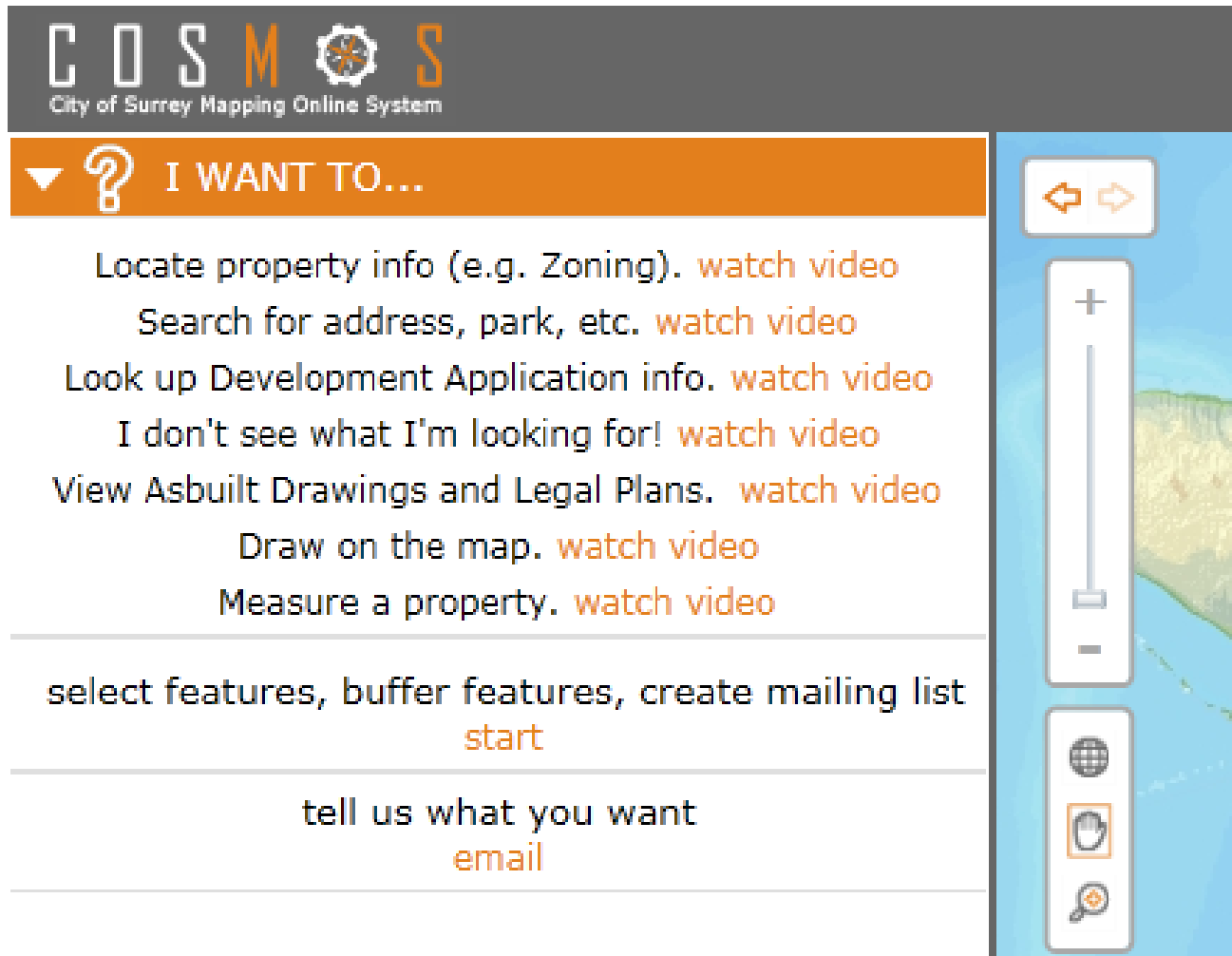
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COSMOS Interface

The screenshot displays the COSMOS web interface with the following components:

- Top Bar:** Search bar with the text "TYPE HERE TO SEARCH".
- Left Sidebar:** A vertical menu with options: "I WANT TO...", "LAYERS & LEGEND", "FIND", "INFORMATION", "DOCUMENT SEARCH", "DRAW", "MEASURE", "PRINT & SAVE", and "SEARCH RESULTS".
- Map Area:** A topographic map of the Surrey region, including areas like Burnaby, Coquitlam, Whalley, Fleetwood, and Newton. A red arrow points to the map with the text "Full Screen".
- Right Panel:** A "MyCOSMOS" dropdown menu with the text "select a map ->". The menu is open, showing a list of map types: "MyCOSMOS", "City Map", "Building Map", "Drainage Map", "Parks Map", "Planning Map", "Sanitary Map", "Transportation Map", "Infrastructure Map", and "Water Map". A red arrow points to the "Aerial" map thumbnail in the top right corner of the map area.
- Bottom Right:** A toolbar with three map style icons: "Pictometry" (building icon), "StreetView" (person icon), and "Aerial" (satellite icon). A red arrow points to the "Aerial" icon.
- Bottom Left:** A scale bar and coordinates: "Scale 1: 200000" and "x = 482247.227 y = 5458150.453".

Tutorial Videos / Wizards



C O S M O S
City of Surrey Mapping Online System

▼ ? I WANT TO...

- Locate property info (e.g. Zoning). [watch video](#)
- Search for address, park, etc. [watch video](#)
- Look up Development Application info. [watch video](#)
- I don't see what I'm looking for! [watch video](#)
- View Asbuilt Drawings and Legal Plans. [watch video](#)
- Draw on the map. [watch video](#)
- Measure a property. [watch video](#)

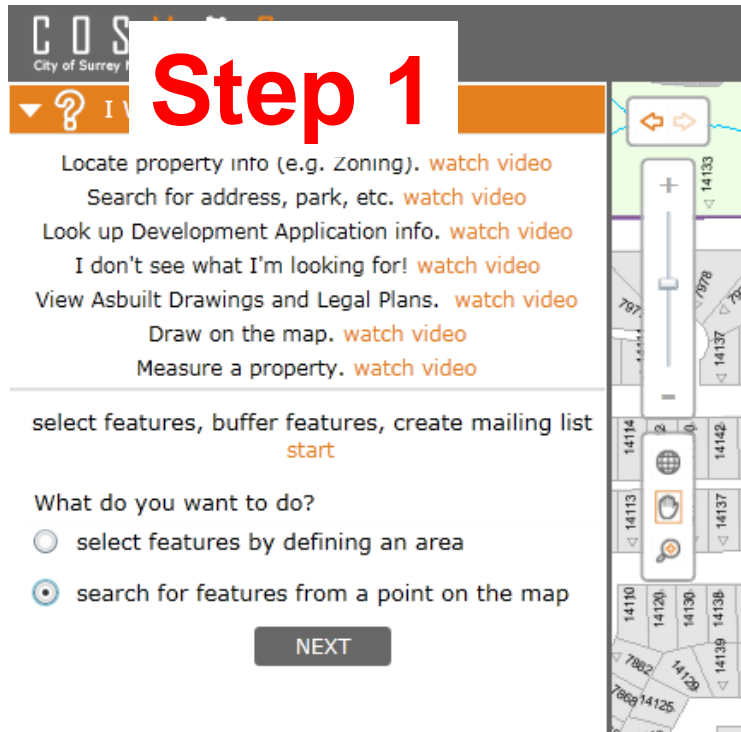
select features, buffer features, create mailing list
[start](#)

tell us what you want
[email](#)

Map sidebar controls: Home, Back, Forward, Zoom In (+), Zoom Out (-), Full Screen, Print, Search.

COSMOS Workflows

Step 1



Locate property info (e.g. Zoning). [watch video](#)
 Search for address, park, etc. [watch video](#)
 Look up Development Application info. [watch video](#)
 I don't see what I'm looking for! [watch video](#)
 View Asbuilt Drawings and Legal Plans. [watch video](#)
 Draw on the map. [watch video](#)
 Measure a property. [watch video](#)

select features, buffer features, create mailing list
start

What do you want to do?

