High cost, little consistency in tracking Arkansas teacher absences (2019)

I led this project, while our K-12 reporter, Cynthia Howell, led our sidebar, found here: http://www.emilywalkenhorst.com/uploads/1/0/2/4/102420406/lr_district_taking_better_attendance_on_teachers.pdf. I had asked Cynthia, and other reporters, to pitch me data-driven story ideas, if they had any. Cynthia did. It was a doozy: We know how often students are absent from the classroom and that it's a problem, but how often are Arkansas' teachers absent from the classroom?

I spent months trying to obtain teacher absence data for a three-year period from the state's largest traditional and charter public school districts. But they collected it all differently and classified reasons for absences differently. Federal Office of Civil Rights data contained numerous obvious errors, confirmed by the school districts that had submitted the numbers. Even when isolating the Little Rock School District — the largest district and under state control — I found district officials did not appear to understand what the data actually contained. I wrote this to close the sidebar: "Little Rock school officials touted the turnaround of Henderson Middle School's teacher absenteeism, where former Principal Frank Williams had teachers fill in for one another and rewarded teachers who had perfect attendance with candy and a raffle. The use of substitutes dropped dramatically over the three years Williams was there. But a closer look at the district data by the *Arkansas Democrat-Gazette* shows that absences among teachers were similar during that time. The school just had fewer filled teaching positions in the 2016-17 school year, and thus fewer full-time teachers to be absent."

Ultimately, we decided to run a mainbar on how it's not easy to find out how often teachers are absent and a sidebar on the Little Rock district. I created an embedded chart of substitute costs, found here (may run into paywall): https://www.arkansasonline.com/news/2019/mar/24/teacher-absences-way-up-but-why-is-most/ (Notes: Our CMS orders bylines alphabetically, so the order will not match the PDF. The headline in the mainbar needed to be corrected. We had written several suggested headlines, but without our knowledge a different headline ran.)

53% of levees Corps-listed as deficient (2017)

I did this project on my own. I used the National Levee Database and obtained inspection reports for dozens of levees across Arkansas, exploring all of the ways most of the state's known levees were not meeting standards. I interviewed levee operators and people affected by flooding. I also wrote a sidebar on how fixing levees was a stated, but unfunded, goal of Congress post-Hurricane Katrina: http://www.emilywalkenhorst.com/uploads/1/0/2/4/102420406/fixing_u.s._levees_an_aim_with_little_action.pdf.

Two years after this published, a levee in bad shape breached during historic Arkansas River flooding. The consequence? Millions of dollars in damage with no funding source, because years of neglect made it mostly ineligible for federal assistance: http://www.emilywalkenhorst.com/uploads/1/0/2/4/102420406/states_levees_hold_up_but_systems_fragility_laid_bare.pdf. The eventual cost of fixing levee deficiencies along the Arkansas River was estimated to be more than $100 million. It's unclear where most of that money will come from, but the governor created a task force to better the state's levees and set aside $10 million.

I made an interactive map this summer of levees along the Arkansas River and noted whether they were in acceptable condition: https://www.arkansasonline.com/616levees/.

College embrace younger learners; high schoolers now 12% of state's college students (2019)

As I was source-building on my new beat, higher education, I had been hearing that high schoolers enrolling in college courses for both high school and college credit (called "concurrent" in Arkansas) was a growing and little-regulated movement. Colleges were vying for these students, with scant evidence suggesting they could actually benefit from having them as students or that the students graduated college any faster after entering with some credit already.

For this story, I made a database of higher education enrollments, broken down by student type, to determine that high school students now comprised a sizable chunk of the state's higher education students.

I collected data on the racial makeup of concurrently enrolled high school students and compared it to the state's high school population. I bypassed Family Educational Rights and Privacy Act restrictions that suppressed student totals below 11 by using a COUNTIF function in Excel to determine all possible ranges of the racial makeup of the concurrently enrolled student population — i.e. from the minimum number of Black students amid the maximum number of white students to the maximum number fo Black students amid the minimum number of white students. No matter the scenario, students of color were underrepresented in concurrent courses, when compared to their makeup in the general high school student population.

