DENVER REGIONAL DATA CONSORTIUM

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.

Give us your feedback

DRCOG needs your feedback to guide data development and collaboration efforts in the region. Please take a moment to provide your thoughts in these two surveys:

- Denver Regional Data Consortium survey: DRCOG GIS staff poll the DRDC group annually to learn how to tailor our meetings, newsletters and data development efforts to better meet the community's needs.
- Bike-sharing and dockless mobility: DRCOG transportation planning staff would like to learn more about bike-sharing and dockless mobility programs or pilots in the Denver region. If your community has or is considering a program, we would like to collaborate with you.

RTD's quality of life study

Article submitted by Carly Macias, senior transportation planner at RTD. Carly can be reached at 303-299-2513 or carly.macias@rtd-denver.com.

FasTracks is the Regional Transportation District's 2004 voter-approved rapid transit expansion program transforming transportation throughout the Denver metro area. Upon completion, FasTracks will add 122 miles of new light rail and commuter rail, 18 miles of bus rapid transit and 57 new stations to the RTD system.

The quality of life study is RTD's data-driven evaluation of progress toward meeting the FasTracks program goals.

- Goal 1: balance transit needs with regional growth
- Goal 2: increase transit mode share
- Goal 3: improve transportation choices and options

2018 Quality of Life Report

On Aug. 7, the annual Quality of Life Report was presented to the RTD Board. The report analyzed metrics based on the most recent data available, including data from 2015 to 2017. The report is available online at http://rtd-denver.com/qol. The following section includes some interesting metrics from the report.
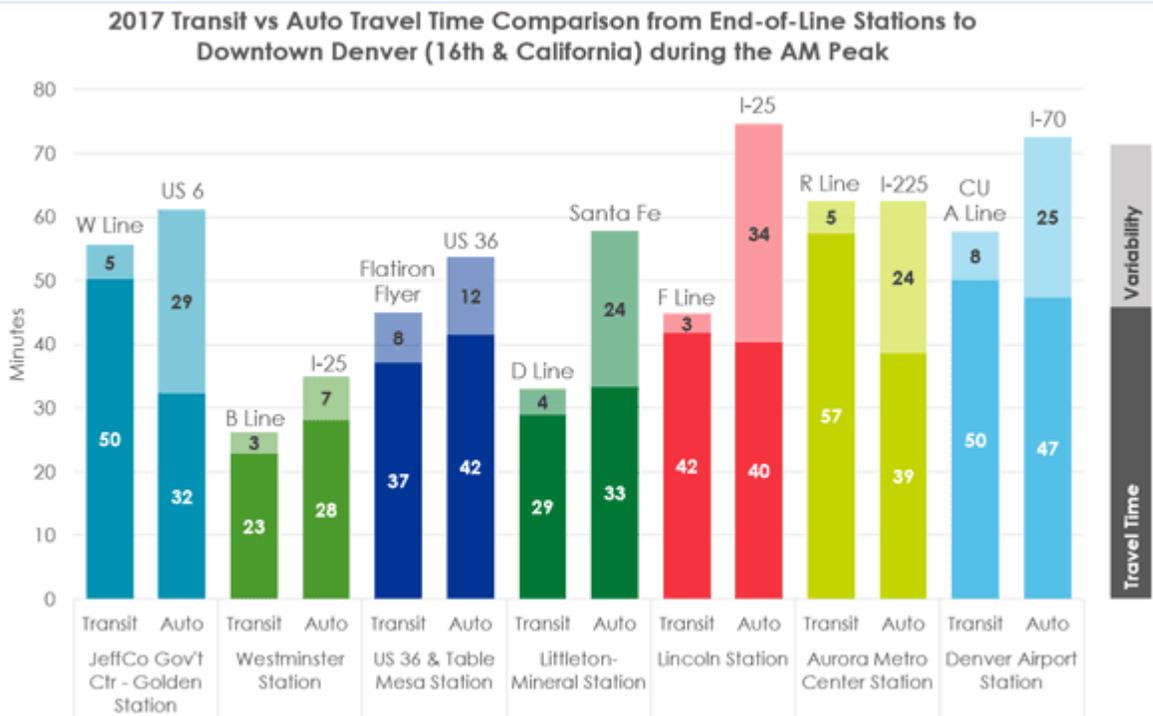
Miles of rapid transit

