



Utah County

Elections/GIS
100 E Center St Provo, UT 84606



Andrea Befus: GIS Programmer/Analyst
(P) 801-851-8642 (E) andreabefus@utahcounty.gov

Overview

In 2020, the collaboration of the Utah County Elections Office and GIS Department transformed the election process for the staff and public to provide a more secure, efficient, and effective election day. Using three new GIS solutions, we were able to improve ballot security, public accountability, office efficiency, and real-time reporting.

Challenge

Utah County is one of the fastest growing counties in the nation and for quite some time, it had a negative reputation in election functions. We needed a new solution that would not only improve workflow operations, but also improve our reputation with the public. Our goals in using GIS technology:

- ✓ Increase speed of the ballot counting process
- ✓ Increase security of data (especially with our drop boxes)
- ✓ Create a public facing site
- ✓ Save money
- ✓ Analyze data to improve future elections

By using GIS software and technology, we were able to overcome our workflow challenges and skyrocket our reputation with the public.

Solution

We had 3 major GIS solutions that solved the problems we were facing: A public-facing election results map, a secure drop box ballot tracker dashboard, and a public-facing real-time ballot workflow dashboard.

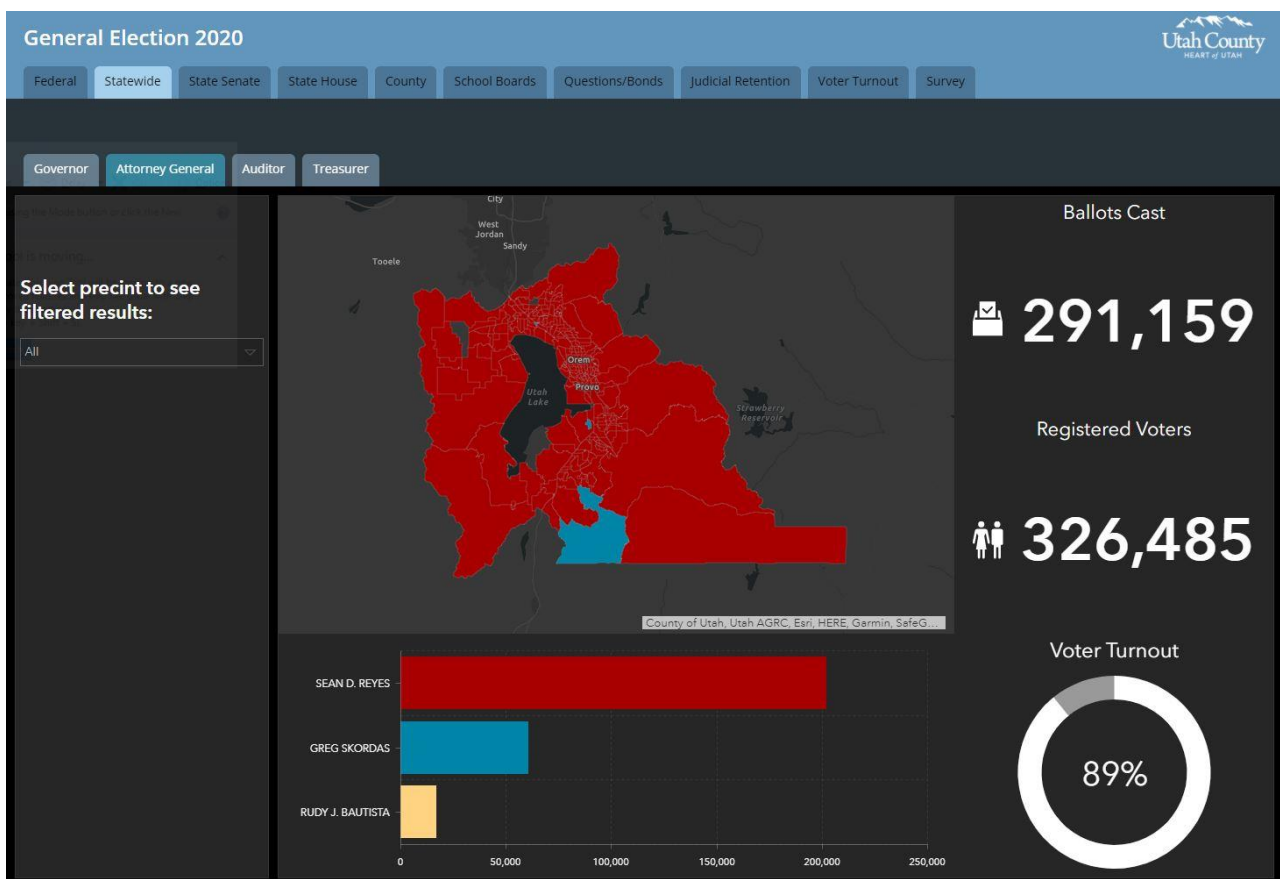
Election Results Map

Prior to implementing the ArcGIS solutions for elections, our county had used a standard, tabulated document with the number of votes cast per candidate. We understood the need to create an elections dashboard to allow residents to view election results in near real time in an easy-to-understand format.

By using ArcGIS Dashboards, we were able to input voter data, including voter turnout, political party affiliation, number of total ballots cast, election night results, and other essential voter

information. Residents could use the dashboard to go back to any recent election, filter out specific voter data, and do their own analysis, thus enabling public interaction with the county's voter data like never before. The election results dashboard is not only useful for displaying historical data but has also proved to be a vital resource on election night.

Our county staff saved about four hours' worth of time throughout election night by updating their public-facing dashboard as results came in. Once a 50-minute process, an updated count can now be provided in only 3 minutes using ArcGIS, with information on what candidates are winning per geographic area. Our County Clerk/Auditor Amelia Powers said that "the new election night results reporting dashboard is now the envy of the state. It was so successful in our municipal elections that several cities abandoned their own results tools and directed voters to our website," says Utah County Clerk/Auditor, Amelia Powers Gardner.

