



The data consortium consists of Denver Regional Council of Governments members and regional partners with an interest in geospatial data and collaboration. The data consortium newsletter improves communication among local geographic information systems professionals and features updates from all levels of government as they relate to data and geospatial initiatives in our region. This newsletter is published quarterly.

DRCOG's open data drives economic development

Article submitted by Karl Urich, president, BuildingFootprintUSA. Karl can be reached at karl@buildingfootprintusa.com.

Publicly produced data — made available to commercial, academic and nonprofit organizations for unrestricted use — can be used in beneficial ways that the original data producers couldn't even imagine.

BuildingFootprintUSA, based in Albany, New York, collects building footprint geospatial data from hundreds of sources nationwide and turns that data into a product. We license our products to industries as diverse as insurance, telecommunication, real estate, utility and mobile advertising.

For example, an insurance company can use building footprint-based address information to make more accurate determinations regarding whether a property is exposed to peril (such as hurricanes or floods). A telecom company might use the data to understand their existing cellular coverage and determine where it would be best to build a

cell tower. A solar energy company can quickly identify the best rooftops for installations that meet its build-out criteria.

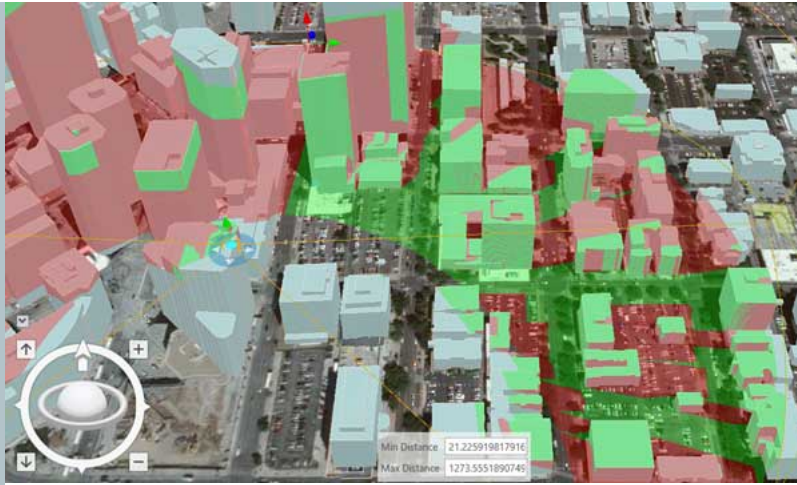
Open data makes it possible for us to collect the work of many and transform it into a product that supports national and local businesses. As a startup, it would be impossible for us to create such data ourselves. DRCOG data is an essential part of our nationwide product. As entrepreneurs who have become experts at determining the quality of public data, we assert that DRCOG data is in the top 10 percent of all data we have uncovered.

As we aggregate open data into our BuildingFootprintUSA products, DRCOG data is being used in innovative ways that benefit the residents of the region.

Below: A real estate analytics company can use building footprint data and assessor data to visualize properties by use code (color) and valuation (height) in Arapahoe County.



Below: A wireless telecom company placing rooftop infrastructure can visualize the infrastructure viewshed then perform complex radio frequency propagation analysis in downtown Denver.



Planimetric data provides insight into urban clear zones, street trees and road safety

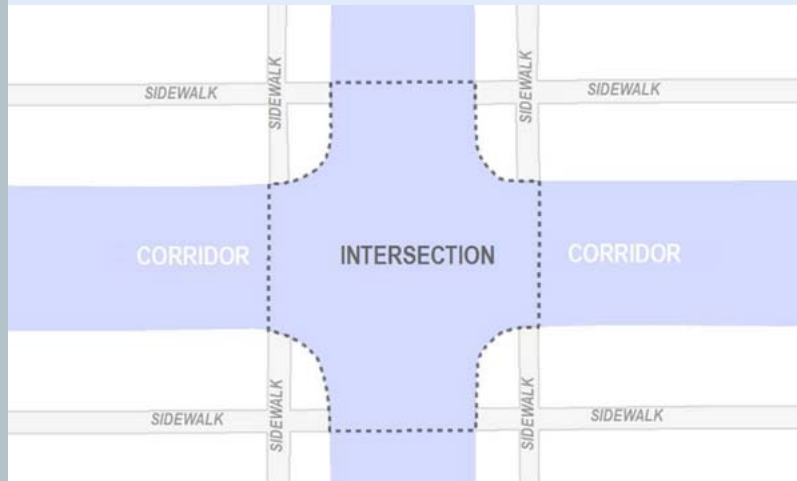
Article submitted by Dr. Wes Marshall and Nicholas Coppola, University of Colorado Denver. Wes can be reached at wesley.marshall@ucdenver.edu, and Nick can be reached at nicholas.coppola@ucdenver.edu.