I talked with lawmakers, school leaders, government leaders and a handful of concurrently enrolled students.

Paper mill's emissions go unregulated, exceed their permit (2018)

I was the lead reporter for this investigation. I had asked another reporter to help me sort through vast amounts of records I had obtained related to the wide variety of complaints residents in this community had about the area paper mill. For this project, I found our human sources and found that hydrogen sulfide emissions were higher than what the company's permit stipulated and confronted state regulators about it. Additionally, I took photos and conceived of all of the graphics and created an interactive map of hydrogen sulfide test results, found here: https://www.arkansasonline.com/crossett/. Together, we found that the Georgia- Pacific paper mill in Crossett, a poor town on the Louisiana border, had emitted high levels of hydrogen sulfide and contributed to concentrations of the chemical in the air that could irritate residents' sinuses. Later that year, after we published, the paper mill entered a multi-million corrective action settlement with state and federal government to address hydrogen sulfide emissions. Here's that story: http://www.emilywalkenhorst.com/uploads/1/0/2/4/102420406/papermillfined.pdf (A note: the headline in the March 2018 story had to be corrected, because the odor was not above limits; we did not write the headline nor see it prior to publishing.)

Residents near 1 lake warned of problems with dam; not uncommon in state (2018)

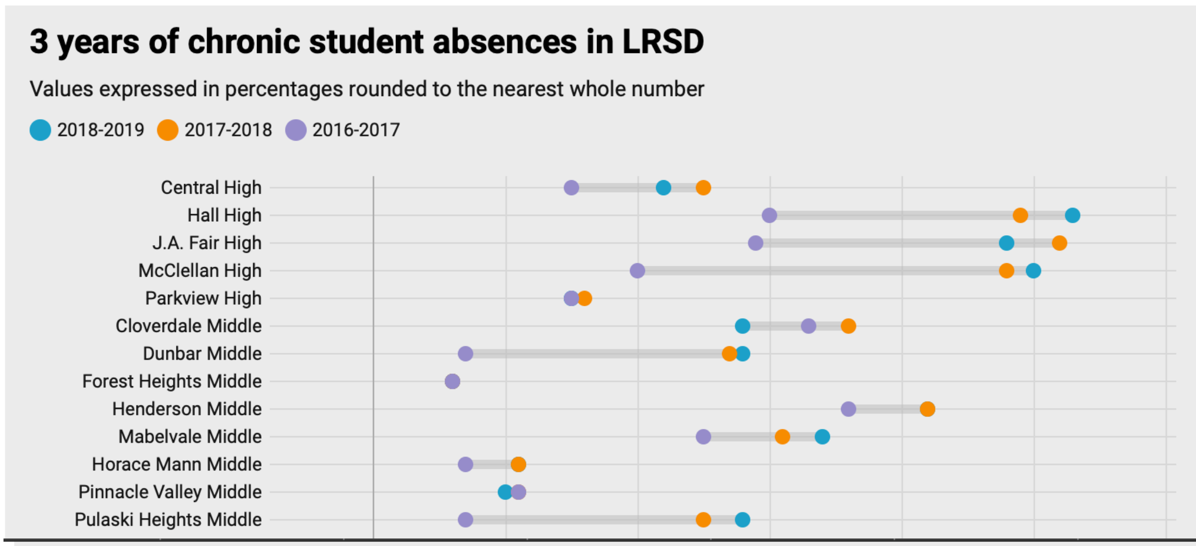
For this story, I took a tip from an upset new Lake Sandy Acres home owner and examined decades of property records to track the trail of dam ownership and property owner association notices to home buyers. The dam was in bad shape, and he was worried he'd be liable for any damage it could cause.