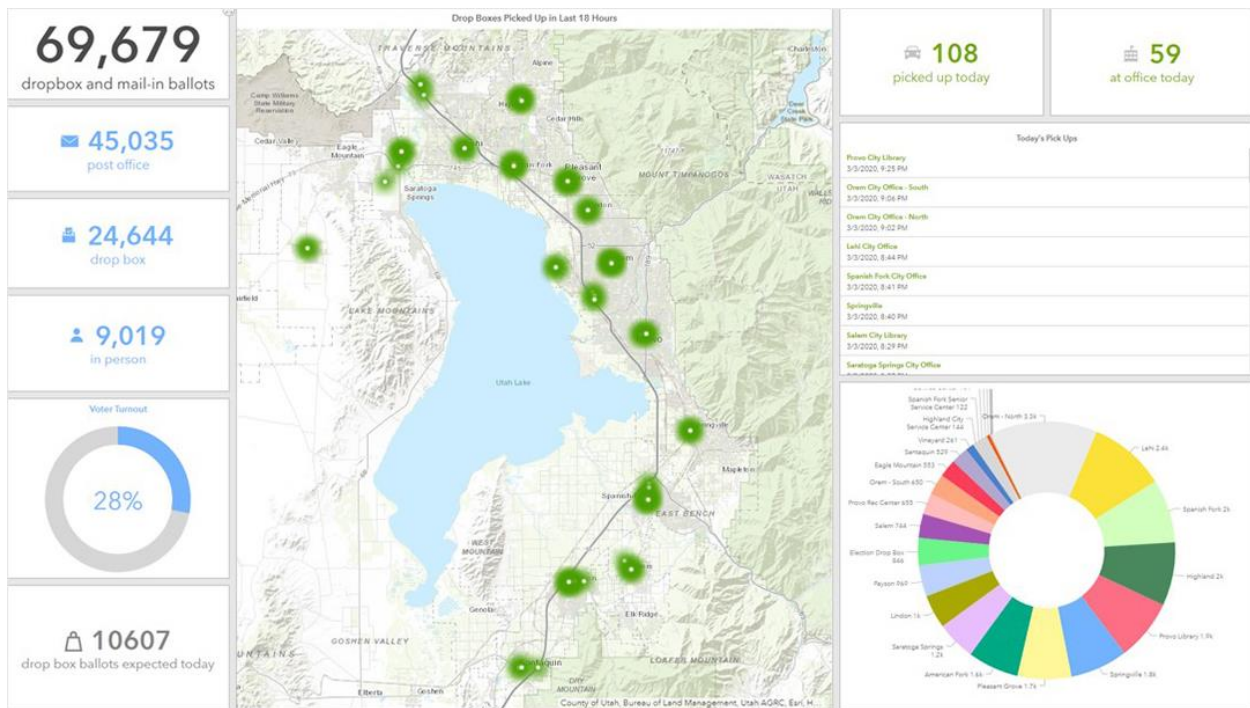


Drop Box Ballot Tracker Dashboard

The Election Department staff placed drop boxes near strategic locations, such as libraries, recreational centers, and city offices, for registered voters to place their ballot envelopes. To maintain security, Utah County's GIS department used a mobile app allowing staff to capture photos, text, and other data for drop box ballot tracking. To ensure that every ballot was accounted for, the county equipped each mobile worker with the app.

As staff arrived at their assigned drop box, they dropped a point on a map with a timestamp, weighed ballots, and reconfirmed the exact