The rapid transit network has more than doubled in the past 10 years. It will continue to grow as future FasTracks lines open.
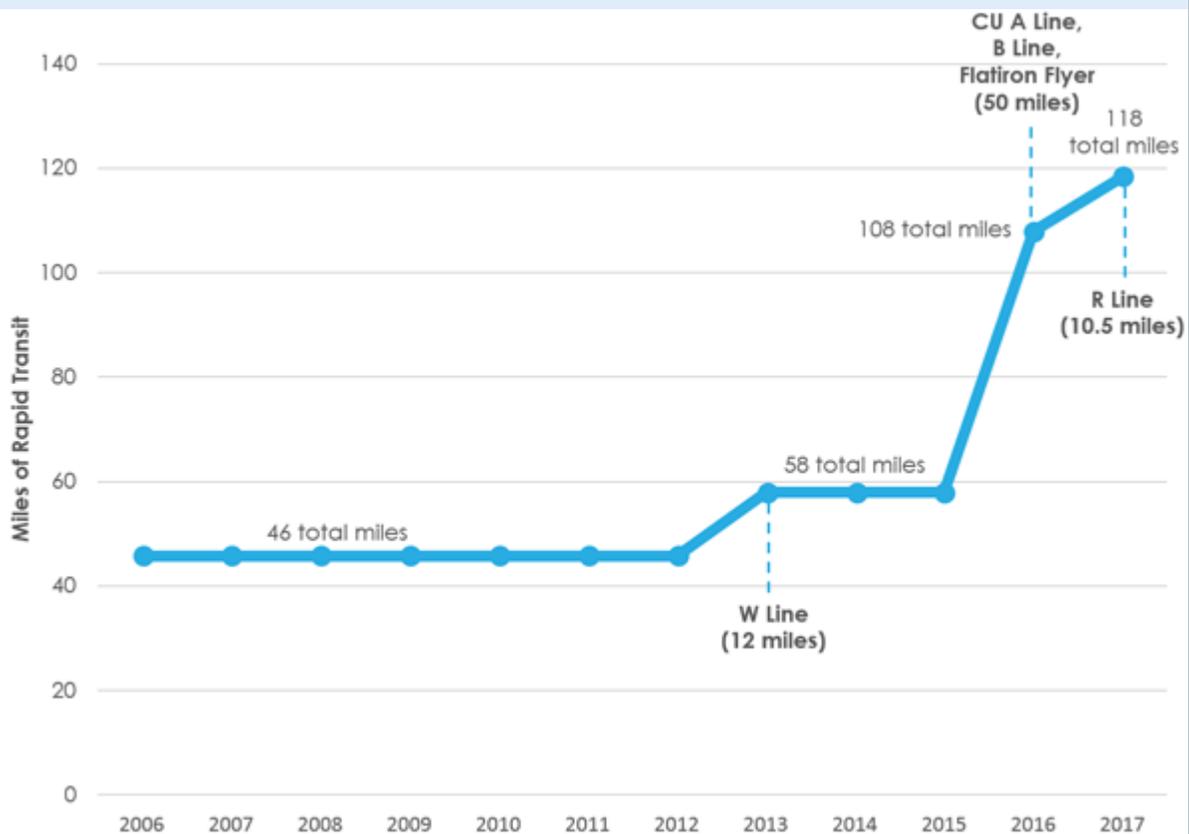
Source: RTD

Travel time and variability

Transit and auto travel times were similar in five of the seven open rapid transit corridors. In 2017, variability added an average of 13 percent to transit travel times and 60 percent to auto travel times.

