

## VEST VA 2016

**State:** Virginia

**Organization:** VEST (Voting and Election Science Team)

**Summary of Races included:** State Senate Special Election

**Date File Updated:** 10/25/2019

**Date Report Updated:** 05/24/2021

**RDH Validation Code (Github):** <https://github.com/nonpartisan-redistricting-datahub/pdv-va>

RDH Criteria	Explanation
<p>Is all raw data available?</p> <p>Yes</p>	<p><b><u>Accessible files:</u></b></p> <ul style="list-style-type: none"> <li>● VA State Senate Special Election Results               <ul style="list-style-type: none"> <li>○ Accessed 04/14/2021, Source: VA Dept of Elections</li> <li>○ Link: <a href="https://historical.elections.virginia.gov/elections/search/year from:2016/year to:2016/office id:9">https://historical.elections.virginia.gov/elections/search/year from:2016/year to:2016/office id:9</a></li> <li>○ Click “Candidates” &gt; “See details for this election” &gt; “Download this election”</li> </ul> </li> <li>● Precinct Shapefile               <ul style="list-style-type: none"> <li>○ Accessed 04/14/2021, Source: Census Phase 2 Release</li> <li>○ Link: <a href="https://www.census.gov/geo/partnerships/pvs/partnership19v2/st51va.html">https://www.census.gov/geo/partnerships/pvs/partnership19v2/st51va.html</a></li> <li>○ Download by county, 5 at a time</li> </ul> </li> <li>● VEST Precinct Election Shapefile - State Senate Special               <ul style="list-style-type: none"> <li>○ Accessed 04/14/2021, Source: VEST, Harvard Dataverse</li> <li>○ Link: <a href="https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/NH5S2I/9BNEUY&amp;version=56.0">https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/NH5S2I/9BNEUY&amp;version=56.0</a></li> </ul> </li> </ul> <p>Note: The RDH did not attempt to make any of the changes noted in the documentation that were precinct-specific and required sources beyond the Census Phase 2 release.</p>

Processing  
steps  
available?

Yes

**Description of processing steps: All Files**

- Description of VEST process from 2016 documentation accessed 4/13/2021
  - VEST describes the source files for their election results and precinct shapefiles, which match those listed above.
  - For election results, VEST also mentions that:
    - “Absentee ballots and provisional votes were reported at the county or city level throughout the state. These were distributed by candidate to precincts based on their share of the precinct-level reported vote.”
  - For the precinct shapefiles, VEST also mentions that:
    - “Virginia election reports often include precinct splits that are obsolete or unused in practice. These have been omitted. In cases where voters were incorrectly assigned to the wrong district the de facto precinct split has been included for that election.”
  - Then VEST lists out the various modifications they made to the 2016 precinct boundaries. This full list can be found in their documentation file.
  - Lastly, VEST notes that “Results are divided across four files. Because precincts can be split across legislative districts, the legislative races are reported with their own geography that divides these split precincts, resulting in shapes that are assigned to exactly one district.”

**Information not in their processing steps: State Senate Special**

- A full list of name changes used to join shapefiles and election results.
  - In order to merge the precinct level election results with the precinct boundary shapefile, the RDH created a unique identifier by concatenating the county FIPS code with the “VTDST” key. VEST does not specify what they used for their unique ID to merge the two files.
- The RDH overlay the precinct shapefile with the senate districts using the geopandas overlay function. After doing so, there were two precincts in VEST’s final file that did not appear in the raw shapefile. There were 12 precincts in the shapefile that did not appear in VEST’s final file.
- The two precincts, as they appeared in VEST’s file, were ‘River Birch’, and ‘Brambleton’.
- The 12 precincts, as they appeared in the shapefile not in VEST’s were ‘Chrysler Museum’, ‘HUNTERSVILLE’, ‘Barron Black’, ‘Lake Drummond’, ‘Deep Creek’, ‘Oak Grove’, ‘Lamberts Point’, ‘Park Place’, ‘Larrymore’, ‘Crossroads’, ‘Berkeley D Part 2’, ‘WALLER MILL’.

<p><b>Able to replicate joining election data and shapefiles?</b></p> <p><b>No</b></p>	<p><b>State Senate Special</b></p> <p>The RDH was able to join the data on a unique identifier and found 12 differences in precinct identifiers between the raw election results file and the shapefile. The precinct identifiers matched perfectly between the election results and VEST final file.</p> <p><b>Note:</b> While the RDH attempted to match VEST’s file, the RDH did not attempt to make any of the changes noted above that were precinct-specific and required sources beyond the Census, such as county-specific files.</p>
<p><b>Able to replicate joining demographic data to block-level shapefiles?</b></p> <p>N/A</p>	<p>The four files do not contain any demographic data.</p>
<p><b>Able to replicate joining boundary data?</b></p> <p>N/A</p>	<p>The four files do not contain any boundary data.</p>
<p><b>Successfully validated election results?</b></p> <p><b>Yes</b></p>	<p><b><u>Election results: State Senate Special</u></b></p> <ul style="list-style-type: none"> <li>• The RDH column and county totals matched VEST’s.</li> <li>• The VEST totals by party matched those reported by the VA Department of Elections in district 1 in all cases except for write-in vote totals where VEST reported 286 votes and VA reported 287.</li> <li>• The VEST totals by party matched those reported by the VA Department of Elections in district 1 in all cases except for write-in vote totals where VEST reported 286 votes and VA reported 287.</li> <li>• The VEST totals by party matched those reported by the VA Department of Elections in district 5 in all cases except for write-in vote totals where VEST reported 2627 votes and VA reported 2624.</li> </ul>

(<https://results.elections.virginia.gov/vaelections/2016%20November%20General/Site/GeneralAssembly.html>)

- The precinct by precinct election results matched with a maximum difference of one vote. This small difference, which occurred in 51/98 precincts, can be attributed to differences in the rounding technique implemented by the RDH compared to VEST when re-assigning absentee, provisional and mail-in ballot votes.

**Geographies: State Senate Special**

- There were 96 precinct identifiers that matched between the two files, of these:
  - 58 precincts w/ a difference of 0 km<sup>2</sup>
  - 29 precincts w/ a difference between 0 and 0.1 km<sup>2</sup>
  - 6 precincts w/ a difference between 0.1 and 0.5 km<sup>2</sup>
  - 2 precincts w/ a difference between 0.5 and 1 km<sup>2</sup>
  - 1 precincts w/ a difference between 1 and 2 km<sup>2</sup>
  - 0 precincts w/ a difference between 2 and 5 km<sup>2</sup>
  - 0 precincts w/ a difference greater than 5 km<sup>2</sup>