location and time. Once staff returned, the election officials weighed each bag. This ensured that the number of ballots matched the bag's weight captured by the application, double-checking that ballots were not lost in transit.

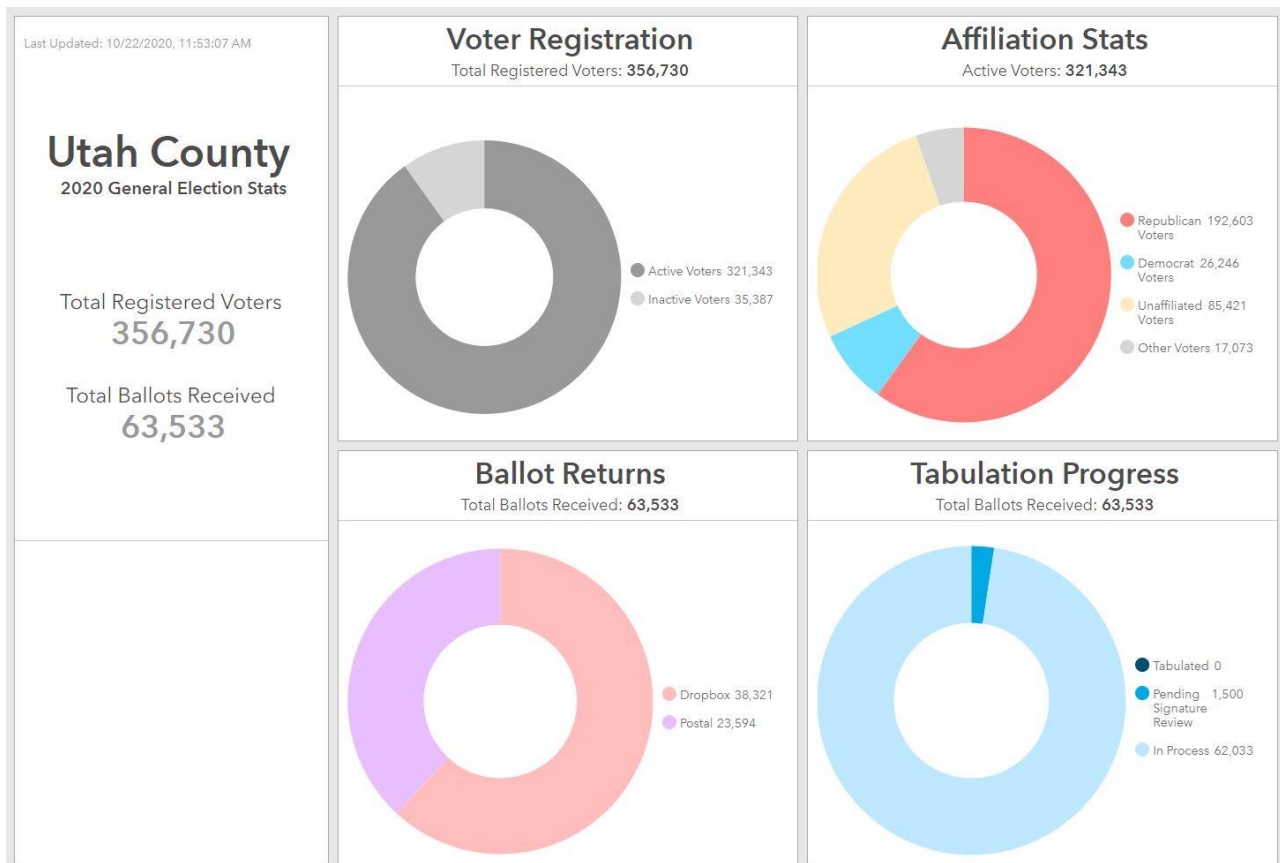
We were also able to stay accountable with the public. Anytime someone called in wanting to know if their ballot was received from the drop box, we were able to have a timestamp at the exact time someone was at the drop box picking up ballots. It was an amazing way to be accountable to our workflow and the public, especially in a time when mail-in ballots are such a controversial topic.