2017 Transit vs Auto Travel Time Comparison from End-of-Line Stations to Downtown Denver (16th & California) during the AM Peak
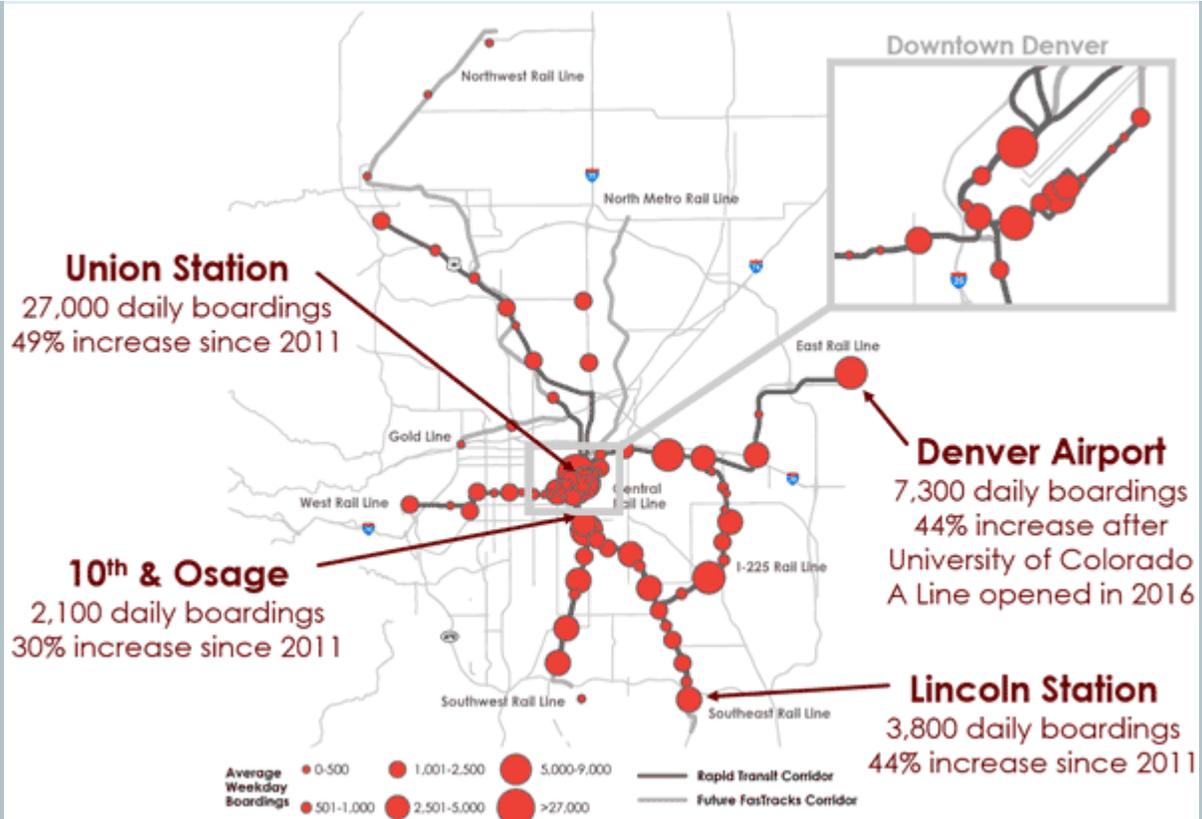
Source: RTD, INRIX, Google Maps

Note 1: Variability is the amount of time that must be budgeted in order to ensure that you arrive at your destination on time.

Note 2: Table Mesa and Aurora Metro Center stations were chosen as representative end-of-line stations for the Flatiron Flyer and the R Line.

Transit boardings at stations

Average weekday boardings have increased at many transit stations. Union Station had over 27,000 boardings in 2017, growing 49 percent since 2011. Daily boardings at the 10th and Osage station, Lincoln station, and Denver Airport station also showed significant growth.

Union Station
27,000 daily boardings
49% increase since 2011

10th & Osage
2,100 daily boardings
30% increase since 2011

Denver Airport
7,300 daily boardings
44% increase after
University of Colorado
A Line opened in 2016

Lincoln Station
3,800 daily boardings
44% increase since 2011

Downtown Denver

Northwest Rail Line
North Metro Rail Line
East Rail Line
Gold Line
West Rail Line
Central Rail Line
I-225 Rail Line
Southwest Rail Line
Southeast Rail Line

Average Weekday Boardings: 0-500 | 501-1,000 | 1,001-2,500 | 2,501-5,000 | 5,000-9,000 | >27,000
Rapid Transit Corridor
Future FasTracks Corridor

Source: RTD RideCheck Plus

Travel to Park-n-Rides

In 2017, 93 percent of Park-n-Ride users were in-district, while 7 percent were out-of-district. The average trip distance was 7.3 miles and the median trip distance was 3.4 miles. About 25 percent of trips were less than 2 miles long and 9 percent of trips were less than 1 mile long.