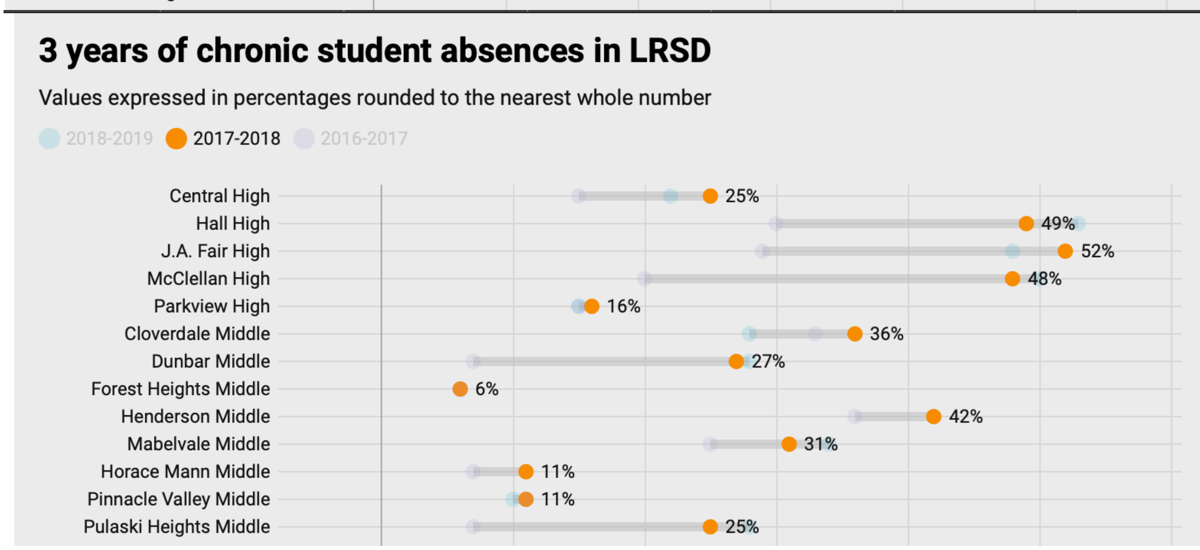
I researched dam regulations in Arkansas and elsewhere, and spoke with experts about how this dam would have been regulated in most places, but not in Arkansas. The state's looser rules for regulating dams prevent oversight of frequently problematic individual-owned and neighborhood-owned dams, such as Lake Sandy and others. (Earlier this year, state officials told me the Lake Sandy dam was in danger of breaching, which I noted in this story using an Associated Press data release: https://www.arkansasonline.com/news/2019/nov/18/high-risk-dams-in-rough-shape-state-dat/)

I toured the dam and visited nearby neighborhoods, and I took my own photos for this story.