- select features by defining an area
- search for features from a point on the map

NEXT

Step 2

select features, buffer features, create mailing list
start

What layer do you want to select feature
target layer: Address Points

How much do you want to buffer by?
buffer distance: 20 metres

Step 3

select features, buffer features, create mailing list
start

Click on Map location that you want to buffer from

Step 4

select features, buffer features, create mailing list
start

What do you want to do next?

- Buffer selected features
- Export them to a file
- Add / remove features

NEXT

- ▶ Address Points(1)
- ▶ Address Points(2)
- ▶ Address Points(3)

Document Search

- ▶ ? I WANT TO...
- ▶ LAYERS & LEGEND
- ▶ FIND
- ▶ INFORMATION
- ▶ DOCUMENT SEARCH

clear graphic

? Draw a rectangle on the map (hold and drag left mouse button) to find engineering as-built drawings, legal plans and posting plans. [- hide video -](#)



▶ FIND

▶ INFORMATION

▶ DOCUMENT SEARCH

▼ As-Built Drawings

▶ Drainage

▼ Sanitary

Drawing Number	As Built Date	Location
S-052-104	09/01/1987	78A Ave., 142A St.
S-052-112	01/01/1988	ROW N of 78 Ave.W of 144 St.

▼ Water

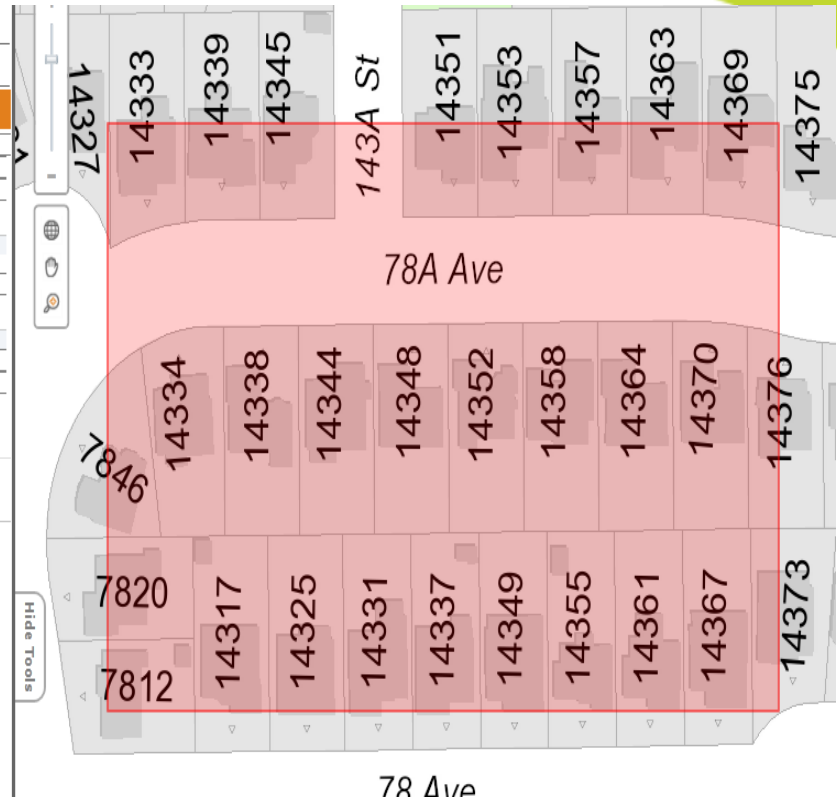
Drawing Number	As Built Date	Location
WD-052-035	09/01/1987	78A Ave, 142A St

▶ Roads and Transportation

▶ Legal Plans

clear graphic

? Draw a rectangle on the map (hold and drag left mouse button) to find engineering as-built drawings, legal plans and posting plans. [- watch video -](#)



Search

Semiahmoo Bay - Drainage Catchment (Major)

Semiahmoo Bottle Depot - Garbage and Recycling

Semiahmoo Library - Library

Semiahmoo Secondary School - School

Semiahmoo Shopping Centre - Shopping Centre

Semiahmoo Town Centre - Town Centre Plan

Semiahmoo Trail Elementary School - School

Semiahmoo Trail Park - Park

SEMIAHMOO PL - Road

SEMIAHMOO PL AND 150 ST - Road Intersection

SEMIAHMOO PL AND 25A AVE - Road Intersection

SEMIAHMOO RD - Road

SEMIAHMOO RD AND 100 AVE - Road Intersection

SEMIAHMOO RD AND 100A AVE - Road Intersection

SEMIAHMOO RD AND 100A AVE - Road Intersection

SEMIAHMOO RD AND 101 AVE - Road Intersection

SEMIAHMOO RD AND 101 AVE - Road Intersection

SEMIAHMOO RD AND 101A AVE - Road Intersection

SEMIAHMOO RD AND 101B AVE - Road Intersection

SEMIAHMOO RD AND 102 AVE - Road Intersection

SEMIAHMOO RD AND 99 AVE - Road Intersection

SEMIAHMOO RD AND 99A AVE - Road Intersection

SEMIAHMOO RD AND OLD YALE RD - Road Intersection

▼ SEARCH RESULTS

- ▶ Addresses for selected property
- ▶ Owner Details
- ▼ Property Details

ADDRESS	15333 36A AVE
FOLIO	5700-09006-5
LEGAL DESCRIPTION	LT 10 DL 244 PL LMP54426 NWD
LOT ID	82069
LOT OWNER TYPE	Private
LOT SIZE	(389 sq. meters {4,190 sq. feet} - approximate, see legal plan for actual)
LOT TYPE	Standard Lot
PID	025-428-667
PLAN IMAGE	More Information
PLAN NUMBER	LMP54426
PLAN TYPE	Subdivision
PLAN YEAR	2002
ZONE	CD
ZONE BY LAWS	B/L 14548
ZONE DESCRIPTION	Comprehensive Development Zone
ZONE DOCUMENT	More Information
ZONE LUC	

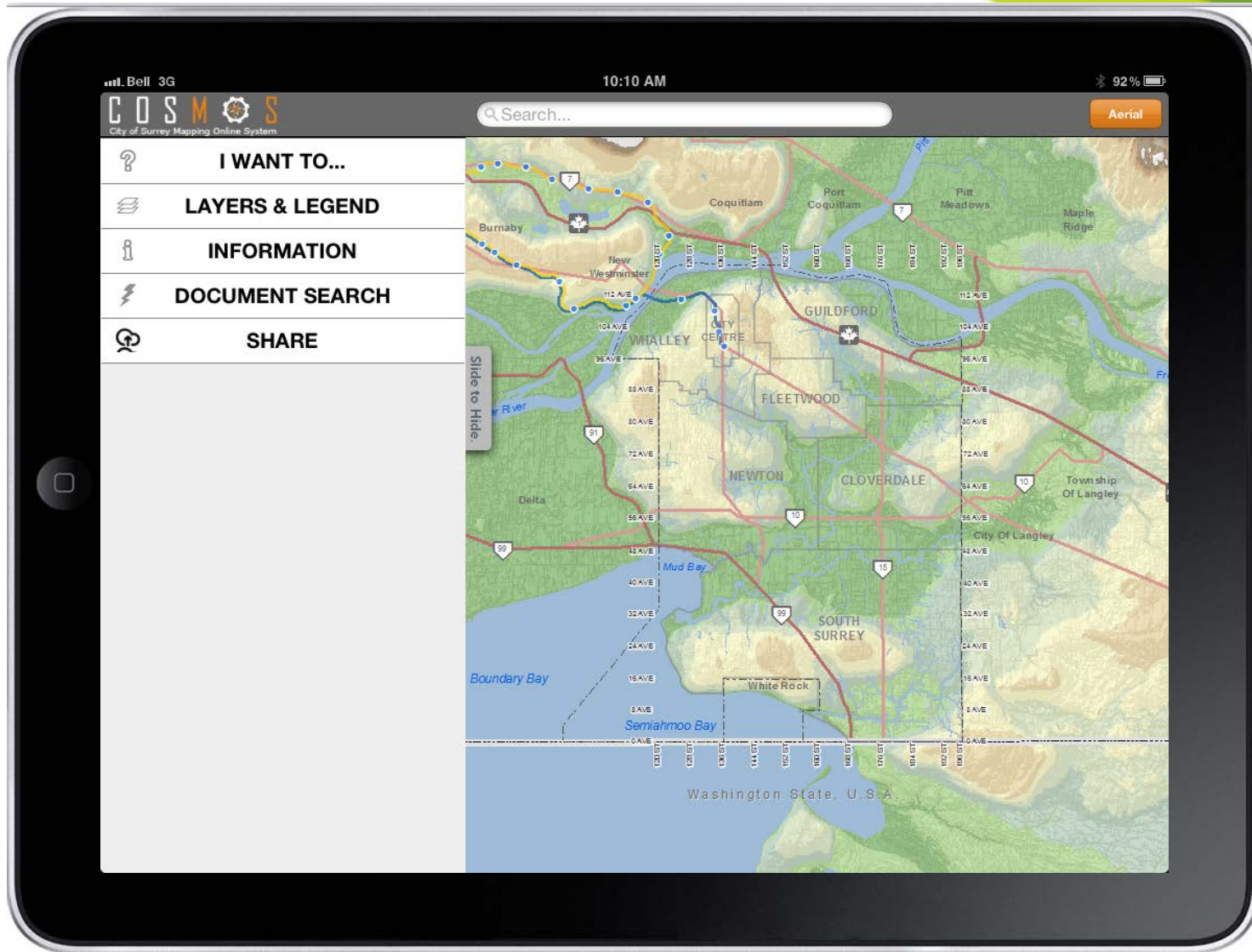
- ▶ Assessment Details
- ▶ Servicing Details

