

VEST PA 2020

State: Pennsylvania

Organization: Voting and Election Science Team (VEST)

Summary of Races included: Presidential, Attorney General, Auditor General, Treasurer [General]

Date File Updated: 02/12/2021

Date Report Updated: 06/24/2022

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

RDH Criteria	Explanation
<p>Is all raw data available?</p> <p>No</p>	<p><u>Accessible files:</u></p> <ul style="list-style-type: none"> ● VEST PA 20 data file <ul style="list-style-type: none"> ○ Accessed 04/19/2022, Source: VEST ○ https://dataverse.harvard.edu/file.xhtml?fileId=5595329&version=35.0 ● VEST PA 20 documentation file <ul style="list-style-type: none"> ○ Accessed: 04/19/2022, Source: VEST ○ https://dataverse.harvard.edu/file.xhtml?fileId=6174182&version=35.0 ● PA Precinct-Level Election Results <ul style="list-style-type: none"> ○ Accessed: 04/20/22, Source: OpenElections ○ https://github.com/openelections/openelections-data-pa ○ Note: We used the “20201103__pa__general__precinct.csv” file and not the “ERStat_2020_G(179507)_20210505.txt” file, which OpenElections appears to have gotten from the PA SOS. VEST’s documentation dives into the differences between the state-certified and the county-certified results. OpenElections has updated files to reflect some of the typos we found through PDV ● PA Official VTDs <ul style="list-style-type: none"> ○ Accessed: 06/01/22, Source: PA Legislative Redistricting Commission ○ https://redistrictingdatahub.org/dataset/pennsylvania-block-pl-94-17-1-2020-official-prison-adjusted/ ○ Note: VEST used an earlier VTD release for its shapefile <p><u>Inaccessible files:</u></p> <ul style="list-style-type: none"> ● Susquehanna County precinct results <ul style="list-style-type: none"> ○ Note: Did not hear back from PA SOS

	<ul style="list-style-type: none"> ● Crawford County precinct results <ul style="list-style-type: none"> ○ Note: VEST appears to be using a different file, but does not mention their source. ● Forest County precinct results <ul style="list-style-type: none"> ○ Note: VEST appears to be using a different file, but does not mention their source. ● Franklin County precinct results <ul style="list-style-type: none"> ○ Note: VEST appears to be using a different file, but does not mention their source. ● 2020 PA Voterfile <ul style="list-style-type: none"> ○ Note: VEST does not provide sourcing information for this file
<p>Processing steps available?</p> <p>Yes</p>	<ul style="list-style-type: none"> ● The full processing steps can be accessed at the link above and were accessed on 04/19/2022. <p><u>Information not in their processing steps:</u></p> <ul style="list-style-type: none"> ● List of precinct name changes ● More detail on precinct boundary changes
<p>Able to replicate joining election data and shapefiles?</p> <p>No</p>	<p>Given the documentation VEST provided we were not able to follow all of their steps to complete the shapefile join. However, we were able to join 9140 precincts with 13 precinct shapefiles unjoined and 8 election result precincts unjoined.</p>
<p>Able to replicate joining demographic data to block-level shapefiles?</p> <p>N/A</p>	<p>There is no demographic data on the file.</p>
<p>Able to replicate</p>	<p>There is no boundary data on the file.</p>

<p>joining boundary data?</p> <p>N/A</p>	
<p>Successfully ran validation?</p> <p>No</p>	<p><u>Election results:</u> No</p> <ul style="list-style-type: none"> ● We validated election results at three different levels: <ul style="list-style-type: none"> ○ Statewide candidate vote totals ○ Countywide candidate vote totals ○ Precinct-level candidate votes ● At the statewide total level, the election results did not exactly match VEST's. The greatest difference is in the "G20PRERTRU" column, with a difference of 346 votes. The totals did not match the PA Secretary of State's official results summary (https://www.electionreturns.pa.gov/), although VEST mentions this in their documentation. ● At the countywide total level, the election results did not exactly match VEST's in Crawford, Forest, Franklin, and Susquehanna Counties. In Susquehanna, VEST uses a different source file. In Forest, VEST uses a different source file. In Franklin, we counted a "write-in Donald trump" as a Trump vote whereas VEST did not. In Crawford there is a total difference of 4 votes. ● At the precinct-level of the 9148 precincts, 8688 matched exactly. Philadelphia contained a number 1-2 vote differences due to rounding issues stemming from allocating county-level votes. The other differences are in the counties mentioned above. <p><u>Geographies:</u> No</p> <ul style="list-style-type: none"> ● We were not able to fully validate 5 splits VEST conducted as we did not have the files used to make the splits. ● Of the 9140 precincts: <ul style="list-style-type: none"> ○ 780 precincts w/ a difference of 0 km² ○ 7896 precincts w/ a difference between 0 and .1 km² ○ 316 precincts w/ a difference between .1 and .5 km² ○ 76 precincts w/ a difference between .5 and 1 km² ○ 34 precincts w/ a difference between 1 and 2 km² ○ 17 precincts w/ a difference between 2 and 5 km² ○ 21 precincts w/ a difference greater than 5 km² ● VEST mentions a handful of these precincts in its documentation. In a handful of cases precinct names appear to be swapped: <ul style="list-style-type: none"> ○ 021 Lily Ward 01

- 021 Lily Ward 02
- 021 Johnstown Ward 20 Division 02
- 021 Upper Yoder District 04
- 021 Jackson District 03
- 013 Altoona Ward 05 Precinct 03
- 013 Altoona Ward 05 Precinct 01