High   Low   ▬▬▬ Rapid Transit Corridor
                           ▬▬▬ Future FasTracks Corridor

Source: RTD License Plate Survey

High-frequency transit network

The high-frequency transit service area grew 61 percent, from 50 to 81 square miles, between 2006 and 2017. The high-frequency transit service area includes rail stations (within ½-mile), Flatiron Flyer stations (within ½-mile), and bus stops (within ¼-mile) that are served by a transit route providing four or more trips per hour from 6 a.m. to 6:30 p.m.
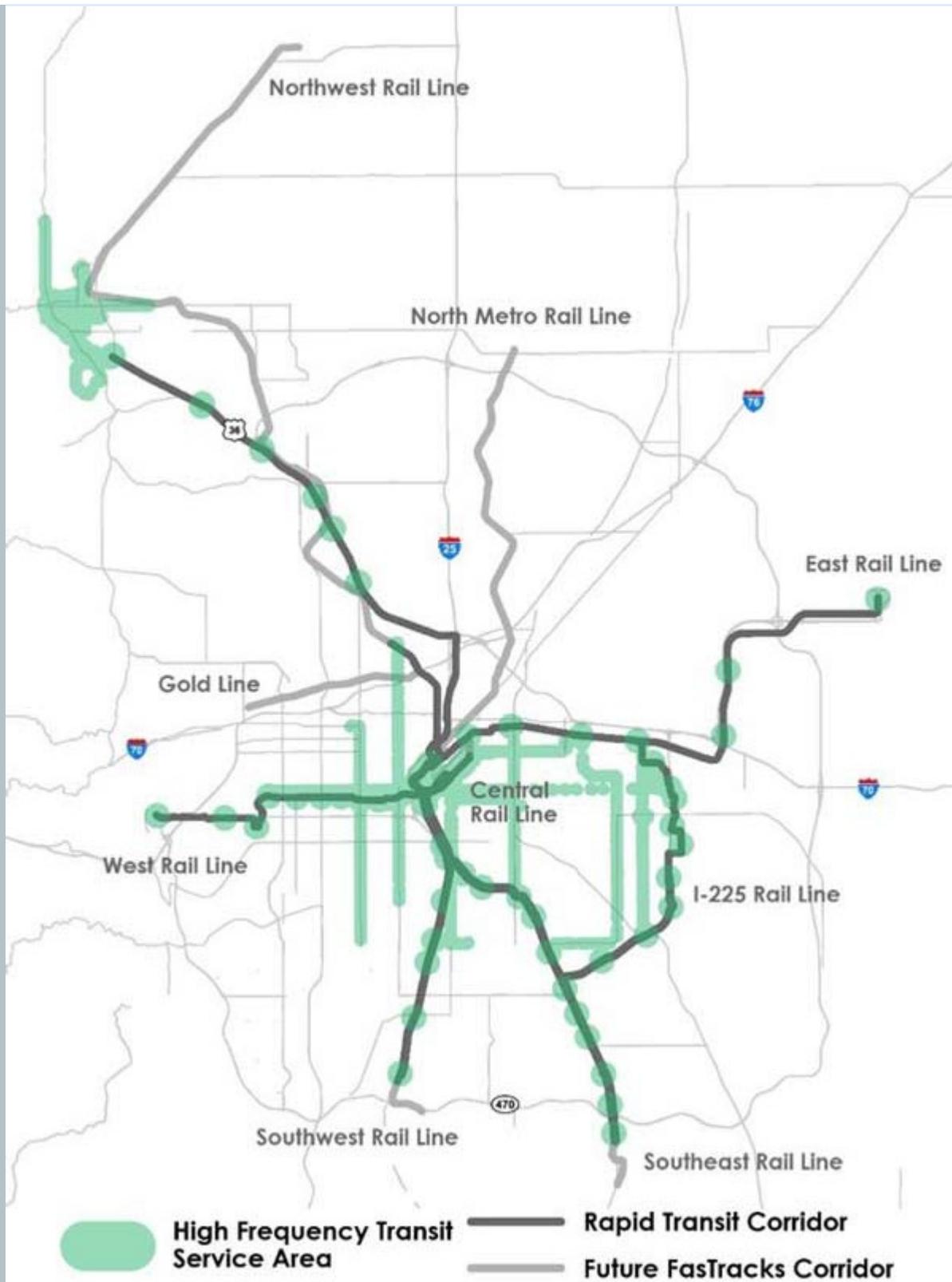
Source: RTD

Developing regional intelligent transportation system architecture

Article submitted by Greg MacKinnon, transportation operations program manager at

DRCOG. Greg can be reached at 303-480-5633 or gmackinnon@drcog.org.

Federal regulation ([Code of Federal Regulations Title 23, Part 940](#)) imposes requirements on the implementation of transportation technology projects funded with highway trust funds. The requirements are twofold. First, a regional intelligent transportation systems (ITS) architecture, based on the [national ITS architecture](#), must be established and maintained. Second, project implementation must be based on a systems engineering analysis, which begins with the regional ITS architecture.