PROPERTY REPORT ([Click here to view](#))

STREET VIEW ([click here to view](#))



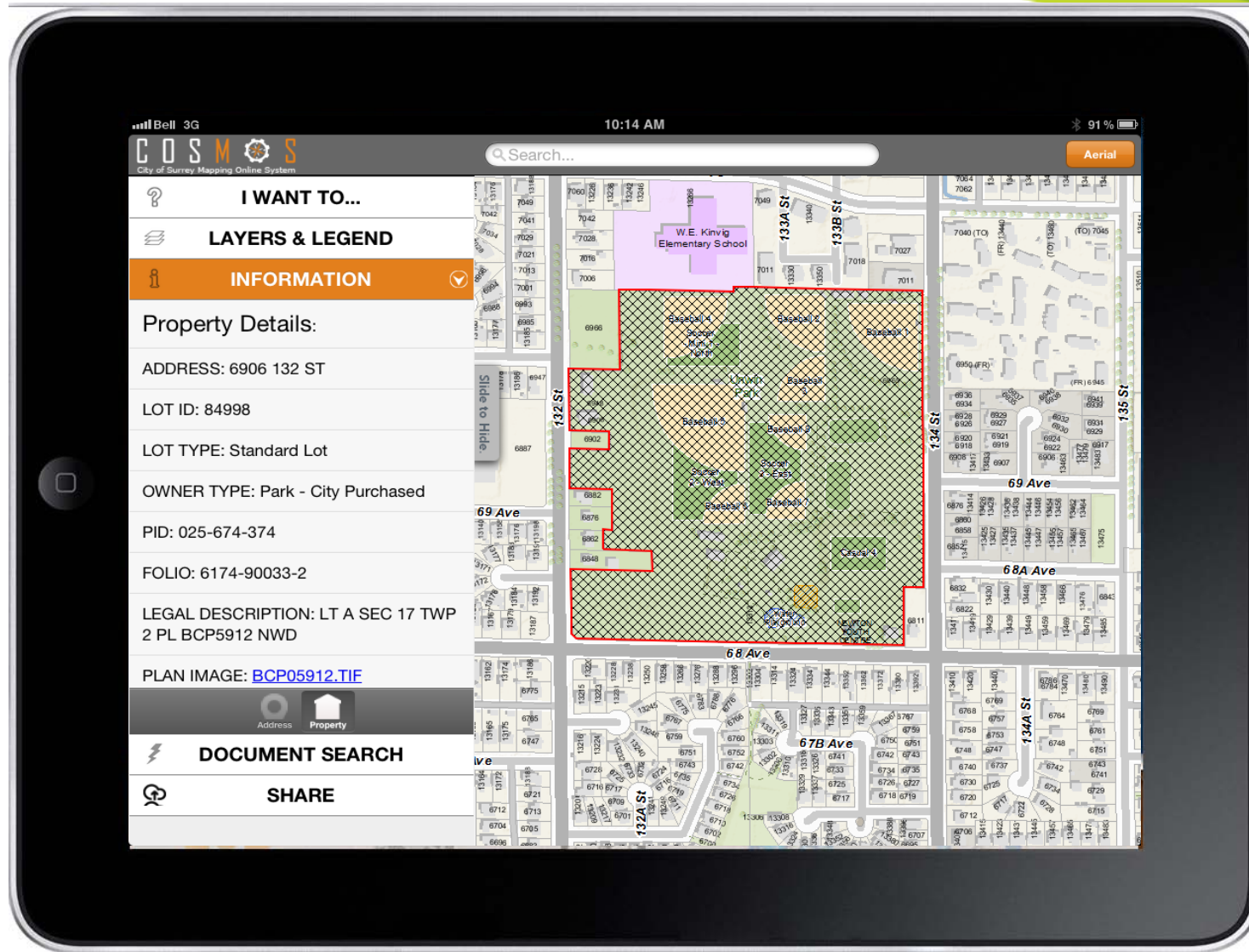
COSMOS Tablet



COSMOS Tablet Search



COSMOS Tablet Results



The screenshot displays the COSMOS (City of Surrey Mapping Online System) interface on a tablet. The top status bar shows 'Bell 3G', '10:14 AM', and '91%' battery. The interface includes a search bar, a navigation menu, and a main map area.

Navigation Menu:

- I WANT TO...
- LAYERS & LEGEND
- INFORMATION** (Selected)
- DOCUMENT SEARCH
- SHARE

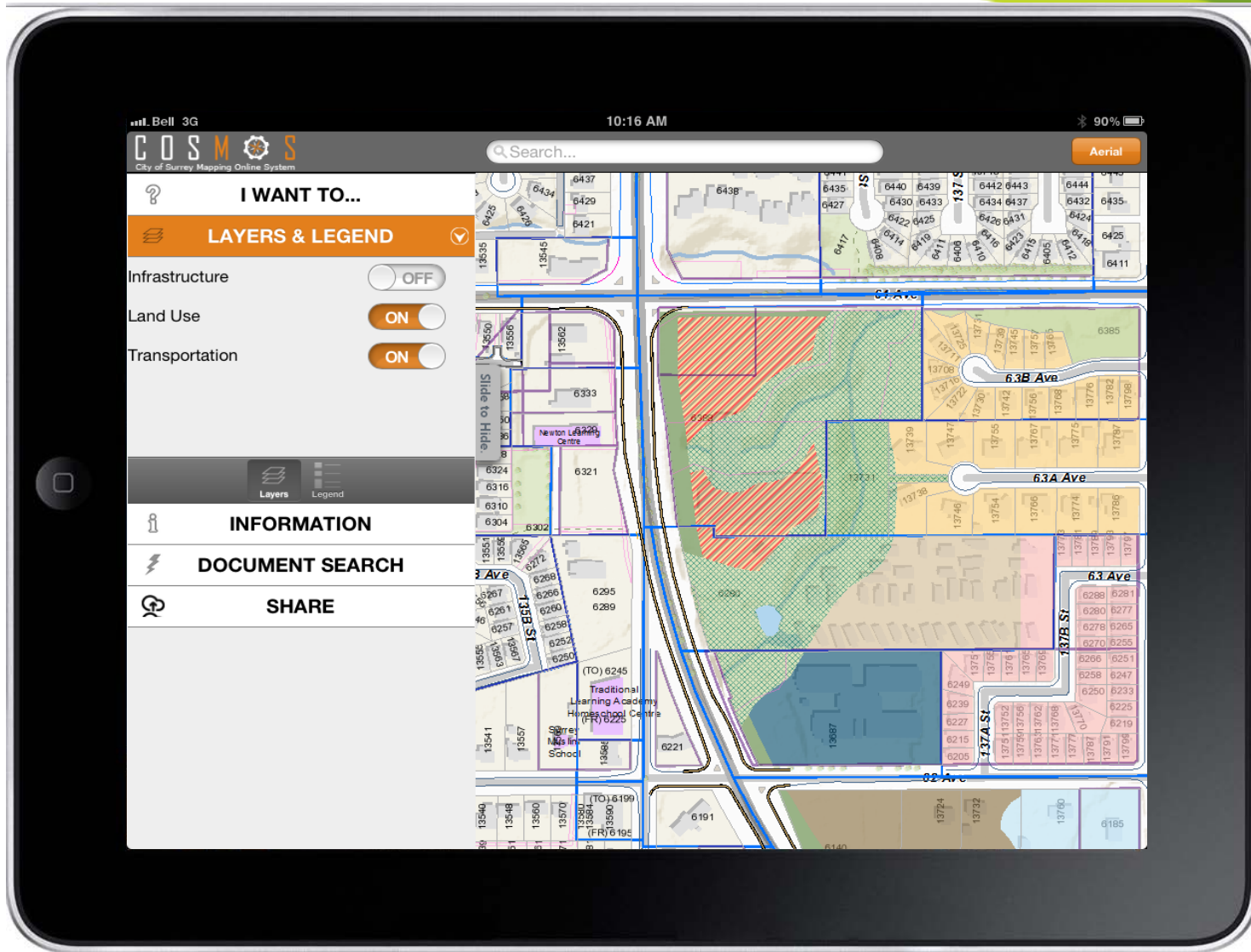
Property Details:

- ADDRESS: 6906 132 ST
- LOT ID: 84998
- LOT TYPE: Standard Lot
- OWNER TYPE: Park - City Purchased
- PID: 025-674-374
- FOLIO: 6174-90033-2
- LEGAL DESCRIPTION: LT A SEC 17 TWP 2 PL BCP5912 NWD
- PLAN IMAGE: [BCP05912.TIF](#)

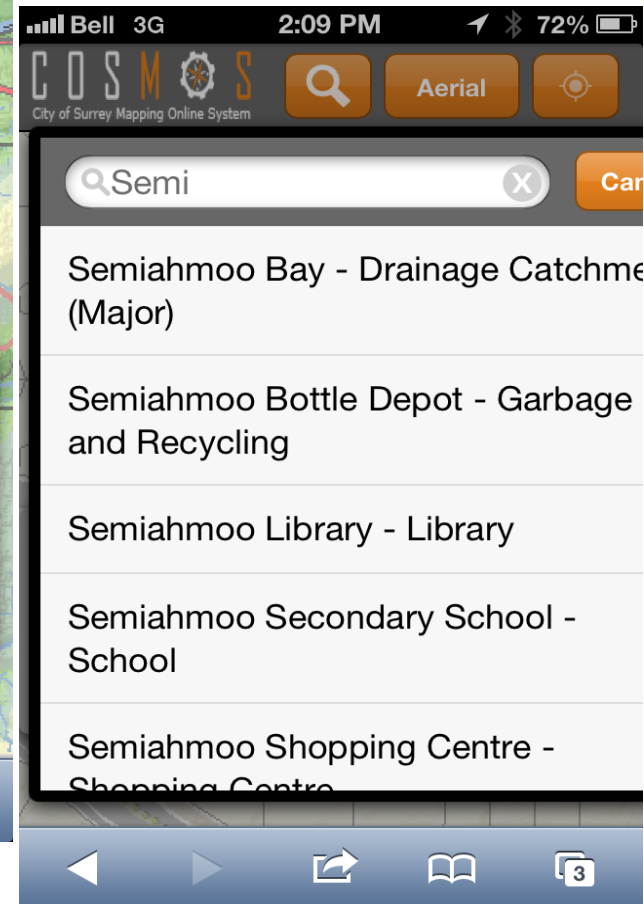
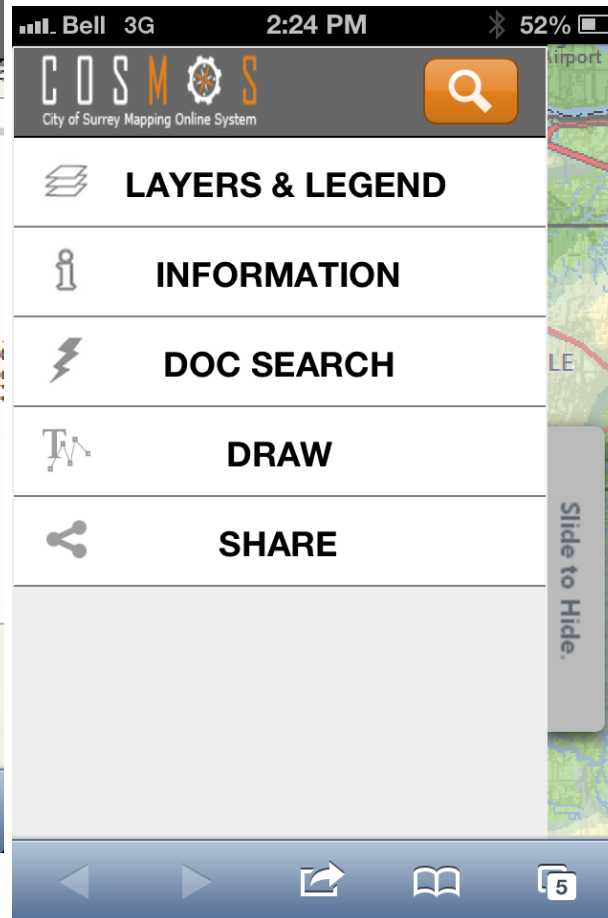
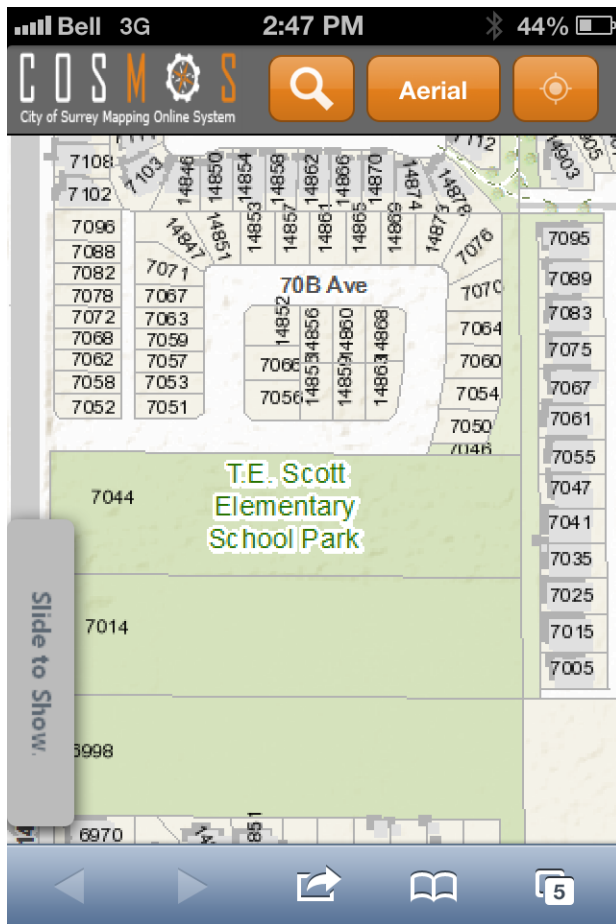
Map Area:

- Search bar: Search...
- Map style: Aerial
- Map content: Aerial view of a residential area with a red boundary around the target property (6906 132 St). The map shows streets including 132A St, 133A St, 133B St, 134A St, 134B St, 67A Ave, 67B Ave, 68 Ave, 69 Ave, and 135 St. A purple building labeled 'W.E. King Elementary School' is visible in the upper left.