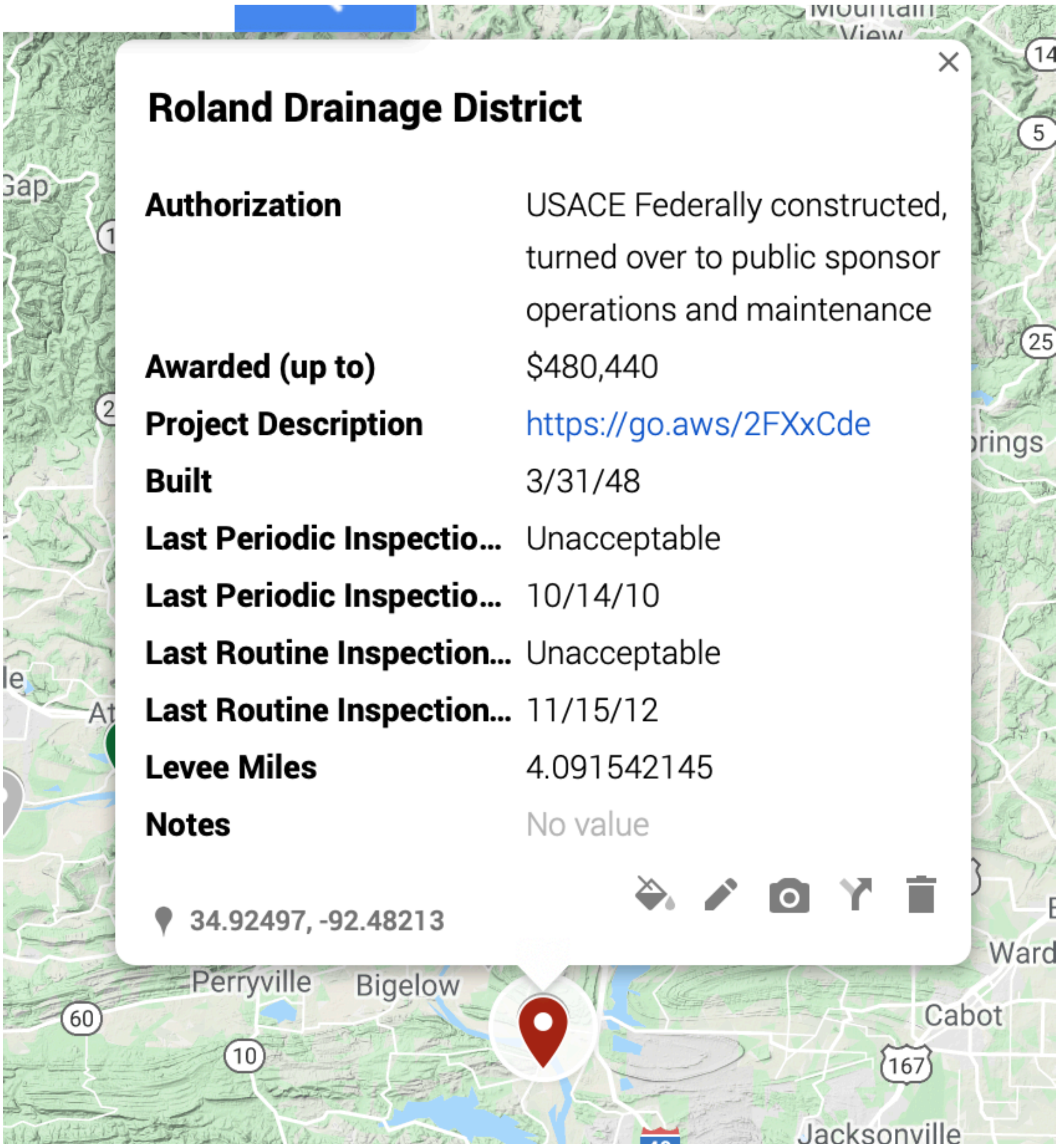
Here are a few ways I've visualized data recently:

Another reporter wanted an interactive graphic showing chronic student absenteeism at each school in the Little Rock School District. The data contained three different years, and I know that this type of education data can fluctuate quite a bit year-to-year. I thought a range plot would give a good idea of consistency while also being able to compare schools.
https://www.arkansasonline.com/news/2019/aug/11/high-absence-rates-plague-lr-district-2/





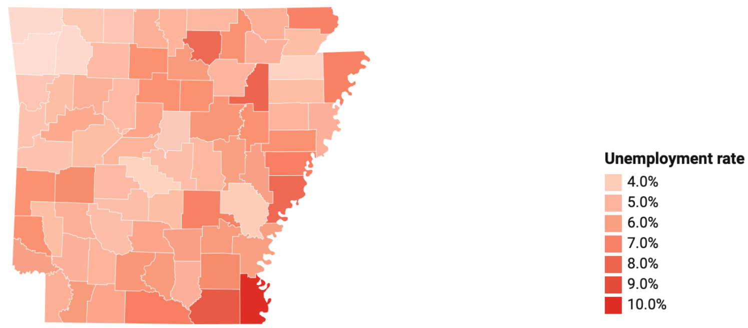
We've had a lot of levee struggles in Arkansas. So when historic flooding brought the problems back up again, the state set aside several million dollars to help. I'd mapped levees along the Arkansas River previously, but this map, created just using MyMaps, contains links to project summaries to fix the levees, records I scanned using the Notes app on my iPhone. It also distinguishes levee conditions, by color. I know a more sophisticated map could be made using MapBox, but I put this entire map together in an afternoon, while I was on deadline for the story and other tasks.
https://www.arkansasonline.com/news/2020/jan/17/state-to-hand-out-8-8m-for-repairs-of-f/