DRCOG, in cooperation with the Denver region's stakeholders, maintains the [DRCOG regional ITS architecture](#), a framework for the deployment of an integrated transportation system in the region. The DRCOG regional ITS architecture includes:

- identification of participating agencies and stakeholders and their roles in system implementation and operation
- identification of agreements required for maintenance and operations
- definition of system functional requirements (for example, interface requirements, required information flows and applicable national standards)
- a general project implementation sequence

DRCOG schedules at least one regional ITS architecture update per year.

Transportation technology project sponsors are responsible for applying a systems engineering analysis to the development and implementation of their projects. This begins with the identification of the portions of the regional ITS architecture being implemented. The project description also expresses the related stakeholder roles and responsibilities, system requirements and standards, and general operations and management. Additionally, the project sponsor must analyze alternative system configurations, technology options and procurement options to meet the system requirements.

Please contact [Greg MacKinnon](#) (303-480-5633) for regional ITS architecture support during the early stages of project development.

Active Transportation Plan and new bike and pedestrian map

Article submitted by Emily Lindsey, transportation planner at DRCOG. Emily can be reached at 303-480-5628 or elindsey@drcog.org.

DRCOG staff, alongside the active transportation stakeholder committee, have been developing a draft Active Transportation Plan since late 2017. Informed by stakeholder and public outreach conducted earlier this year and workshops across the region with local government staff, the draft plan includes:

- a vision for a safe, comfortable and connected regional active transportation network
- a toolkit that outlines programs, policies and facilities that support active transportation

- guidance on approaches to implementing active transportation improvements
- profiles of each of the counties within the DRCOG region

Staff anticipates releasing the draft to the public this month with a 30-day comment period.

In conjunction with the development of the forthcoming bicycle and pedestrian crash report (which will also be an appendix to the Active Transportation Plan), DRCOG staff developed a bicycle and pedestrian crash data map. Users can see the locations of bicycle and pedestrian crashes from 2010 through 2015 and filter points by injury level of crash by mode. View the map.
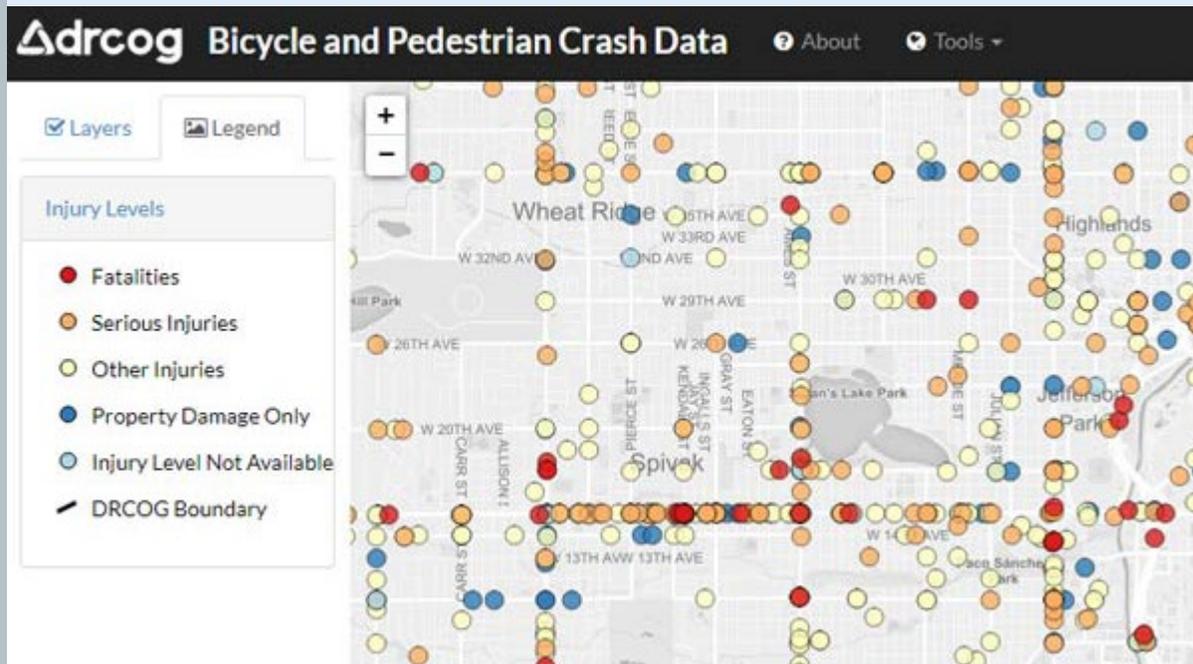
Using planimetric data to improve the regional housing dataset

Article submitted by Sydney Provan, GIS intern at DRCOG. Sydney can be reached at s_provan@drcog.org.