COSMOS Tablet Layers



COSMOS Smartphone



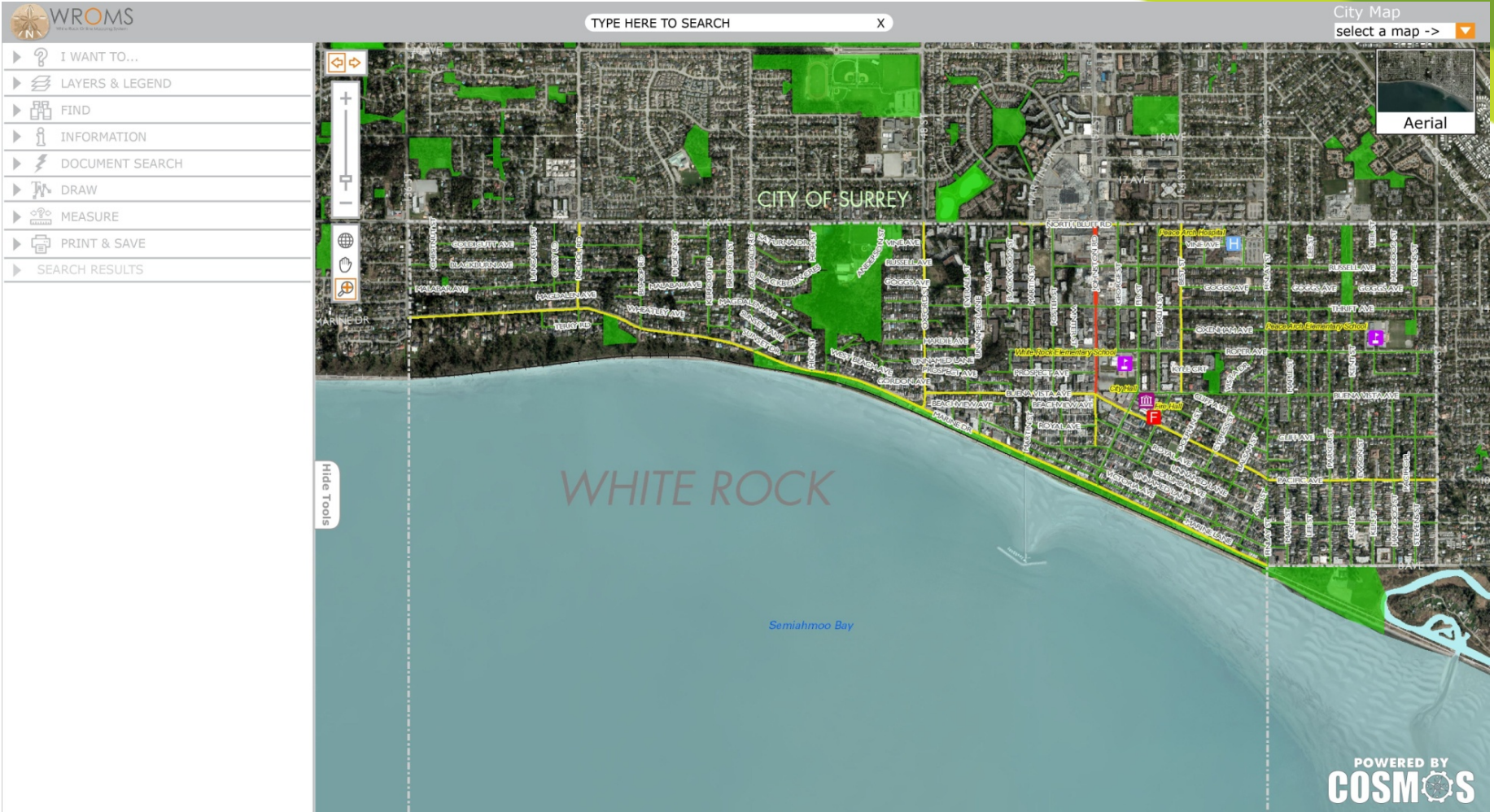
WROMS: White Rock Mapping Online System

This Fall our GIS will be hosting a City of White Rock version of COSMOS

Surrey / White Rock partnership is first in Lower Mainland

Good example of Infrastructure as a Service (IaaS)

White Rock Mapping Online System



WROMS
WHITE ROCK ONLINE MAPPING SYSTEM

TYPE HERE TO SEARCH X

City Map
select a map -> Aerial

I WANT TO...
LAYERS & LEGEND
FIND
INFORMATION
DOCUMENT SEARCH
DRAW
MEASURE
PRINT & SAVE
SEARCH RESULTS

Hide Tools

CITY OF SURREY

WHITE ROCK

Semiahmoo Bay

POWERED BY
COSMOS

Common Operating Picture

Developed by GIS staff for Emergency Operations Centre exercises

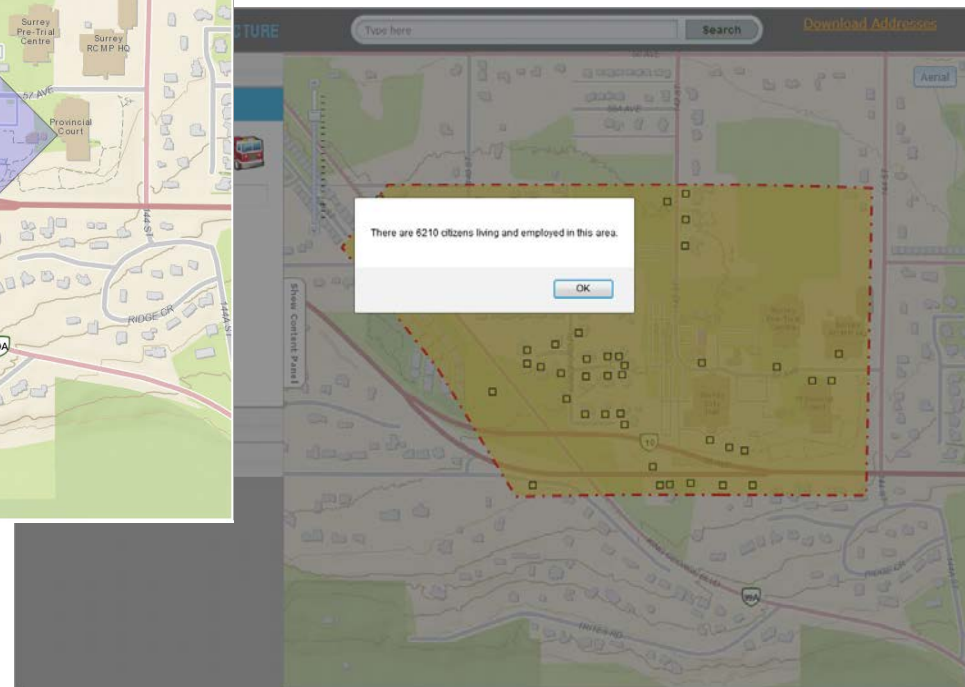
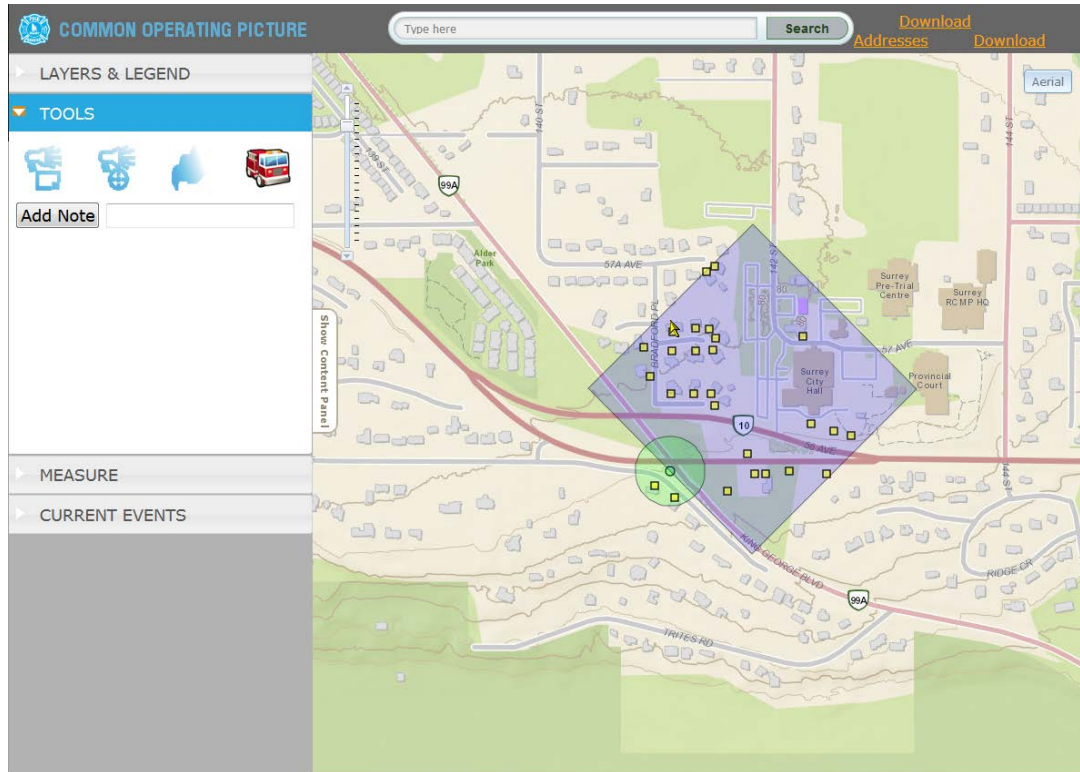
City Staff, RCMP, Fire Dept., Ambulance Services, etc.