Since the 1960s, transportation engineers have followed the practice of establishing clear zones along the roadside area where fixed-object hazards are explicitly minimized. Mounting evidence, however, is beginning to cast doubt on what we think we know about the effect of roadside clear zones on actual safety outcomes. For example, street trees in urban contexts – which provide economic, environmental and livability benefits – are also widely considered to be a road-safety detriment. Using spatial data, we reviewed the association between street tree location and tree canopy coverage of select roadways in Denver relative to crashes across different severity levels.

We collected data for our research from multiple sources, including extracting road corridor and intersection areas identified in [DRCOG's edge of pavement data set](#) and crosswalks identified in [DRCOG's sidewalk data set](#). DRCOG's data saved time and greatly improved the quality of our research.

Results suggest that the expected road safety benefit of reduced clear zones in urban areas may be overstated. In fact, when controlling for other known factors, street trees and tree canopies that extend over the street are associated with fewer crashes.

When assessing the safety impact of street trees, we encourage planning agencies to be cognizant of context and the potential influence of street design on road user behaviors such as speed.



Planimetric roofprint data ensures safer and more cost-effective floodplain management for your community

Article submitted by Ryan Huffman, geographic information systems/database systems analyst at Arapahoe County. Ryan can be reached at 720-874-6685 or rhuffman@arapahoegov.com.

DRCOG's planimetric building roofprint data is helping Arapahoe County more efficiently increase community floodplain safety and decrease flood insurance costs for its residents. The planimetric data has been a powerful resource for the county's participation in Community Rating System (CRS). CRS is a voluntary program administered by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (NFIP). CRS rewards communities for engaging in activities that reduce flood risk

with discounts on flood insurance premiums. Each CRS activity earns the community points – the more points, the larger the discount on flood insurance for the community.

Numerous DRCOG member governments already participate in CRS, but might not be aware how DRCOG’s planimetric roofprint data can help. **Specifically, roofprint data provides a creditable, existing resource in performing spatial analysis on, and reporting of, insurable structures that fall or no longer fall within continuously changing FEMA and other regulated floodplains. CRS requires such activity as part of its initial and annual recertification reporting process.**

Before using planimetric roofprint data it would take Arapahoe County and the Southeast Metro Stormwater Authority staff weeks to visually inspect imagery and digitalize new structure roofprints. With the planimetric data resource, the county and authority have been able to reduce staff effort on the project to just a few days.

Arapahoe County appreciates the hard work and collaborative efforts of DRCOG and its participating partners to make planimetric features, especially roofprints, possible. Andy Kuster, GIS manager at Southeast Metro Stormwater Authority and Candida Velasquez, GIS technician at Arapahoe County deserve recognition for their continuing contributions to Arapahoe County’s CRS recertification efforts.

COMMUNITY RATING SYSTEM ANNUAL RECERTIFICATION

CRS Program Data Table	A. In the SFHA	B. In a regulated floodplain outside the SFHA
1. Last report’s number of buildings in the SFHA (bSF) (line 6, last report)		
2. Number of new buildings constructed since last report	+	
3. Number of buildings removed/demolished since last report	-	
4. Number of buildings affected by map revisions since last report (+ or -)		
5. Number of buildings affected by corporate limits changes (+ or -)		
6. Current total number of buildings in the SFHA (bSF) (total lines 1–5)		

Join the 2018 planimetric data project

Article submitted by Ashley Summers, GISP, PMP, information systems manager at DRCOG. Ashley can be reached at 303-480-6746 or asummers@drcog.org.