In 2014, DRCOG created a regional master housing data set. It contains point-level data of all the housing units in DRCOG's boundaries and is updated annually. Users can consult the data set to understand the spatial distribution of housing near transit stops, floodplains, high-risk fire zones and areas where new growth is likely to occur. As valuable as the data set has already proved to be, it is limited because the housing points do not correspond to individual buildings.

The most recent efforts to improve the housing data set have leveraged DRCOG's planimetric data to create a spatial relationship between housing points and the built environment. The planimetric roofprints layer is essential to both identifying and resolving errors where points in the housing data set do not match the corresponding building. The planimetric data has also helped identify other errors that were previously difficult to spot, like demolished structures and changes in manufactured home parks.

Improving the master housing data set to correspond with planimetric data creates opportunities for new use cases. A few examples include analyzing the distribution of housing types, linking average unit square footage to demographic data and creating more accurate models of neighborhood walkability.

Last chance to join the 2018 planimetric 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.

DRCOG is preparing to update planimetric data in the region using 2018 imagery. This project will start in January and is intended to collect changes from 2016 in building roofprints, edges of pavement, sidewalks, parking lots and more.

To date, 21 partners have expressed their interest in contributing to the program. We are well on our way to funding the update, but we aren't there yet!

If you use the planimetric data frequently and want to ensure that your areas of interest continue to be updated, become a contributing partner.

Census Participant Statistical Areas Program

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 U.S. Census Bureau is gearing up for 2020 by soliciting feedback through programs like the Boundary and Annexation Survey (BAS), Local Update of Census Addresses (LUCA), and the Participant Statistical Areas Program (PSAP). The latter is an initiative to ensure that statistical geographies like tracts and block groups are delineated in a way that best supports future data analysis.

DRCOG will be participating in PSAP on behalf of stakeholders in our region. This means that we will delineate new census geographies as needed or requested by data users. To ensure statistical validity of its products, the U.S. Census Bureau will require us to make changes to geographies that are outside of its recommended thresholds for minimum and maximum households. Beyond that, we are invited to make additional changes that we deem necessary based on our local knowledge of expected development patterns.

Although DRCOG is tasked with coming up with the official "PSAP plan" that gets submitted to the U.S. Census Bureau, we know there are many parties that would like to have a say in the final product. Join us at our upcoming meeting to learn more.

DRCOG PSAP meeting
Tuesday, Oct. 16
2 to 4 p.m.

Denver Regional Council of Governments
1001 17th St. Denver, CO 80202
Aspen conference room (first floor)

Visitor's map

Can't attend in person? Join us remotely:

Registration URL: https://attendee.gotowebinar.com/register/89861280214321153
Webinar ID: 926-091-099
Access Code: 954-451-473

New smart data analytics challenge: Addressing Colorado's Critical Issues

The Governor's Office of Information Technology is pleased to announce a new smart data analytics challenge – Addressing Colorado's Critical Issues – and invites data

analysts from government, nonprofit and private industry to participate!

Participants in the challenge will leverage relevant public data sets to understand and develop analysis-based insights leading to solutions to three critical topics in Colorado: the opioid crisis, water supply and smart cities.

This six-week challenge will begin with a challenge kick-off event on Nov. 8, from 3:30 to 6:30 p.m. at the EXDO Event Center in Denver. The event will provide an opportunity to meet with agency personnel to define and refine analysis questions that will be most valuable to the state in addressing the topics.

Participating teams must include data analysts or scientists (students in the field are welcome) with relevant educational background and professional experience working with data and analysis in government, nonprofit or private industry. Ideally, teams will also include members familiar with the issues related to the topic areas and how data can inform solutions to those issues.

> **Timeline**
> Kick-off: Nov. 8, 3:30 to 6:30 p.m.
> Data checkpoint: week of Nov. 15
> Submissions due: Dec. 6
> Final awards: Dec. 14

Register here

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.

We make life better!
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