I was the first person in our newsroom to start making covid-19 maps, including cases by county and cases by state, using both R and Datawrapper. Eventually, our multimedia editor took over those maps, but I continue to update another covid-19 page that I came up with on the economic impacts of the pandemic. https://www.arkansasonline.com/economy/

Latest unemployment rate by Arkansas county

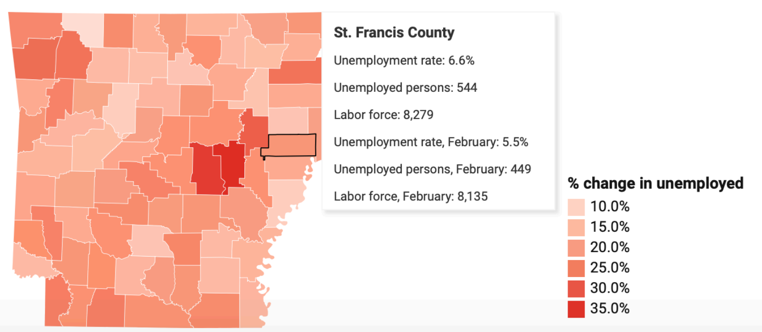
Latest county-level unemployment rates are for March 2020



Map: Emily Walkenhorst • Source: U.S. Department of Labor, The Associated Press • Get the data • Created with Datawrapper

Change in monthly unemployment, by Arkansas county

Latest county-level unemployment rates are for March 2020




```
#import local area unemployment claims
state_unempl <- read.csv("https://query.data.world/s/3dro6ktzntsekuiacfbrydyihcd5wo", header=TRUE, stringsAsFactors=FALSE)
county_unempl <- read.csv("associatedpress_local_area_unemployment_latest/county_unemp_laborforce.csv", header=TRUE, stringsAsFactors=FALSE)
msa_unempl <- read.csv("https://query.data.world/s/7tjshytb4vdiibba6nqdison2i4dkf", header=TRUE, stringsAsFactors=FALSE)

#filter down datasets
#Arkansas
ar_county_unempl <- filter(county_unempl, state_name=="Arkansas")
#current: April 2020
ar_county_unempl_current <- filter(ar_county_unempl, year=="2020" & monthname=="April") %>%
  rename(., year_current=year, month_current=month, monthname_current=monthname, fips_current=fips, state_name_current=state_name, unemp_rate_c
#Last month: March 2020
ar_county_unempl_lastmonth <- filter(ar_county_unempl, year=="2020" & monthname=="March")  %>%
  rename(., year_lastmonth=year, month_lastmonth=month, monthname_lastmonth=monthname, fips_lastmonth=fips, state_name_lastmonth=state_name, un
#Pre-covid: Feb 2020
ar_county_unempl_precovid <- filter(ar_county_unempl, year=="2020" & monthname=="February")  %>%
  rename(., year_precovid=year, month_precovid=month, monthname_precovid=monthname, fips_precovid=fips, state_name_precovid=state_name, unemp_r
#join current and last month for comparison ease
ar_county_unempl_joined <- left_join(ar_county_unempl_current, ar_county_unempl_lastmonth, BY=county_name) %>%
  left_join(., ar_county_unempl_precovid, BY=county_name)
#export for ADG interactives
write.csv(ar_county_unempl_joined, "ar_county_unemp_joined.csv")
```

