Art of Data Exhibition: Photos and Statements from Participating Artists

City of Boulder Open Data Program

December 2018 – February 2019
What is **Art of Data?**
The vision behind the *Art of Data* exhibition was to encourage community members to use the *City of Boulder’s data* in creations of innovative *data-driven art* in order to:

- Increase transparency and accountability in local government
- Create an open dialogue about important issues in our community
- Tell better data stories and communicate key pieces of information
- Use data to influence smarter decision-making
- Increase awareness and use of the [City of Boulder Open Data Catalog](http://example.com) and other public releases of data
Facts about Art of Data:

The original idea was inspired by a similar community exhibition in Kansas City MO.

Boulder’s Art of Data exhibition was co-sponsored by the Boulder Public Library and the City of Boulder’s Innovation & Technology Department.

An open call for artwork ideas was held in spring 2018. Artists were asked to use 1 or more public, local datasets as inspiration for their artwork and describe why they were inspired by the data.

The Art of Data exhibition was on display in the Boulder Public Library’s Canyon Gallery from December 7, 2018 to February 3, 2019.
Watch this 2 minute video about the *Art of Data* exhibition
ART OF DATA

Artist Statements, Datasets Used, & Photos
**Materials:** Wood sculpture, spray paint, hand writing

**Data set(s) used:** Community Assessment Online Survey Results

**Artist Statement:** As an analyst and designer, I approach problems quantitatively and qualitatively to fully understand what I’m trying to solve. Taking the time to get to know a measurable problem through stories lets us be surprised, and plants seeds for solutions that are more effective than what we could sow with just a surface-level understanding. This life-size bar chart represents the following two survey questions:

**Question 3. In general, how safe do you feel in the Boulder community?**

1 = Very Safe  
2 = Somewhat safe  
3 = Don’t know / Not sure  
4 = Somewhat unsafe  
5 = Very unsafe
Safe | Amalie Barras

Photos by Lauren M Click / City of Boulder
Materials: Cut paper bas relief

Dataset(s) used: 100-year and 500-year Floodplains, September 2013 Urban Flood Extents, FEMA Individual Assistance Applications

Artist Statement: “It was a big one, but it wasn't the big one.”

– Kevin Houck, Colorado Water Conservation Board

Boulder is considered to be the city facing the biggest flood threat in the state of Colorado. A number of steep mountain streams feed the creeks that run through the center of the city and each one is vulnerable to flash flooding. All of these streams flooded in September 2013. Large amounts of sediment, ranging from small pieces of clay to boulders up to three feet in diameter, were transported out of surrounding canyons and deposited in the Boulder Creek. In addition, floodwaters relocated many water channels. These forces resulted in $2 billion in property damage.

The length of the cuts indicates the degree of damage. In some locations, floodwaters fell short of statistical 100 and 500-year flood lines. These areas are indicated with more space between cuts to indicate the larger potential flood threat.
Boulder Flood | Rachel Doniger

Photos by Nicolia Eldred-Skemp / City of Boulder
Materials: Crochet, cotton

Dataset(s) used: Daily record of temperature reading at 8 a.m. in Boulder, CO

Artist Statement: I am one of hundreds of crocheters worldwide who are participating in making individual temperature blankets. In comparing our blankets online, we record the various temperatures, from Australia, Dubai or Ireland.
Temperatura MMXVIII | Cynthia Allison

Photo by Lauren M Click / City of Boulder
Still Sharing the Moon | Belgin Yucelen

**Materials:** Ink on paper

**Dataset(s) used:** Boulder City database for the names of the people buried in the Colombia Cemetery

**Artist Statement:** I create sculptures, installations, movies and prints drawing on the traditions of the past and today's ethics. I am interested in tracing the shifts over time in cultural values by referencing history, anthropology, historical literature and architecture. I referred to the Boulder City database for the names of the people buried in the Colombia Cemetery to create this piece. I am interested in honoring these people who still share the same moon as the rest of us.
Still Sharing the Moon | Belgin Yucelen