HTML 5

Consumes live feeds:

- MASAS
- Weather
- Traffic cameras
- International disaster
- Emergency vehicle locations

COP Plume Buffer Results



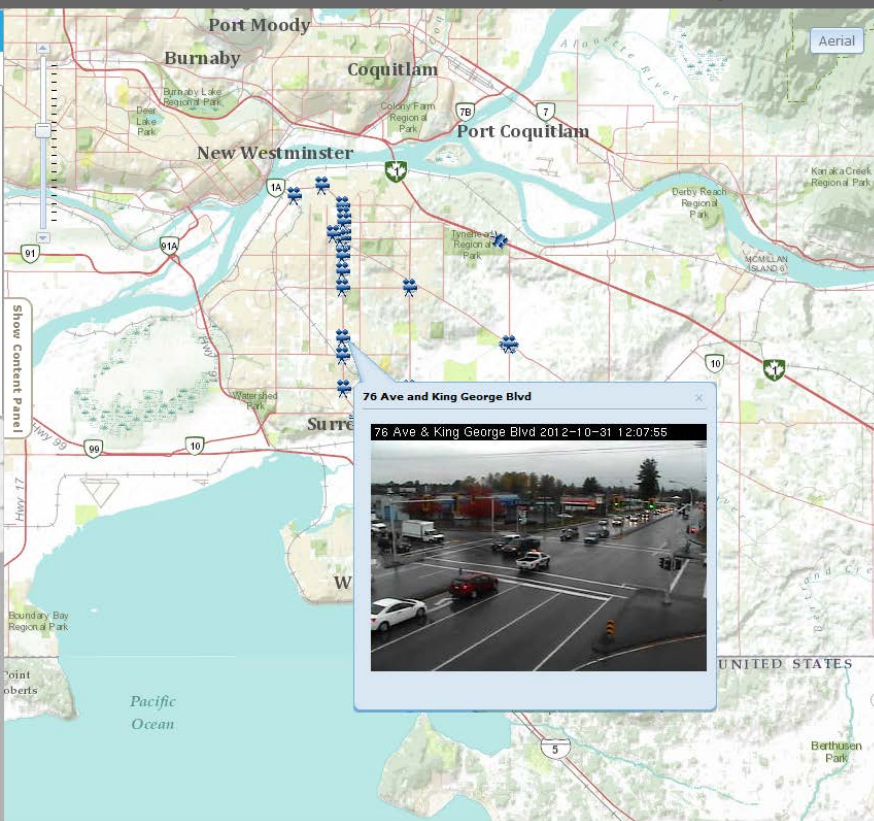
COP Cameras / Social Media

COMMON OPERATING PICTURE

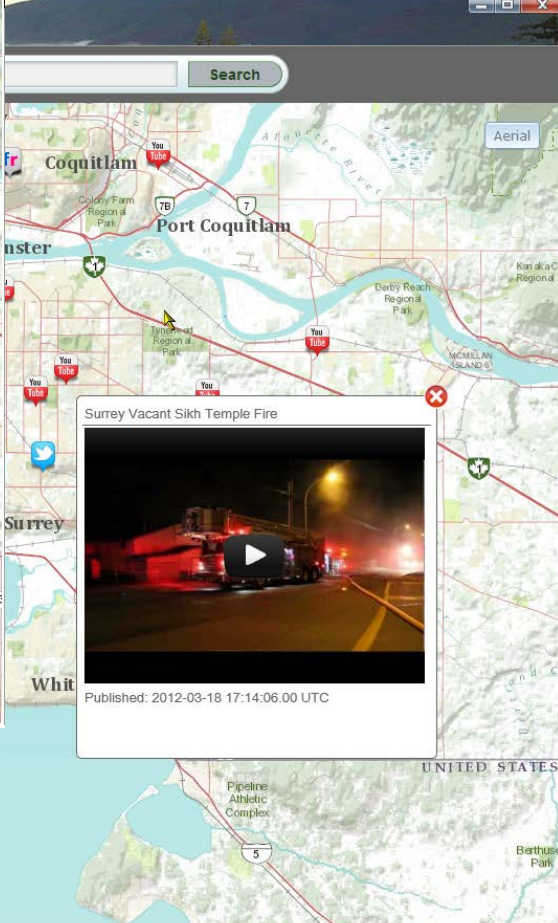
LAYERS & LEGEND

layer list	legend
TRAFFIC CAMS	<input type="button" value="OFF"/> <input type="button" value="ON"/>
SOCIAL MEDIA	<input type="button" value="OFF"/> <input type="button" value="ON"/>
LIVE HAZARDS	<input type="button" value="OFF"/> <input type="button" value="ON"/>
WEATHER RADAR	<input type="button" value="OFF"/> <input type="button" value="ON"/>
FACILITIES	<input type="button" value="OFF"/> <input type="button" value="ON"/>
LIVE MASAS DATA	<input type="button" value="OFF"/> <input type="button" value="ON"/>

TOOLS
MEASURE
CURRENT EVENTS



Surrey Social Media



Surrey Vacant Sikh Temple Fire
Published: 2012-03-18 17:14:06.00 UTC

COP Live Feeds

COMMON OPERATING PICTURE

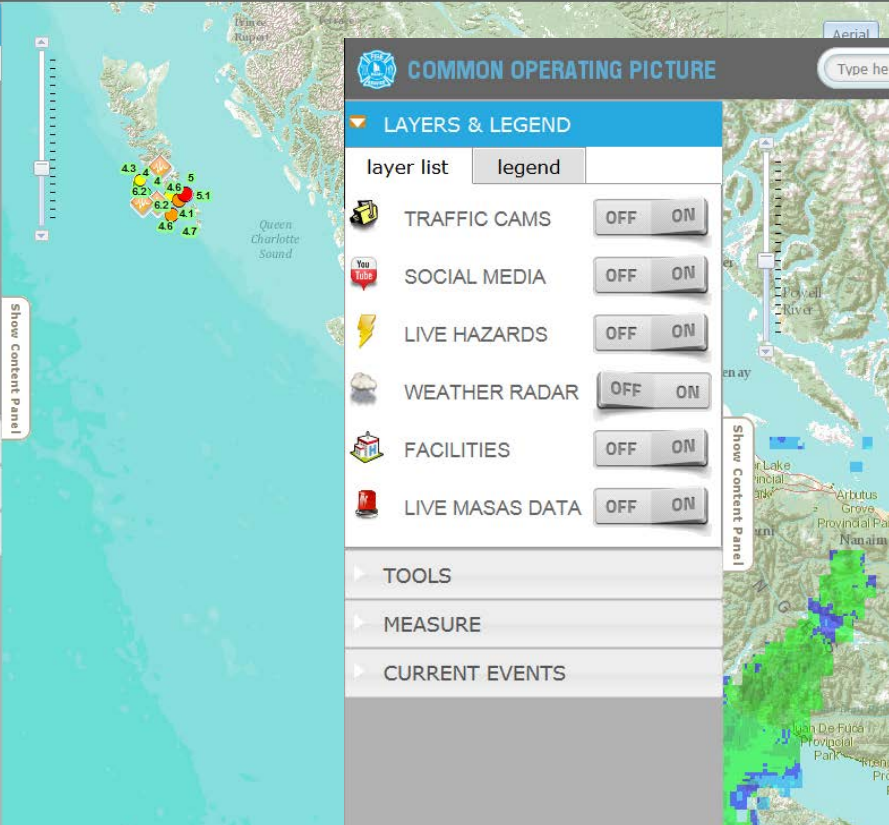
LAYERS & LEGEND

layer list	legend	
TRAFFIC CAMS	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
SOCIAL MEDIA	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
LIVE HAZARDS	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
WEATHER RADAR	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
FACILITIES	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
LIVE MASAS DATA	<input type="checkbox"/> OFF <input type="checkbox"/> ON	