Arkansas weekly unemployment claims since 2000

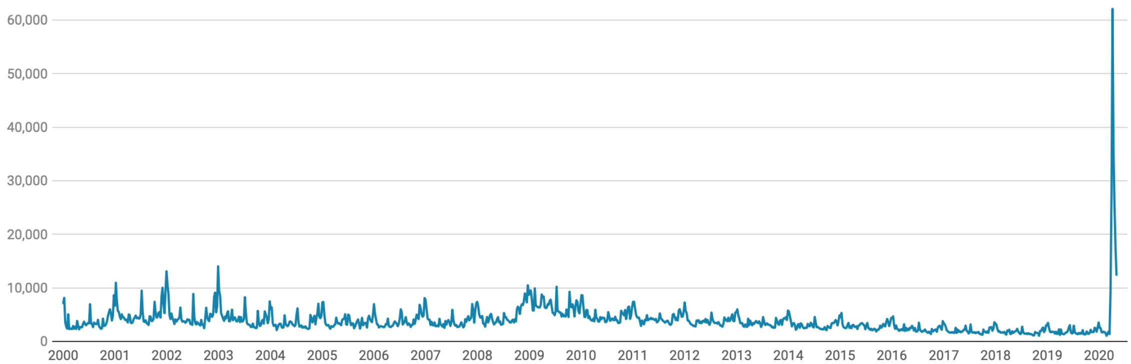
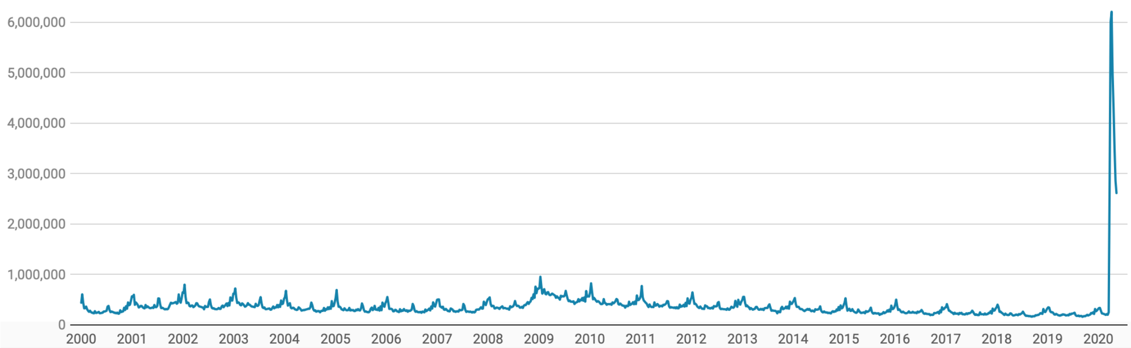


Chart: Emily Walkenhorst • Source: U.S. Department of Labor, The Associated Press • Get the data • Created with Datawrapper

U.S. weekly unemployment claims since 2000




```r
#import unemployment claims data, latest update
natl_ui_claims_latest <-read.csv("https://query.data.world/s/755hulrtmrzkrazir7d3qjtuuzcwlx", header=TRUE, stringsAsFactors=FALSE)
state_ui_claims_latest <-read.csv("https://query.data.world/s/e6ktrmivxqre62wwtu64p2yoqcdews", header=TRUE, stringsAsFactors=FALSE)
state_fund_solvency_latest <-read.csv("https://query.data.world/s/ams3vj67r33d7zkb3taiteqauygod5", header=TRUE, stringsAsFactors=FALSE)
#get just Arkansas unemployment claims
ar_ui_claims_latest <- dplyr::filter(state_ui_claims_latest, state=="Arkansas")
write.csv(ar_ui_claims_latest, "ar_ui_claims_latest.csv")
#national for datawrapper
write.csv(natl_ui_claims_latest, "natl_ui_claims_latest.csv")
```

I made a searchable table of CARES Act funding to the state's higher education institutions, using the PDF from the U.S. Department of Education of all schools in the country, Tabula, R and Datawrapper. Most news outlets put the PDF in Tabula and posted what it spat out in an interactive table. I went a step further and joined the data with two other federal datasets so that I could identify the institution's state, city and latest enrollment, then narrow them down to Arkansas. Our table ended up being more robust than what was published in the only local news release about it, from all of Arkansas' Congressmen, who identified only about 50 Arkansas schools in their release. I've pasted the code I wrote in R below.
https://www.arkansasonline.com/news/2020/apr/12/u-s-sets-130m-for-state-colleges-202004/

See each Arkansas college's stimulus funding

77 Arkansas colleges and universities are receiving $130 million from the federal CARES Act, part of $12.6 billion distributed to more than 5,000 institutions of higher learning nationwide.