Photo by Lauren M Click / City of Boulder
**Path to Home | Linda Olsson**

**Materials:** Fabric, mixed media collage, upcycled materials

**Dataset(s) used:** Community Dashboard Boulder County Assessment Survey

**Artist Statement:** Transforming materials and creating textures to tell a story or trigger the imagination – in this case Boulder’s homeless services and the tension between homeless and residents or visitors. I was interested in how the coordinated entry and navigation approach was working with the homeless, and surprised at how large the numbers of people processed were and how long many had been homeless. The numbers far exceed the beds available (as of April 30, 1,217 people processed through Coordinated Entry vs 210 bed capacity). This work uses primarily upcycled and rescued materials, with rust dyeing and fabric printing. The design references the 24 months or more of homelessness for nearly half those served, the welcoming trees lining Boulder streets, the coordinated entry program, the fears about the homeless expressed in a recent community survey, and the goal of a home.
Boulder Pattern | Jenny Knuth

**Materials:** Paper, fabric

**Dataset(s) used:** City Subdivisions

**Artist Statement:** For this piece I was looking for data with interesting shapes. I took the geometric shapes of Boulder subdivisions and the organic shapes of the September 2013 flood extent and made them into an infinite repeat pattern that could be printed seamlessly on fabric or paper.

I enjoy the interplay of nature and the built environment. Take Boulder with you, trace your journeys, locate yourself in the fingerprint of the city, see Boulder in a new way.
Boulder Pattern | Jenny Knuth

Photos by Lauren M Click / City of Boulder
Materials: Embroidery

Dataset(s) used: Creeks and ditches, lakes and ponds, street centerlines

Artist Statement: When I saw the data of the creeks and ditches, the network of channels in and around the city was much denser than I expected. I could see that much of the hydrology of Boulder was human-constructed.

The history of ditches in Boulder is fundamental to the history of water in the western United States. As arid regions were settled, water was engineered and appropriated in new ways, much of it pioneered in Boulder County.

So, I took the dataset and separated out the ditches, laterals, and aqueducts from the creeks. I liked how the contrasting shapes between the creeks and the ditches, embroidered in blue, and their laterals, embroidered in orange, tell a story.

I have always been interested in environmental history. This piece is an embroidery sampler and, like our evolving landscape, a work in progress.
Stitch a Ditch | Jenny Knuth

Photo by Lauren M Click / City of Boulder
Materials: Fabric, yarn, paper

Dataset(s) used: Boulder Library website, Open Data Catalog, word of mouth

Artist Statement: Data, numbers, online registration, filling applications- the main source for everything I needed to find has been my continual challenge for the past year and a half. As a new citizen from another culture, all the information I receive everyday is overwhelming and it was quite frustrating finding myself in Boulder facing a different culture and different urban system, although fluent in the English language. City life, traffic jam, shopping, streets, respect, discipline, and chaos! Many concepts had a completely different meaning for me. Honestly, many times I felt I was here as an alien from another planet and that feeling gave way to the title "Parisa in Wonderland." The fabric from Iran, symbolizes my background, colorful yarns are used in the entry area of many tribal homes in Western and Central Asia, and the hanging notes are all actual questions I had as a new resident of Boulder.
Discover Open Data | Wesley and Christina Schlachter

**Materials:** Acrylic on canvas

**Data set(s) used:** Library Performance Indicators, OSMP Trails, Parks and Recreation activities, playgrounds, senior activities, parent engagement events, social media post views, Connect Boulder Wi-Fi coverage

**Artist Statement:** Boulderites know we have a world to discover outside our doorstep, but did you know there is a world to discover with data? How we connect with our community comes to life with a visual representation of Boulder Open Datasets. From discovering how many gymnasts tumble with Parks and Recreation to the reach of the City of Boulder social media, from EXPAND participation to library visitors, the playful scene demonstrates the simplicity of accessing and analyzing information.
A Prairie Dog Companion | Laura Hyunjhee Kim and Libi Rose Striegl

Materials: Wall relief sculpture

Dataset(s) used: OSM prairie dog colonies

Artist Statement: “A Prairie Dog Companion (2018)” is inspired by City of Boulder’s active prairie dog colonies and seasonal city-wide relocation efforts. Drawing from quantitative open datasets that have been recording Boulder’s active prairie dog colonies every fall since 1996 and qualitative ones that consist of interviews from the Boulder Valley community members, we were greatly intrigued by human and animal migration and relocation patterns within the city.
A Prairie Dog Companion | Laura Hyunjhee Kim and Libi Rose Striegl

