VEST UT 2016

RDH Criteria	Explanation

Is all raw data available?
 	
Yes
	<u>Accessible files:</u>
	● VEST UT 16 Data File
	   ○ Accessed: 06/02/21, Source: VEST on the Harvard Dataverse
	   ○ https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/NH5S2I/T2GAPY&version=72.0
	● VEST UT 16 Documentation
	   ○ Accessed: 11/10/21, Source: VEST on the Harvard Dataverse
	   ○ https://dataverse.harvard.edu/file.xhtml?fileId=5371866&version=72.0
	● UT Precinct-Level Election Results
	   ○ Accessed: 06/02/21, Source: Open Elections
	   ○ https://github.com/openelections/openelections-data-ut/tree/master/2016
	● UT Precinct Shapefile
	   ○ Accessed: 06/02/21, Source: Utah Geospatial Resource Center
	   ○ https://gis.utah.gov/data/political/voter-precincts/
	   ○ Note: UT updates its precinct shapefile and does not list records of past shapefile versions.

Processing steps available? Yes	<u>Description of processing steps:</u> ● VEST's documentation, which we accessed on 11/10/21 and can be fully accessed at the link above, is pasted in its entirety below: ○ Election results from OpenElections.

	○ Shapefile from the Utah Geographic Reference Center (https://gis.utah.gov/data/political/voter-precincts/). ○ The shapefile from the UGRC is of subprecincts, breaking down precincts in cases of district splits. In some cases, results are reported at the subprecinct level, in most cases, they weren't, so merging was done where necessary. **Information not in their processing steps:** ● When VEST accessed their precinct shapefile. ● More detail into VEST's shapefile processing.
Able to replicate joining election data and shapefiles? **No**	Utah continuously updates their precinct-level shapefile, and from our 2018 and 2020 Utah work, we know we won't be able to completely join the election results to shapefiles.
Able to replicate joining demographic data to block-level shapefiles? **N/A**	There is no demographic data on the file.
Able to replicate joining boundary data? **N/A**	There is no boundary data on the file.
Successfully ran validation?	**Election results: Yes** ● We validated election results at three different levels:

- o Statewide candidate vote totals
- o Countywide candidate vote totals
- o Precinct-level candidate votes
- At the statewide total level, the election results did not match VEST's. VEST's totals matched those of UT's election summary report (https://elections.utah.gov/Media/Default/2016%20Election/2016%20General%20Election%20-%20Statewide%20Canvass%203.pdf) except for G16PREOOTH, where VEST has 47 fewer votes than the summary report.
- At the countywide total level, the election results did not match VEST's. VEST's totals matched those of UT's county-level election summary reports (https://elections.utah.gov/Media/Default/2016%20Election/2016%20General%20Election%20-%20Statewide%20Canvass%203.pdf) except for G16PREOOTH, whose differences are printed below.

Election	County	VEST Total	SOS Total	Difference
G16PREOOTH	Cache	799	800	-1
G16PREOOTH	Daggett	7	5	2
G16PREOOTH	Davis	47	66	-19
G16PREOOTH	Emery	27	28	-1
G16PREOOTH	Grand	29	30	-1
G16PREOOTH	Kane	696	697	-1
G16PREOOTH	Salt Lake	913	928	-15
G16PREOOTH	San Pete	174	176	-2
G16PREOOTH	Utah	2841	2848	-7
G16PREOOTH	Washington	3796	3797	-1
G16PREOOTH	Weber	1408	1409	-1

- At the precinct-level, the election results did not match VEST's. There are 2220 precincts, with 48 of these precincts containing differences. In looking at the differences, VEST seems to have the correct results in 13 of the precincts, as the differences stem from Open Elections typos. In the remaining 33 precincts (Cache County G16PREOOTH votes, Davis County Bountiful 7 Precinct G16PREOOTH votes, and Daggett County Manilla Precinct

G16PREOOTH votes it appears as though VEST is incorrect). The max difference among these precinct is 19 votes. We will reach out to VEST and bring this possible issue to their attention.

<u>Geographies:</u> No

- Utah continuously updates their precinct-level shapefile, and from our 2018 and 2020 Utah work, we know we won't be able to completely join the election results to shapefiles. In addition, because we do not have information about past shapefiles or information about what shapefile VEST used, any shapefile analysis would not be able to identify possible errors in VEST's file.