**Codebook (v.1)**

**Dataset Name:**

“[Broadband-Entrepreneurship-TX-merged\_v2.csv](https://github.com/jwroycechoi/broadband-entrepreneurship/blob/master/Datasets/Broadband-Entrepreneurship-TX-merged_v2.csv)”

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| --- | --- | --- | --- |
| **Name** | **Description** | **Type** | **Source** |
| FIPS | 5-digit county FIPS code | chr |  |
| county | Name of county | chr |  |
| IRR2000 | Rurality index (larger = rural) of 2000 | num |  |
| IRR2010 | Rurality index (larger = rural) of 2010 | num |  |
| pct\_change\_proprietors\_2000\_2017 | Change of % of sole proprietor b/w 2000-2017 | num | IC2 Institute |
| proprietors\_2000 | # of sole proprietor (2000) | num | IC2 Institute |
| proprietors\_2017 | # of sole proprietor (2017) | num | IC2 Institute |
| pct\_proprietors\_employment\_2000 | % of sole proprietor in total employment (2000) | num | IC2 Institute |
| pct\_proprietors\_employment\_2010 | % of sole proprietor in total employment (2010) | num | IC2 Institute |
| pct\_proprietors\_employment\_2017 | % of sole proprietor in total employment (2017) | num | IC2 Institute |
| total\_employment\_2017 | Total employment (2017) | num | IC2 Institute |
| wage\_salary\_jobs\_2017 | Total wage/salary jobs (2017) | num | IC2 Institute |
| pct\_change\_pro\_emp\_2000\_2017 | Change of % of sole proprietor in total employment b/w 2000-2017 | num | IC2 Institute |
| pct\_change\_pro\_emp\_2010\_2017 | Change of % of sole proprietor in total employment b/w 2010-2017 | num | IC2 Institute |
| pct\_broadband\_FCC | % of broadband availability based on FCC data | num | Microsoft |
| pct\_broadband\_MS | % of people used broadband based on Microsoft | num | Microsoft |
| state | Name of state | chr |  |
| population | Total population | num | ASU |
| venturedensitymay18 | Venture density of May 2018 | num | GoDaddy |
| venturedensitynov18 | Venture density of Nov 2018 | num | GoDaddy |
| venturedensityfeb19 | Venture density of Feb 2019 | num | GoDaddy |
| venturedensitysep19 | Venture density of Sept 2019 | num | GoDaddy |
| venturedensityoct19 | Venture density of Oct 2019 | num | GoDaddy |
| venturedensitynov19 | Venture density of Nov 2019 | num | GoDaddy |
| venturedensitydec19 | Venture density of Dec 2019 | num | GoDaddy |
| highlyactive\_vdmay18 | Highly active venture density of May 2018 | num | GoDaddy |
| highlyactive\_vdnov18 | Highly active venture density of Nov 2018 | num | GoDaddy |
| highlyactive\_vdfeb19 | Highly active venture density of Feb 2019 | num | GoDaddy |
| highlyactive\_vdsep19 | Highly active venture density of Sept 2019 | num | GoDaddy |
| highlyactive\_vdoct19 | Highly active venture density of Oct 2019 | num | GoDaddy |
| highlyactive\_vdnov19 | Highly active venture density of Nov 2019 | num | GoDaddy |
| highlyactive\_vddec19 | Highly active venture density of Dec 2019 | num | GoDaddy |
| pctblack | % of Black population | num | ACS (2017) |
| pctnative | % of Native American population | num | ACS (2017) |
| pctasian | % of Asian population | num | ACS (2017) |
| pcthispanic | % of Hispanic population | num | ACS (2017) |
| pctagriculture | % of agriculture industry sector workers | num | ACS (2017) |
| pctconstruction | % of construction industry sector workers | num | ACS (2017) |
| pctwholesale | % of wholesale industry sector workers | num | ACS (2017) |
| pctretail | % of retail industry sector workers | num | ACS (2017) |