Photo by Lauren M Click / City of Boulder
Materials: Electronic

Data set(s) used: Library performance indicators

Artist Statement: Boulder’s Library Performance Indicators paint a dynamic picture of the influence libraries have on daily life in Boulder. Our libraries have moved beyond simply providing books to providing a variety of informational and community services that are a valuable addition to the civic landscape. By looking at how different indicators move over time, we can get a sense for how the libraries are succeeding (or failing) in their goal to become a center for community and culture.
Lightwall II | Albert Wavering and Justin Sinichko

Photo by Lauren M Click / City of Boulder
**Materials:** Quilted wall hanging

**Data set(s) used:** Street network and census tracts

**Artist Statement:** What does the data show? Questions like this are routinely asked in discussions about the governance and management of communities. In these conversations, data is used to represent characteristics of the community and this process can help form a shared understanding of places and community needs. However, data can be coarse and often comes with limitations that should be understood. Describing details about the people living in a community, such as age or race, can't be done without first aggregating the data geographically to protect individual privacy and to make it more manageable. This exhibit uses color as the “data” and illustrates both the coarse nature of these geographic aggregations, in this case Census Tracts (B), and also how the aggregation of data blurs the true complexity and colors found within the fabric of our community (A).
**Materials:** Digital illustration

**Data set(s) used:** City of Boulder traffic count data

**Artist Statement:** On an average day, 1,197,000,000 pounds of metal, plastic, and rubber roll in and out of the city. The mass of six Nimitz Class aircraft carriers flows back and forth. This machine mass carries 53,435,000 pounds of meat, bone, and brain going about its daily business. Every day. Every year. Projections indicate a 20% increase by 2035.
Island City Influx | J. Deckert

Photo by Nicolia Eldred-Skemp / City of Boulder
**Hidden Layers: Boulder | Chase E. Stewart and Spencer Arrasmith**

**Materials:** Custom circuit and hardware on FR4 material, laser-cut acrylic, mounting hardware

**Dataset(s) used:** Boulder street centerlines Boulder building footprints, 40 .DEM tiles from Boulder Post-Flood DEM Final LiDAR data

**Artist Statement:** A discussion of the large-scale meta-trends in Boulder led us to a curiosity towards the ways Boulder has grown in terms of city size, buildings, and traffic. We have created a platform to visualize these changes dynamically—one that allows us to update our artwork after creation and use Boulder itself as a canvas for rendering data.

The other inspiration for this project is our interest in finding a highly digital medium that remains tactile and glance-able for any audience. We present something that intuitively scans as "electronic" while remaining a curious art object. The printed circuit boards (PCBs) within the electronics that surround us at all times are exclusively utilitarian objects, emphasizing shortest paths and simplest layouts to perform their functions. We subvert this process, using a physical Hidden Layer in our world to present an intangible one.
**Materials**: Printed poster

**Dataset(s) used**: Crime locations

**Artist Statement**: What would we see by looking at crime statistics in a different way? “Crime Seen” reveals the types and frequency of crimes that neighbors and guests endured and that police responded to. Each line is one crime, each color represents a crime category and each group of lines is one year of statistics, traveling chronologically from left to right. There were approximately 2,500 to 3,300 reported crimes per year from 2008 to 2017 according to Boulder County's Open Data Catalog.
**Trails | F. Ria Khan**

**Materials:** Lasercut wood, Arduino, physical computing, Illustrator

**Data set (s) used:** Boulder OSMP trails

**Artist Statement:** Hiking and outdoor activities are in the heart of Boulder culture, yet I wasn’t an avid hiker myself until recently. While living here the past 5 years, I rarely explored the outdoors, and part of that was not knowing where to start or which trails and spaces would suit me best. I admire the Boulder data catalogs for bringing so much information to the public, and the data from Open Space and Mountain Parks sparked an interest with my inner outdoor adventurer. Using that data, I made this map to inspire others as well in the city of Boulder to discover the wondrous natural splendor that we’re graced with here.
Trails | F. Ria Khan

Photo by Lauren M Click / City of Boulder
ART OF DATA

Additional photos of exhibition and community events
Art of Data Exhibition Sign | Nicolia Eldred-Skemp

Materials: Wood, paint

Artist Statement: When the Boulder Public Library offered to co-host the City of Boulder’s ‘Art of Data’ exhibition in the Canyon Gallery, I knew I should utilize the great free resources at BLDG 61 to create the official gallery sign. I wanted to incorporate data into the sign, so I used topographic maps, circuit boards, and data trend lines in the design. The Art of Data letters were designed in Adobe Illustrator, using modifications of vector files obtained from FreePik.com. The letters were printed on the laser cutter in the Boulder Public Library’s BLDG 61 and were mounted on a painted piece of plywood.

