

The School District Data File

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The Center for Internet as Infrastructure, LLC.

The following columns are present in the raw data file. The order in the file may not be the same as the order in this document.

The file itself is plain text, in the comma-separated values (CSV) format that can be imported into most spreadsheets, data analysis programs, or databases without further conversion.

Sources

- Census data from Census ACS-5, 2014-2018.
- FCC 477 Fixed and Mobile Data, December 2018.
- School enrollment and FRSL lunch data from National Center for Education Statistics, March 2020.

[Education Week](#) is currently maintaining a list of district closures due to the Coronavirus (COVID-19) pandemic. The list is state-level, and is updated daily. Check there for up-to-date closure information.

About the Digital Distress Indicator

The Digital Distress Indicator was defined by Roberto Gallardo in order to rank and compare the level of digital readiness for census tracts. His introduction is found in [Digital Distress: [What is it and who does it affect?](#)]. The I3 Connectivity Explorer has adapted this work to rank school districts within a state.

The Digital distress Indicator is computed from 2 measures, *subscriptions* and* *devices*. The *subscriptions* measure is computed from two Census estimates:

1. the percent of households having only a cellular data plan, plus
2. the percent of households that do not have any Internet subscription.

The *devices* measure is computed from two Census estimates:

1. the percent of households having only a mobile device, plus
2. the percent of households that do not have any devices

Each pair of measures is added together, and a z-score is computed for the sum. The z-score indicates the distance from the value to the average (mean) of all the values. Then, the two z-scores are combined, and the result is normalized on a range from 0 to 100, where 100 indicates the highest degrees of distress. For places where there is only a single school district, like Hawaii or Puerto Rico, that district gets a DDI of 100.

Core data

nces_id

the primary key, as defined by NCES. The nces_id is globally unique for all school districts in the US.

statefp

State FIPS code, *e.g.* "41" for Oregon.

district_name

The name of the school district.

district_type

School district type: one of "school_district" for a unified school district, "scsd" for a secondary school district, or "elsd" for an elementary school district.

area

Land area of the district.

household_density

Number of households in the area.

Digital Distress Indicator Data

Computed values for a school district's [digital distress indicator](#) at both the state and national levels.

state_ddi

The computed DDI indicator within the state.

Dept of. Education (NCES) Provided Data

Data computed from the school-district level spreadsheet providing free and reduced price lunch data. Dated March 20, 2020.

total_students

Total enrollment in district.

free_lunch_eligible

Number of students eligible for free lunch support.

reduced_price_lunch_eligible

Number of students eligible for reduced-price lunch support.

total_frsl_eligible

Total students eligible for free or reduced-price lunch support.

percent_frsl_eligible

Computed ratio of `total_frsl_eligible/total_students`

Census Estimates of Demographic Data (ACS-5 data)

Census estimates come in pairs of fields, the estimate value, and the margin of error. The naming convention is `x` for the estimate value, and `x_moe` for its margin of error.

A second “pairing” is also present; in most cases, the dataset contains both percentages and totals for the same datum. So, for example, the data for *families in poverty* actually expands into four columns: `percent_families_in_poverty`, `percent_families_in_poverty_moe`, `total_families_in_poverty`, and `total_families_in_poverty_moe`.

median_household_income, median_household_income_moe

The estimate and margin of error for the median household income for the district.

percent_families_in_poverty, percent_families_in_poverty_moe

The estimate and margin of error for the percentage of families in poverty for the district.

proportion_nonwhite, proportion_nonwhite_moe

The estimate and margin of error for the proportion of the population that identify as non-white.

total_families, total_families_moe

The estimate and margin of error for the number of families in the district.

total_households, total_households_moe

The estimate and margin of error for the number of households in the district.

total_population, total_population_moe

The estimate and margin of error as the total number of households

Census Internet Subscription Data

As Percentage of Households

percent_households_with_internet, percent_households_with_internet_moe

The estimate and margin of error as a percentage for households having either a dialup or broadband subscription in the district.

percent_households_with_broadband, percent_households_with_broadband_moe

The estimate and margin of error as a percentage for households having a broadband subscription in the district.

percent_households_with_wireline, percent_households_with_wireline_moe

The estimate and margin of error as a percentage for households having a wireline (e.g. cable, fiber, etc), or fixed wireless connection.

percent_households_with_cellular_plan_alone, percent_households_with_cellular_plan_alone_moe

The estimate and margin of error as a percentage for households having only a cellular subscription in the district.

percent_households_without_subscription, percent_households_without_subscription_moe

The estimate and margin of error as a percentage for households without any Internet subscription.

