Denver Regional Data Summit
2009

DRCOG Geospatial Team
Customer Resource and Support Division

8 January 2009
REI Flagship - Denver, Colorado
Welcome

- Jill Locantore, AICP
  - Data Summit Facilitator
  - DRCOG Planning Communications Specialist

- Matthew Krusemark, GISP
  - Data Summit Coordinator
  - DRCOG Geospatial Team Manager
DRCOG staff assisting today

Sara Eberhardt - GIS Analyst
Jonathan Harahush - GIS Analyst
Michael Tafel - GIS Specialist
Josh Pendleton - GIS Specialist

Paul Gibbs - Member Services Manager
Suzi Walker - Member Services Program Coordinator

Simon Montagu - CRS Director

Greg MacKinnon - Transportation Operations Program Manager
Robin Reilley - Regional Land Use Analyst
Jennifer Newcomer - Socioeconomic Analyst
Robert Spotts - Travel Model GIS Technician
Paul Riker - IT Manager
Lawrence Tilong - Transportation Planner
Our Sponsors Today

- Xcel Energy
- REI
- gita
- RMURISA
- DRCOG
To support informed decision making in the Denver region by organizing, developing, maintaining, sharing, enhancing and distributing regional data. All organizations including public, private, non-profit, education and government that are willing to contribute and collaborate are welcome as participants.
Looking Back
Regional Data Summit ‘98

Summit business need in ‘98

• Reduce spending for data collection
• Allow for cost sharing
• Eliminate duplication of effort
• Provide a more information to all data users
• Obtain data for planning, analysis, and problem solving
• Benefit more quickly and easily from data already collected by others
• Provide consistent and standardized data
Challenges & Opportunities to Data Sharing in ‘98

- Technical
- Organizational & Political
- Communication & Coordination
- Fiscal
Eliminate duplication of effort
Build process first
Simplify policy, more handshake agreements when feasible
Loosely coupled, small pilot projects on our existing resources
Implement governance - but not bureaucracy
All ideas are welcome
Open data standards and systems integration
Communication - build a place where we can share
Identify current successes to build upon
Looking ahead continued...

- Pool resources and **build partnerships** - public agency, private, citizens
- **Prioritization** of efforts
- **Accountability**, responsibilities and timelines clearly identified
- **Align** with our organization’s priorities
- Get **political** backing - who are our champions?
- Provide **value to citizens** and private sector
- **Lower costs** of doing business together and share savings with management
- Participate in **training activities** together - economies of scale
- Look for grants and **funding** opportunities
DRCOG Regional Data Status

- Where is the region today?
- What have we (DRCOG Geospatial) been up to lately?
• **Metro Vision**
• Administrative and Political Boundaries
• Census Coordination
• Socioeconomic
• Transportation
• Area Agency on Aging
217 Spatial Datasets in ArcSDE (2008)
131 Spatial Datasets (2007)
60 percent increase in Enterprise Spatial Data holdings in 2008
Regional Archived Imagery

- 2008 (new DTM)  
  - Jpeg2000
  - Jpeg2000 Compressed GeoTIFF
  - Uncompressed GeoTIFF
  - MrSID

- 2006, 2004, 2002 (DRAPP)
- 2000 (RTD)

TBs of imagery!
# DRCOG GIS Responsibility Matrix

**Last Updated:** 12/09/08

<table>
<thead>
<tr>
<th>GeoDatabase</th>
<th>Feature Dataset</th>
<th>Feature Class</th>
<th>Business Function:</th>
<th>GIS</th>
<th>Socio-economic</th>
<th>Reg Zoning/DevType</th>
<th>Metro</th>
<th>TOD</th>
<th>Air Quality</th>
<th>Water Quality</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>statewide_connects</td>
<td></td>
<td>Entire Team</td>
<td>Y</td>
<td>U</td>
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<td></td>
<td>lips_points</td>
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<td>Jennifer Newcomer</td>
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<tr>
<td></td>
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<td>Robin Relley</td>
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<td>Nathan Chatfield</td>
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<tr>
<td></td>
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<td>Mike Tafel</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Matt Major</td>
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<td>U</td>
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<td>U</td>
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</tr>
</tbody>
</table>