TOOLS

MEASURE

CURRENT EVENTS



COMMON OPERATING PICTURE

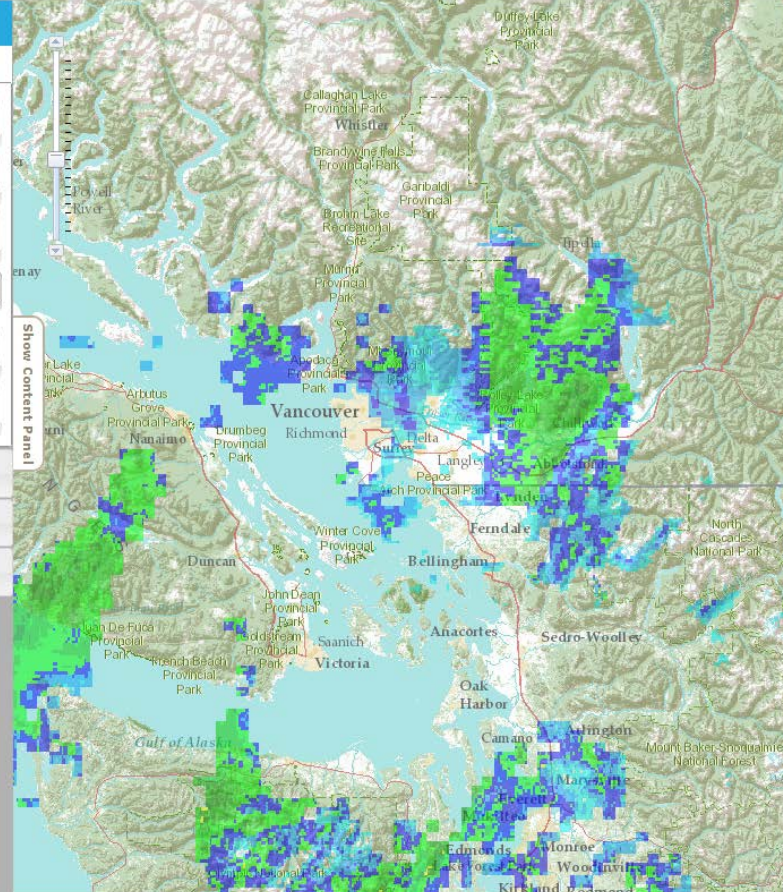
LAYERS & LEGEND

layer list	legend	
TRAFFIC CAMS	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
SOCIAL MEDIA	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
LIVE HAZARDS	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
WEATHER RADAR	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
FACILITIES	<input type="checkbox"/> OFF <input type="checkbox"/> ON	
LIVE MASAS DATA	<input type="checkbox"/> OFF <input type="checkbox"/> ON	

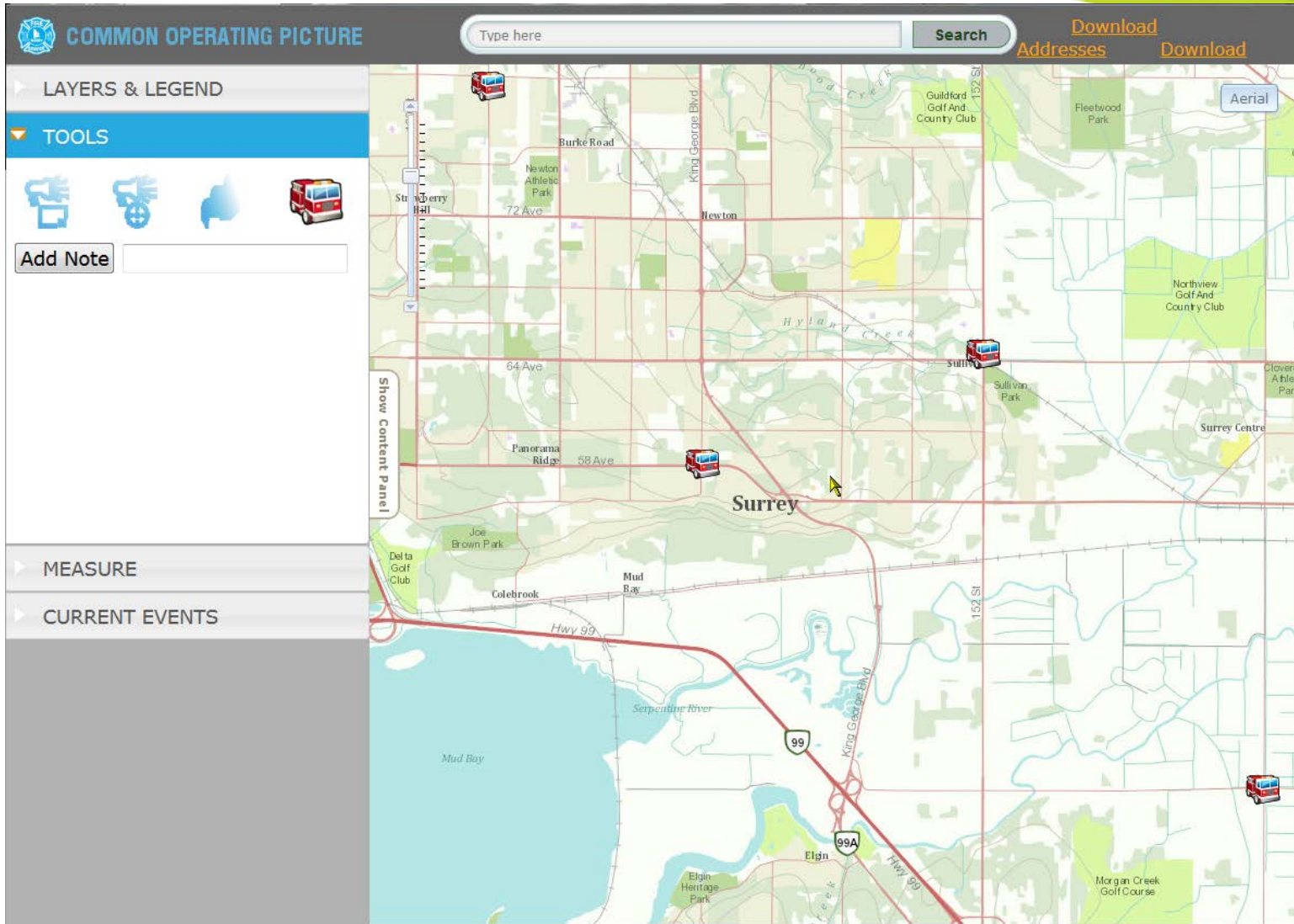
TOOLS

MEASURE

CURRENT EVENTS



COP Live Vehicle Locations




COMMON OPERATING PICTURE

Type here **Search** [Download Addresses](#) [Download](#)

LAYERS & LEGEND

TOOLS



Add Note


Show Content Panel

MEASURE

CURRENT EVENTS

The map displays the City of Surrey area with several live vehicle locations marked by red bus icons. Key locations include Guildford Golf And Country Club, Fleetwood Park, Northview Golf And Country Club, Sullivan Park, Surrey Centre, Delta Golf Club, and Elgin Heritage Park. Major roads like Hwy 99, Hwy 99A, and King George Blvd are visible. The map is overlaid with a grid and includes a search bar at the top and various toolbars on the left.