As Total Number of Households

total_households_with_internet, total__households_with_internet_moe

The estimate and margin of error as the total number of households having either a dialup or broadband subscription in the district.

total_households_with_broadband, total_households_with_broadband_moe

The estimate and margin of error as the total number of households having a broadband subscription in the district.

total_households_with_cellular_plan_alone, total_households_with_cellular_plan_alone_moe

The estimate and margin of error as the total number of households having only a cellular data plan in the district.

total_households_with_wireline, total_households_with_wireline_moe

The estimate and margin of error as the total number of households having a wireline connection (not dialup).

total_households_without_subscription, total_households_without_subscription_moe

The estimate and margin of error as the total number of households households without any subscription to the Internet.

Census Estimates regarding the Presence of Devices in the Home

As Percentage of Households

percent_households_with_no_devices, percent_households_with_no_devices_moe

The estimate and margin of error as a percentage for households having no devices in the district.

percent_households_with_one_or_more_devices, percent_households_with_one_or_more_devices_moe

The estimate and margin of error as a percentage for households having one or more devices in the district.

percent_households_with_smartphone_alone, percent_households_with_smartphone_alone_moe

The estimate and margin of error as a percentage for households having only one or more smartphones as devices in the district.

percent_households_with_tablet_alone, percent_households_with_tablet_alone_moe

The estimate and margin of error as a percentage for households having only one or more tablets in the district.

As Total Number of Households

total_households_with_no_devices, total_households_with_no_devices_moe

The estimate and margin of error as the total number of households for households having no devices in the district.

total_households_with_one_or_more_devices, total_households_with_one_or_more_devices_moe

The estimate and margin of error as the total number of for households having one or more devices in the district.

total_households_with_smartphone_alone, total_households_with_smartphone_alone_moe

The estimate and margin of error as the total number of households for households having only one or more smartphones as devices in the district.

total_households_with_tablet_alone, total_households_with_tablet_alone_moe

The estimate and margin of error as the total number of households having only one or more tablets in the district.

Device Access for Children under 18

This data is for *persons* and not *households*.

As percentage of *persons*

percent_persons_under_18_with_computer_and_broadband,
percent_persons_under_18_with_computer_and_broadband_moe

The estimate and margin of error as a percentage for persons under 18 living in the district who have access to both a computer and broadband connection in their home.

percent_persons_under_18_with_computer_without_internet,
percent_persons_under_18_with_computer_without_internet_moe

The estimate and margin of error as a percentage for persons under 18 living in the district who have access to both a computer, but not a dialup or broadband subscription in their home.

percent_persons_under_18_without_computer, percent_persons_under_18_without_computer_moe

The estimate and margin of error as a percentage for persons under 18 living in the district who have do not have access to a computer in their home.

As total number of *persons*

total_persons_under_18_with_computer_and_broadband,
total_persons_under_18_with_computer_and_broadband_moe

The estimate and margin of error for the number of persons under 18 living in the district who have access to both a computer with a broadband subscription.

total__persons_under_18with_computer_without_internet,
total__persons_under_18with_computer_without_internet_moe

The estimate and margin of error for the number of persons under 18 living in the district who have access to both a computer, but not a dialup or broadband subscription in their home.

total_persons_under_18_without_computer, total_persons_under_18_without_computer_moe

The estimate and margin of error for the number of persons under 18 living in the district who have do not have access to a computer in their home.

FCC 477 Wireline Data

The following fields are derived from the FCC 477 Fixed + Satellite data set. For now, we only consider the FCC target of 25Mbps↑/3Mbps↓ and residential service.

percent_blocks_having_0_providers

Percentage of census blocks in the district having no residential providers at 25Mbps↑/3Mbps↓.

percent_blocks_having_1_providers

Percentage of census blocks in the district having only a single residential provider at 25Mbps↑/3Mbps↓.

percent_blocks_having_2_providers

Percentage of census blocks in the district having only 2 residential providers at 25Mbps↑/3Mbps↓

percent_blocks_having_3_or_more_providers

Percentage of census blocks in the district having 3 or more residential providers at 25Mbps↑/3Mbps↓

wireline_provider_count

Number of providers offering residential service at 25Mbps↑/3Mbps↓

wireline_provider_names

A list of the providers that are offering residential service at 25Mbps↑/3Mbps↓

wireline_speed

Fixed at 25/3 in this version.

wireline_service

Fixed as residential in this version.

FCC 477 Wireless Data

The following fields are derived from the FCC 477 Mobile data set. For now, we only consider the 4G LTE service.

wireless_provider_count

Number of providers offering 4G LTE service in the district.

wireless_provider_names

A list of the providers that are offering 4G LTE service.