Special thank you to the BLDG 61 Creative Technologists who were incredibly helpful with the execution of this sign.
City of Boulder’s Innovation & Technology Department Innovation Program

The City of Boulder Innovation & Technology Department sponsors and supports a variety of innovation efforts across the city. Programs include Open Data, Boulder Measures, Performance Management, Process Improvement, and Smart City Strategy.

Performance Management

Strengthening city services through data-driven decision making

The City’s community dashboard, Boulder Measures, has over 16 dashboards tied to our Sustainability & Resilience Framework. Dashboards contain interactive data on topics such as affordable housing, homelessness, traffic collisions, and fire response times. Visit www.boulder.co.gov/boulder-measures to learn more about how we’re measuring progress for key programs!

KPIs for Community Resilience

The city is developing Key Performance Indicators (KPIs) for key city services and programs, which will be incorporated into budget decision-making.

Process Improvement

Strengthening citywide efforts to make services more efficient

In 2017, the City of Boulder launched an initiative on Denver Peak Academy’s International-recognized process improvement methodology. The program was working to strengthen our culture of service at the city.

Open Data

Making city data available for heightened collaboration, transparency, and accountability

High value datasets

Community can access existing datasets, including: Police Call Log, Business Licenses, Library Connect & Patrons, Waste Dispositions, Events to City Goals.

Libraries

Strategic number of print vendors and implemented new technology to help with printing reductions. Over $33,500 in savings per year.

Data Reporting

Chaining existing and new processes using Tableau and Microsoft Power BI as a dashboard for internal processes and data, ensuring transparency and data-based decision making.

Monogov Court

• $14,500 per year saved due to process improvement and automation
• 50% reduction in paper usage
• Reduced turnaround time for tickets available for payment

Questions?

If you have questions about a particular program or initiative, you may contact Nicolia Eldred-Skemp, Program Manager for Open Data & Performance Management, at Nicolia.Eldred-Skemp@boulderco.gov

City of Boulder’s Innovation & Technology Department Innovation Program

Photos by Nicolia Eldred-Skemp / City of Boulder
ABOUT ART OF DATA:

Data is beautiful. Data can track the response times of public safety personnel to emergencies. Data can reveal which neighborhoods are more prone to flooding. Data can share when city programs are in higher or lower demand throughout the year.

And data leads to discoveries. By compiling and sorting information, we can see where patterns develop, efficiencies emerge and most importantly, how to become better. We are all accustomed to processing data through charts and graphs, but the potential of data is much greater.

While charts and graphs are straightforward methods of communication, art has the ability to move from telling to sharing. It sparks the conversation. Art evokes a personal connection, inspires curiosity and can reach viewers on an emotional level. Inspired by a similar project in Kansas City, Missouri, the City of Boulder wanted to explore this deeper side of data.

This exhibition includes work collected as the result of a community open call. The call invited artists to become inspired by a city dataset from the city’s Open Data Catalog and create their own expression of the data through art. The works created not only illuminate the city’s data in a whole new way — hopefully they also ignite new connections for the viewers as well.
Art of Data Opening Reception

Photos by Nicolia Eldred-Skemp / City of Boulder
Art of Data
Data Visualization Contest

Photos by Nicolia Eldred-Skemp / City of Boulder
What’s Next?

The City of Boulder Open Data Program is considering hosting a bi-annual *Art of Data* exhibit in the Boulder Public Library’s Canyon Gallery.

In the meantime, the Open Data Program is focusing on producing additional datasets for public use and is partnering with local organizations such as Code for Boulder, CU Boulder, and Analyze Boulder.

Start at [https://bouldercolorado.gov/open-data-engage](https://bouldercolorado.gov/open-data-engage) for more information!