**Socio-Economic**

- **Employment**

- **Schools**
  - U/n/a-2: 1/1/2006, U, D/M/U, U, U, U, U

**Statistical**

- **Intersections**

- **TAZ 1950**

- **TAZ 2000**

- **TAZ 2010**

**Transportation**

- **trans_maintenance**
  - 8/21/2006, U, U, U, U, U, U
  - 6/1/2006, U, U, U, U, U, U
  - 12/14/2006, U, U, U, U, U, U

**Tile Atlas**

- **census**
  - good_group: 2000, M/U, U, U, U, U, U
Regional Data Catalog Project

Project Goal: Create an open data framework to share data with DRCOG member governments, internal staff, partner agencies and the public through a searchable web interface.

DRCOG maintains a large amount of spatial and tabular data that is crucial to regional planning and policy decisions. This data can be searched by keyword or browsed by subject. Datasets can be previewed with OpenLayers (map viewer), KML (for viewing data with Google Earth), or static PDF. Selected files are available for download.

Not sure how to view a KML file? Visit the Google Earth download page for more information.

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Description</th>
<th>Last Updated</th>
<th>Preview</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Rapid Transit</td>
<td>Base Rapid Transit from the 2003 Metrovision</td>
<td>11/04/2008</td>
<td>OpenLayers</td>
<td>XML, PDF, Shapefile</td>
</tr>
<tr>
<td>County boundaries</td>
<td>County Boundaries for DRCOG Region, base data collected from local governments - maintained and updated by DRCOG</td>
<td>04/30/2008</td>
<td>OpenLayers</td>
<td>XML, PDF, Shapefile</td>
</tr>
<tr>
<td>Municipal Housing &amp; Population Estimates</td>
<td>Municipal housing &amp; population estimates of DRCOG members</td>
<td>12/06/2007</td>
<td>Excel</td>
<td></td>
</tr>
<tr>
<td>Municipal boundaries</td>
<td>2000 Municipal Boundaries for DRCOG Region, base data collected from local governments - maintained and updated by DRCOG</td>
<td>10/30/2008</td>
<td>OpenLayers</td>
<td>XML, PDF, Shapefile</td>
</tr>
<tr>
<td>Regional Traffic Counts</td>
<td>Traffic counts from a variety of points in the region</td>
<td></td>
<td>OpenLayers</td>
<td>XML, PDF, Shapefile</td>
</tr>
</tbody>
</table>
Regional Data Catalog Project

Benefits:

• Now ‘select data’ and its associated metadata will be available for internal and external use via the web.
• Less time will be spent on ad-hoc data requests because data will be available to the public.
• Greater opportunity for QA/QC as the data becomes more widely visible.
Who’s Involved?

Project Manager – Sara Eberhardt
Web Developer (Lead) – Jonathan Harahush
Database Developer (Lead) – Mike Tafel
Data Administrator – Josh Pendleton
Customer – Jennifer Newcomer (Socioeconomic Analyst)
IT Assistance – Reggie Gonzalez and Paul Riker
Executive Sponsor – Simon Montagu
Regional Data Catalog Project

Initial Mockup

DRCOG maintains a large amount of spatial and tabular data that is crucial to regional planning and policy decisions. This data is now searchable by subject or keyword and selected files are available for download.

Search by keyword:  
Submit

Search by subject:  All Subjects

Your search returned 5 results:

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Metadata</th>
<th>Description</th>
<th>Last Update</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>County boundaries</td>
<td>metadata (PDF)</td>
<td>This dataset contains county boundaries for counties within the DRCOG region.</td>
<td>January 15, 2008</td>
<td>counties.shp</td>
</tr>
<tr>
<td>Municipal boundaries</td>
<td>metadata (PDF)</td>
<td>This dataset contains municipal boundaries for municipalities within the DRCOG region.</td>
<td>February 2, 2008</td>
<td>mun.shp</td>
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<tr>
<td>Watershed boundaries</td>
<td>metadata (PDF)</td>
<td>This dataset contains watershed boundaries for watersheds in and near the DRCOG region.</td>
<td>July 7, 2003</td>
<td>watersheds.shp</td>
</tr>
<tr>
<td>Highways (state)</td>
<td>metadata (PDF)</td>
<td>This dataset contains highway centerlines for the state of Colorado.</td>
<td>September 5, 1998</td>
<td>highways.state.shp</td>
</tr>
<tr>
<td>Highways (region)</td>
<td>metadata (PDF)</td>
<td>This dataset contains highway centerlines that fall within the DRCOG region.</td>
<td>May 22, 2001</td>
<td>highways.region.shp</td>
</tr>
</tbody>
</table>
Regional Data Catalog Project