COP Event Editing

 COMMON OPERATING PICTURE

Search







LAYERS & LEGEND

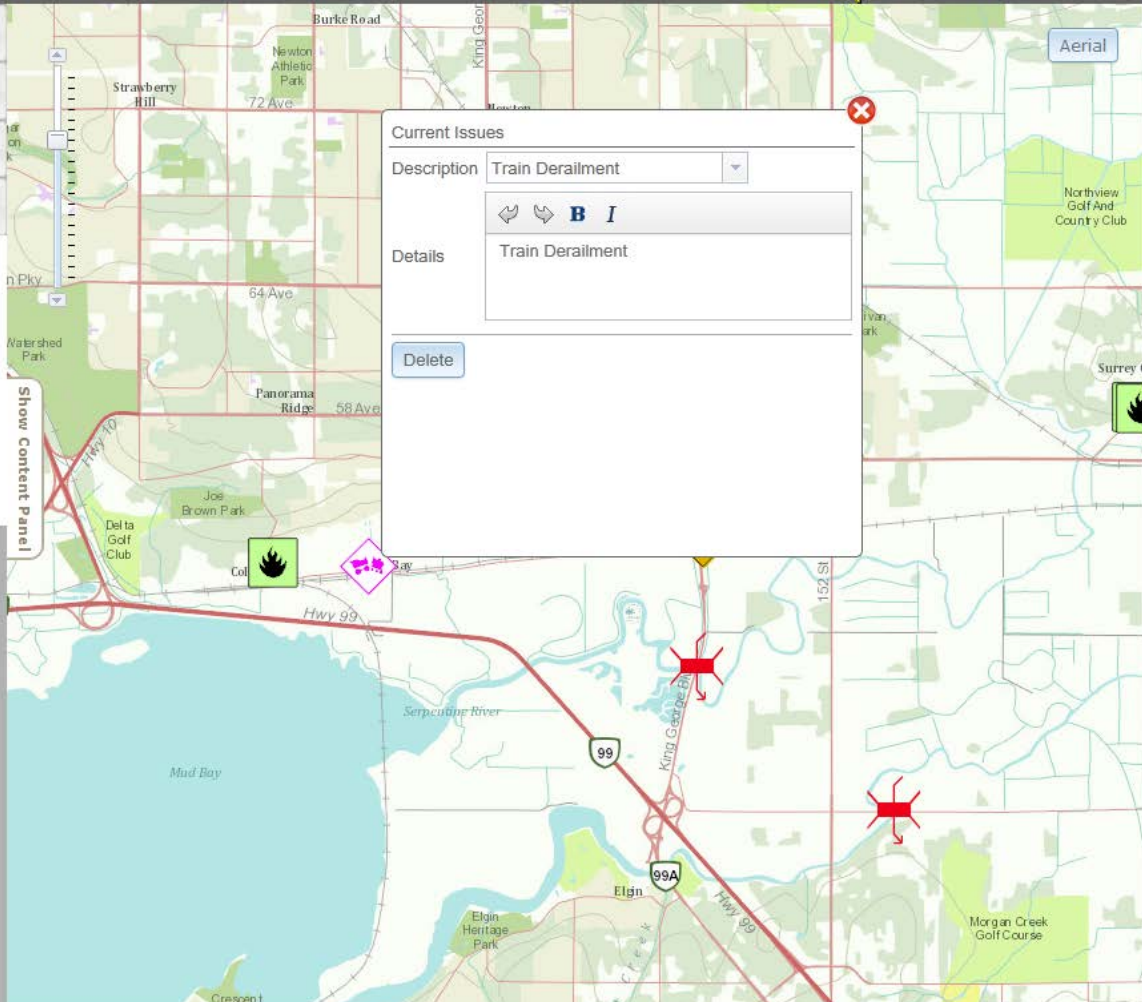
TOOLS

MEASURE

CURRENT EVENTS

Current Issues

		
Fire	Damaged Building	Chemical Spill
		
Bridge Closed	Train Derailment	Road Obstruction




Current Issues

Description: Train Derailment

Details: Train Derailment

Delete







COP MASAS Feed

 COMMON OPERATING PICTURE

Type here

Search

LAYERS & LEGEND

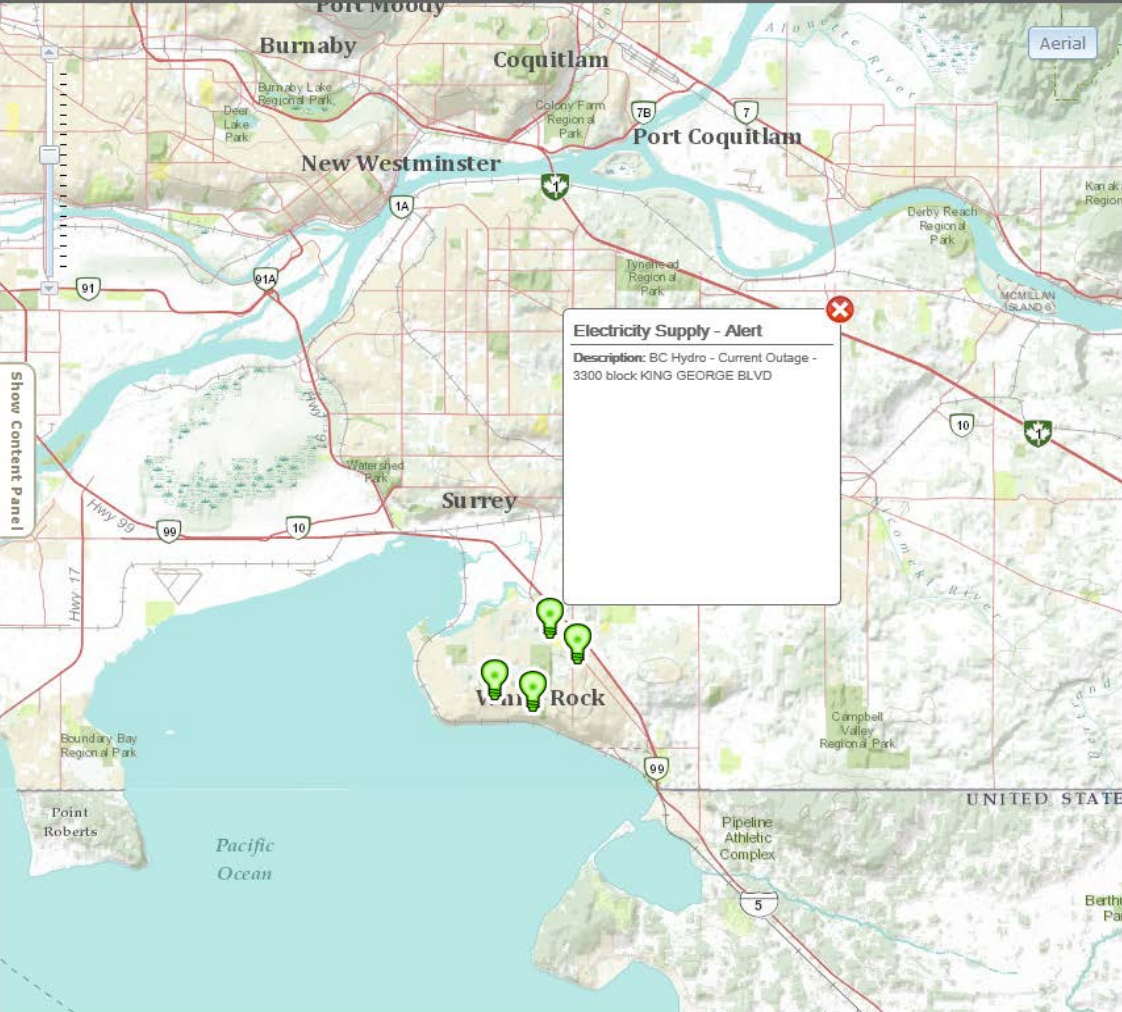
layer list	legend
 TRAFFIC CAMS	OFF ON
 SOCIAL MEDIA	OFF ON
 LIVE HAZARDS	OFF ON
 WEATHER RADAR	OFF ON
 FACILITIES	OFF ON
 LIVE MASAS DATA	OFF ON

Show Content Panel

▶ TOOLS

▶ MEASURE

▶ CURRENT EVENTS



Electricity Supply - Alert

Description: BC Hydro - Current Outage - 3300 block KING GEORGE BLVD

Lessons

Have a strong vision that includes mobile

Have great staff and support

Know and listen to your users

- Casual users to power ones
- Twitter

Release as Beta

Release often

Questions?

Contact:

Sean Simpson

stsimpson@surrey.ca