| pcttransportation | % of transportation industry sector workers | num | ACS (2017) |
| pctinformation\_tech | % of information technology industry sector workers | num | ACS (2017) |
| pctfinance | % of finance industry sector workers | num | ACS (2017) |
| pctprofessional | % of professional industry sector workers | num | ACS (2017) |
| pcteducation | % of education industry sector workers | num | ACS (2017) |
| pctother\_occupation | % of other industry workers | num | ACS (2017) |
| pctpublic | % of public sector workers | num | ACS (2017) |
| pctbroadband | % of broadband subscribing population | num | ACS (2017) |
| pctbroadband\_poorpeople | % of broadband subscribing population among the poor | num | ACS (2017) |
| pcthighschool | % of people with high school education | num | ACS (2017) |
| pctcollege | % of people with college level education | num | ACS (2017) |
| pctmillennial | % of millennial generation | num | ACS (2017) |
| pctgenx | % of Gen X generation | num | ACS (2017) |
| pctbabyboomer | % of Baby Boomer generation | num | ACS (2017) |
| pctforeignborn | % of foreign-born population | num | ACS (2017) |
| prosperityindex2016 | Prosperity index (2016) | num | ASU |
| prosperity2007 | Prosperity index (2007) | num | ASU |
| change\_prosperity | Change in prosperity index b/w 2007-2016 | num | ASU |
| medinc2016 | Median household income (2016) | num | ACS (2017) |
| medinc2017 | Median household income (2017) | num | ACS (2017) |
| change\_income | Change in median income b/w 2016-2017 | num | ASU |
| unemployment | Unemployment rate | num | ACS (2017) |
| frac\_BB.sept | % of M-Lab broadband test respondents reporting broadband speed (25/3) in Sept 2019 | num | M-Lab |
| frac\_BB.oct | % of M-Lab broadband test respondents reporting broadband speed (25/3) in Oct 2019 | num | M-Lab |
| frac\_BB.nov | % of M-Lab broadband test respondents reporting broadband speed (25/3) in Nov 2019 | num | M-Lab |
| frac\_BB.dec | % of M-Lab broadband test respondents reporting broadband speed (25/3) in Dec 2019 | num | M-Lab |
| pctbbfrac\_ASU | pctbroadband converted into fraction format | num | ACS (2017) |
| emp\_cbp\_2012 | Total employment (2012) | num | CBP |
| est\_cbp\_2012 | Total business establishment (2012) | num | CBP |
| est\_50\_cbp\_2012 | # of business establishment with less than 50 employees (2012) | num | CBP |
| est\_10\_cbp\_2012 | # of b usiness establishment with less than 10 employees (2012) | num | CBP |
| pct\_50\_est\_cbp\_2012 | % of business establishments with less than 50 employees in all establishments (2012) | num | CBP |
| pct\_10\_est\_cbp\_2012 | % of business establishments with less than 10 employees in all establishments (2012) | num | CBP |
| emp\_cbp\_2017 | Total employment (2017) | num | CBP |
| est\_cbp\_2017 | Total business establishment (2017) | num | CBP |
| est\_50\_cbp\_2017 | # of business establishment with less than 50 employees (2017) | num | CBP |
| est\_10\_cbp\_2017 | # of business establishment with less than 10 employees (2017) | num | CBP |
| pct\_50\_est\_cbp\_2017 | % of business establishments with less than 50 employees in all establishments (2017) | num | CBP |
| pct\_10\_est\_cbp\_2017 | % of business establishments with less than 10 employees in all establishments (2017) | num | CBP |
| emp\_cbp\_2018 | Total employment (2018) | num | CBP |
| est\_cbp\_2018 | Total business establishment (2018) | num | CBP |