Public Real-Time Ballot Workflow Dashboard

In Utah County, we also had a need to show the public the ballot counting process. We would receive thousands of ballots a day and we wanted to show the stats of where those ballots were in real-time. By using Survey123 and ArcGIS Dashboards, we were able to create this public facing site that anyone could log into and view current stats.

One of the most interesting uses of this dashboard was how often it was utilized in press interviews. When our County Clerk/Auditor was on camera being interviewed on how things were going in the Election Department (especially on Election Day), she could pull this dashboard up on her phone and see the latest stats so she could accurately relay that information to the public.



Results

We were able to accomplish all our goals and more. Not only did we excel in our workflows, but our reputation with the public is outstanding, which can be difficult in the current election climate.

We were even published in 4 articles based on our solutions using this GIS software:

- Utah County Case Study Article: <https://www.esri.com/en-us/lg/industry/government/utah-county-uses-gis-track-real-time-elections-data>
- How Utah County Used GIS to Help Ensure a Smooth Election (GovLoop): <https://www.govloop.com/community/blog/how-utah-county-used-gis-to-help-ensure-a-smooth-election/>
- UC User Paper Session: <https://uc2020.esri.com/sessions/15345779/subsession/25135450/Election-Results-Dashboard-in-Utah-County>
- Esri COVID Elections Article: <https://www.esri.com/about/newsroom/arcuser/adapting-voting-practices-to-safeguard-elections/>

Some of the benefits of these transformational projects were:

Innovation: I believe the reason we were published so many times was because of the innovation that this technology presented. The Election Results Map was based off an ArcGIS Solution, but a lot of custom configuration went into it behind the scenes. The other two solutions were brand new and have not been seen anywhere else.

Sustainability: One thing that is amazing about these projects is their use for the future. All we must do is copy and paste the projects and put in new data, and they will all function for the future.

Outreach Efforts: The number one reason we wanted to implement these projects was to help the public be more aware on what was happening behind the scenes. We also included online surveys that the public could take so we could receive more feedback.

Cost Effectiveness: We saved over \$10,000 on software alone by using ESRI technology that we already had. Some surrounding areas outsourced these projects, but we wanted to keep costs low and use services we did not have to pay more for.

Replicability: Any of these solutions can be replicated by another county, state, country, or city. It would be quite simple to duplicate it for any area.

Generating Positive Results: Not only were these solutions instrumental to helping our staff and the public, but the candidates and teams that were involved in the elections were benefitted as well. All around, the elections in the year 2020 succeeded in large part because of these solutions and the amazing election staff behind it.