The region's 2018 [Denver Regional Aerial Photography Project](#) is off to a great start. All spring flights in the Front Range have already been completed. Final, orthorectified imagery will be delivered in December, at which point a **planimetric update** project can begin. To help all potential partners budget accurately and have time to consider their needs and wants, DRCOG is starting to plan now.

DRCOG is already engaging with existing planimetric project partners to get a better understanding of requirements for the upcoming project. We have a rough estimate of costs and are ready to provide quotes to interested entities.

If you are not an existing planimetric project partner but you want to be involved in our upcoming project, please reach out to me at asummers@drcog.org. By participating, you can influence how the project is conducted, the features to be collected and how they are captured and attributed. In addition to being able to tailor the project to your needs, your participation helps the wider GIS community in our region. Our strong partnerships allow us to leverage our modest budgets into quality data sets that power our distinct business needs. Please join us in this [significant regional effort](#).

Download 2014 and 2016 building roofprints, edge of pavement, parking lots, sidewalk centerlines and more for free from our [Regional Data Catalog](#).

More cities and counties provide open data

Article submitted by Ashley Summers, GISP, PMP, information systems manager at DRCOG. Ashley can be reached at 303-480-6746 or asummers@drcog.org.

For many years, DRCOG has compiled local data sets into regional data sets in support of analysis, modeling and measurement. DRCOG's processes have addressed not only the complexity of standardizing disparate content, but also the data-sharing restrictions imposed by each local source. In response, DRCOG built the Data Portal in 2014, an application that collects data-sharing restriction information with each submitted layer. The application helped DRCOG

understand how to protect data according to our member governments' wishes.

This year, DRCOG staff noticed a decline in use of the Data Portal. This is great news! The reason for the decline, at least in part, is because more local governments are sharing their data on their websites for free public download. The increase in local open data sites has been astounding, going from just a handful last year to 20 sites this year.

DRCOG applauds these efforts for their positive effect on our communities by equipping residents, neighbors and partner agencies with data and information.

To peruse local data, check out these open data sites:

[Adams County](#)

[Arapahoe County](#)

[Arvada](#)

[Aurora](#)

[City of Boulder](#)

[Boulder County](#)

[Brighton](#)

[Broomfield](#)

[Castle Rock](#)

[Centennial](#)

[Commerce City](#) **Just launched!**

[Denver](#)

[Douglas County](#)

[Erie](#)

[Gilpin County](#)

[Greenwood Village](#)

[Jefferson County](#)

[Lone Tree](#)

[Weld County](#)

[Westminster](#)

For regional data sets, visit [DRCOG's Regional Data Catalog](#).

Regional Data Catalog includes

housing aggregates

*Article submitted by Dorothy Friday, GIS specialist at DRCOG.
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Planning applications at DRCOG use a geospatial inventory of individual housing unit locations to model current and future development and travel patterns. High-quality housing data improves regional models and contributes to an in-depth understanding of regional growth and behavior. It helps economists and planners predict housing availability, measure open space and improve transportation infrastructure.

Individual housing unit counts are derived from DRCOG's annual collection of county parcels, municipality land use layers, address points and planimetric building data. DRCOG supplements local data with data from InfoGroup, CoStar and University of Colorado Denver. The Area Agency on Aging also provides information on the location and unit count of assisted living facilities in the region.

The data is point-level for internal use. DRCOG now provides aggregations of the internal housing data set by city and county.

DRCOG has maintained the regional housing data set since 2014. The accuracy of housing aggregations varies by location and year. Over time, aggregations of point-level housing data are influenced by factors such as changes in municipal boundaries, changes in available source data and on-the-ground construction. For example, DRCOG planimetric data was not incorporated into the housing data set until the 2016 modeling year, and it revealed several hundred missed housing units in some smaller towns.