Search in table

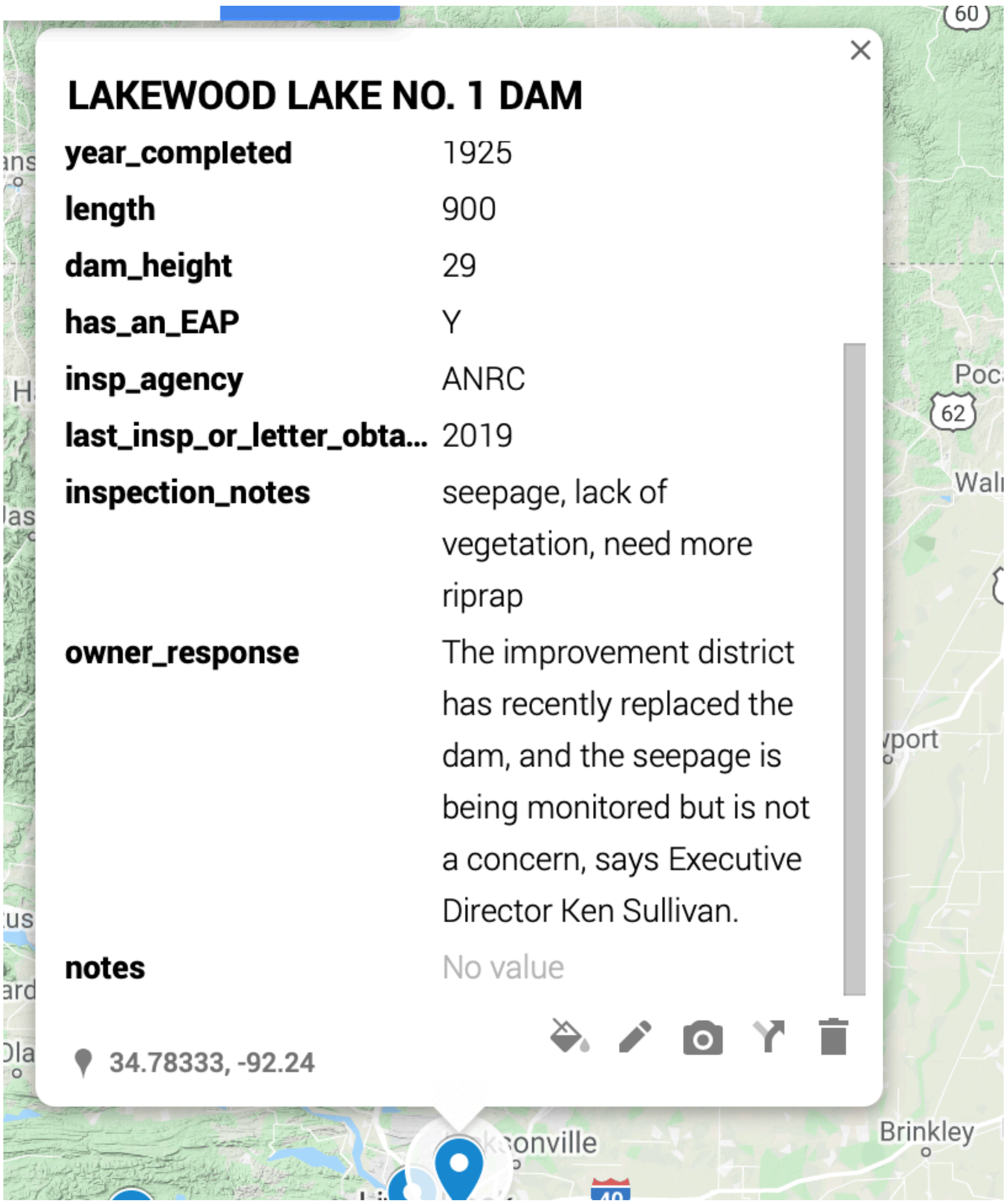
Page 1 of 5

School Name	Total Allocation	Minimum Student Aid	Enrollment, Fall 2018	City
Academy of Professional Cosmetology	67,844	33,922	77	Rogers
Academy of Salon and Spa	81,774	40,887	53	Fort Smith
Arkansas Baptist College	831,019	415,510	525	Little Rock
Arkansas Beauty College	42,819	21,410	15	Russellville
Arkansas Beauty School-Little Rock	250,493	125,247	125	Little Rock
Arkansas College of Barbering and Hair Design	249,875	124,938	128	North Little Rock
Arkansas Colleges of Health Education	47,138	23,569	318	Fort Smith

```r
#import the data
library(readr)
library(dplyr)
library(stringr)
allocations <- read_csv("Data/CARESemergencyfunds_importv3.csv")
names(allocations) <- str_replace_all(names(allocations), c(" " = "_"))
allocations_renamed <- rename(allocations, school=School, total_allocation=Total_Allocation, min_fin_c
allocations_renamed$OPEID <- str_pad(allocations_renamed$OPEID, width=8, side="left", pad="0")
schools <- read_csv("Data/hd2018.csv") %>%
  transform(., OPEID=as.character(OPEID))
enrollment_2018 <- read_csv("Data/ef2018a.csv") %>%
  filter(., EFALEVEL=="1") %>%
  transform(., UNITID=as.numeric(UNITID))
allocations_by_school <- right_join(allocations_renamed, schools, BY="OPEID") %>%
  select(OPEID, INSTNM, total_allocation, min_fin_aid_grant, ADDR, CITY, STABBR, UNITID) %>%
  left_join(., enrollment_2018, BY="UNITID") %>%
  select(OPEID, INSTNM, total_allocation, min_fin_aid_grant, EFTOTLT, ADDR, CITY, STABBR)
ar_allocations_by_school <- filter(allocations_by_school, STABBR=="AR")

#export for others' use and Datawrapper interactive table
write.csv(ar_allocations_by_school, "ar_allocations_by_school.csv")
```