Technical Environment:

**Server Hardware:** SAN (storage area network), Windows Server Environments, VMware and VSS - Application Backup and Recovery
Regional Data Catalog Project

Technical Environment:

Web Development: HTML, CSS, Javascript, & PHP
Regional Data Catalog Project

Technical Environment:

Enterprise Database: PostgreSQL with PostGIS

Mapping: GeoServer (WMS) and OpenLayers (front end viewer with Google Maps base map)

Scripting/Automation: Python
Project Challenges:

- Technology learning curve
- Some datasets had incomplete metadata
- Time management (other projects/assignments)
Project timeline:

• Began pilot project in August 2008.

• Tested with internal DRCOG staff in December.

• Currently setting up our production environment on our servers.

• Goal: To deploy this new application by February 2009

Budget:

• Staff time only

• Software used was either existing or open source
DRAPP a WMS for your GIS!

DRAPP ’08 Interim & WMS imagery used for:

- DNC prep/planning
- Mapping impervious surface
- Updating base layers
- Change detection
- Presentations
- Will be available for 2 years until next project
- Etc.
Secure Web Mapping Service(s)
Consortia examples

- The Open Data Consortium Project (CA)
- District of Columbia (DC) GIS
- MN Department of Natural Resources
- Portland Metro Regional Land Information System (RLIS)
The Open Data Consortium Project (CA) - A focus on policy!

The ODC project was established to derive a model policy for distributing governmental geospatial data, that can serve as a de-facto example to guide public agencies. The model policy has been developed with representatives from local government, private companies, federal and state agencies who were willing to pursue a broad consensus of agreement. We also discovered many ways local agencies can support their GIS operations without having to sell their public geospatial data.

Work is ongoing for Phase 2, which will develop recommendations to help local government GIS services better capture the financial benefits and cost savings that accrue from accessible distribution of public geospatial data. We continue to anticipate funding for the Phase 2 proposal. Meanwhile, Phase 3 has been completed: the specification of Geodata Transaction performance requirements for distributing geospatial data on-line, according to the distribution licensing requirements of individual public agencies. Read the detailed report or the summary article. Currently, we are conducting a small project to promote greater understanding and acceptance of the Model Data Distribution Policy. This effort is funded by a USGS-ESDC Category 3 CDAP grant, administered by the California Geographic Information Association (www.cgiaa.org). View the Phase 4 scope of work. We invite you to contribute your ideas and resources to the ODC project.

http://www.opendataconsortium.org/
RLIS Lite, Geographic Information System data on DVD

Maps and Data » Products » RLIS Lite

A subscription DVD that includes more than 100 map layers of the Portland region, including tax lots and county assessor records, zoning and physical features.

Geographic Information Systems data

Geographic Information Systems (GIS) data are created and maintained at the Metro Data Resource Center, as well as by other jurisdictions and agencies in the region. Metro acts as a clearinghouse for spatial data - providing a "one stop shopping" approach to accessing regional data. These regional data are known as the Regional Land Information System (RLIS).

RLIS Lite is a subset of RLIS and offers a wealth of maps and data for use with desk top mapping software. It enables quick production of custom maps on your computer.

RLIS is 15 years old!

http://www.oregonmetro.gov/rlislite
MN DNR Data Deli

Originally launched in 1998!

Download data

OGC Web services

http://deli.dnr.state.mn.us

In addition to providing access to DNR data via 'zip & specifications.

Ultimately three OGC specifications will be supported:

- Web Mapping Service (WMS) - for access to
- Web Feature Service (WFS) - for feature-based
- Web Coverage Service (WCS) - for unfiltered

Currently limited WMS and WFS capabilities are available:

- WMS GetCapabilities
- WFS GetCapabilities

To add our WMS Service to ArcCatalog (9.x):

- ArcCatalog > GIS Servers > Add WMS Service
- URL: http://deli.dnr.state.mn.us/cgi-bin/wms/in
Introduce our panelists
Questions for our panelists?
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