Despite inevitable imperfections, the DRCOG housing data set aligns well with other authoritative sources (like the U.S. Census Bureau) and provides valuable insight for research.

Download data from the [Regional Data Catalog](#).

DRDC workshop survey results

Article submitted by Ashley Summers, GISP, PMP, information systems manager at DRCOG. Ashley can be reached at 303-480-6746 or asummers@drcog.org.

In the January newsletter, DRCOG invited data consortium members to provide feedback on the topics and technologies that DRCOG should consider featuring during a technical workshop. In a survey last summer, members indicated that workshops would be a beneficial addition to the consortium's current offerings, which include quarterly newsletters and meetings.

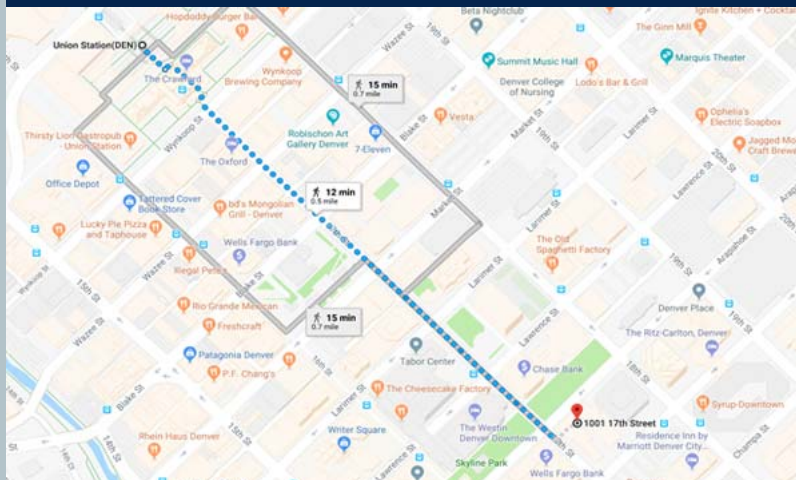
Response the workshop survey was low, with only six people providing feedback. Respondents ranked processing data with open source tools, web-mapping, ArcGIS Pro, QGIS and Python among their top choices for a technical workshop.

Esri hosted a training session on ArcGIS Pro for attendees of our spring DRDC meeting. [Watch the webinar](#). Please also see the latest [ArcGIS Pro Training Guide](#).

FYI: DRCOG is moving!

In June, DRCOG will move from 1290 Broadway to **1001 17th Street**. Please pay close attention to upcoming meeting invites so you join us at the correct location.

The new offices are a short walk from Union Station. We'll also be closer to popular happy hour spots — an opportunity on which we will capitalize after our summer DRDC meeting. Watch your email for more information.



Pop quiz

The [Regional Traffic Counts](#) map provides all-day, total traffic volume data for the period of:

- a) 2011-2016
- b) 2010-2016
- c) 2009-2016
- d) 2008-2016

Respond to Christine Connally with your answer. The first to get it right earns a free beer (or beverage of your choice) at our next happy hour event following the summer DRDC meeting.

Engage with us

- The new version of our Regional Data Catalog launched in January. We invite you to visit the site and give us some feedback in this [brief survey](#).
- This quarterly newsletter reaches more than 300 people, has a higher-than-average open rate and is written by professionals like you. It's the perfect place to show off your projects, highlight your great work and contribute ideas to the GIS community in the Denver region. Newsletter release dates are Jan. 15, April 15, July 15 and Oct. 15 (or the next business day afterward). Please contact Ashley Summers at 303-480-6746 or asummers@drcog.org to contribute.
- Did you miss a newsletter or a meeting? [Visit our website](#) for past newsletter issues and DRDC meeting materials.

For more information on any of the topics mentioned in this newsletter or if you have an idea for an article, please contact Ashley Summers, DRCOG information systems manager, at 303-480-6746 or asummers@drcog.org.

Disclaimer: The information provided in this newsletter is compiled from multiple sources and is intended for informational purposes only. DRCOG assumes no responsibility or legal liability for the accuracy, completeness or usefulness of any information in this newsletter.



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