I knew readers would have a lot of questions about what the AP found in its analysis of dam safety conditions across the U.S., so I decided to contact each dam owner so I could put their explanation for their dam's poor safety rating in an interactive map of each dam. Part of the reason I did this was because of the problems I had using the state's data and the AP's data; sometimes the data didn't match public records. Usually it did. But this kind of information, while essential, simply can't fit in a story, so I mapped it.
https://www.arkansasonline.com/news/2019/nov/18/high-risk-dams-in-rough-shape-state-dat/



Here's the first interactive map I created in R, made on the same day I covered a day-long University of Arkansas Board of Trustees meeting. It was for a Census story I also wrote, which ran the next day on the front page of the *Arkansas Democrat-Gazette* alongside my dispatch from the trustees' meeting. I used a Census API in R to illustrate a story about how Arkansas had some of the biggest population drops and increases of cities and towns across the country. It showed how unequally Arkansas' more recent economic success had been distributed across the state, one of many new angles and visualizations I explore for every Census release. Because I made the map on my work computer and we are currently working from home, I don't have the R code. Nowadays, on a short-turnaround story like a Census data release, I'd convert a Census places shape file into a JSON using mapshaper, and then import that into Datawrapper, which is better for online presentation if you need to create headline and chatter elements within the file itself.
https://www.arkansasonline.com/news/2019/may/23/rural-urban-shift-continuing-latest-cen/