| est\_50\_cbp\_2018 | # of business establishment with less than 50 employees (2018) | num | CBP |
| est\_10\_cbp\_2018 | # of business establishment with less than 10 employees (2018) | num | CBP |
| pct\_50\_est\_cbp\_2018 | % of business establishments with less than 50 employees in all establishments (2018) | num | CBP |
| pct\_10\_est\_cbp\_2018 | % of business establishments with less than 10 employees in all establishments (2018) | num | CBP |
| neest\_nemp\_2012 | # of non-employer establishments (2012) | num | NEMP |
| nonfarmneest\_nemp\_2012 | # of nonfarm non-employer establishments (2012) | num | NEMP |
| pct\_nonfarmneest\_nemp\_2012 | % of nonfarm non-employer establishments in all non-employer establishments (2012) | num | NEMP |
| neest\_nemp\_2017 | # of non-employer establishments (2017) | num | NEMP |
| nonfarmneest\_nemp\_2017 | # of nonfarm non-employer establishments (2017) | num | NEMP |
| pct\_nonfarmneest\_nemp\_2017 | % of nonfarm non-employer establishments in all non-employer establishments (2017) | num | NEMP |
| neest\_nemp\_2018 | # of non-employer establishments (2018) | num | NEMP |
| nonfarmneest\_nemp\_2018 | # of nonfarm non-employer establishments (2018) | num | NEMP |
| pct\_nonfarmneest\_nemp\_2018 | % of nonfarm non-employer establishments in all non-employer establishments (2018) | num | NEMP |
| chg\_pct\_nonfarmneest\_nemp\_2012\_2018 | Change in % of nonfarm non-employer establishments b/w 2012-2018 | num | NEMP |
| pct\_fixed\_acs\_2018 | % of fixed broadband subscribers (2018) | num | ACS (2018) |
| pct\_nobroadband\_acs\_2018 | % of people without broadband subscribers (2018) | num | ACS (2018) |
| pct\_cellular\_acs\_2018 | % of cellular broadband subscribers (2018) | num | ACS (2018) |
| pct\_sat\_acs\_2018 | % of satellite broadband subscribers (2018) | num | ACS (2018) |
| pct\_anybroadbandacs\_2018 | % of people with any kind of broadband subscribers (2018) | num | ACS (2018) |
| totalemp\_bea\_2012 | Total employment (2012) | num | BEA |
| totalemp\_bea\_2018 | Total employment (2018) | num | BEA |
| salaryemp\_bea\_2012 | Total wage/salary employment (2012) | num | BEA |
| salaryemp\_bea\_2018 | Total wage/salary employment (2018) | num | BEA |
| proprietors\_bea\_2012 | # of proprietors (2012) | num | BEA |
| proprietors\_bea\_2018 | # of proprietors (2018) | num | BEA |
| nonfarmproprietors\_bea\_2012 | # of nonfarm proprietors (2012) | num | BEA |
| nonfarmproprietors\_bea\_2018 | # of nonfarm proprietors (2018) | num | BEA |
| pct\_nonfarm\_bea\_2012 | % of nonfarm proprietors in total employment (2012) | num | BEA |
| pct\_nonfarm\_bea\_2018 | % of nonfarm proprietors in total employment (2018) | num | BEA |
| pct\_chg\_bea\_2012\_2018 | Change in % of nonfarm proprietors in total employment b/w 2012-2018 | num | BEA |
| emp\_abs\_2012 | Total employment (2012) | num | SBO |
| firm\_2012 | # of firms with paid employees (2012) | num | SBO |
| emp\_abs\_2017 | Total employment (2017) | num | ABS |
| firm\_2017 | # of firms with paid employees (2017) | num | ABS |
| chg\_firm\_2012\_2017 | Change in # of firms with paid employees b/w 2012-2017 | num | ABS |
| venturedensity\_mean | Average score of venture density in available timeframes | num | GoDaddy |
| highlyactive\_vd\_mean | Average score of highly active venture density in available timeframes | num | GoDaddy |
| pct\_broadband\_mlab | Average score of M-Lab broadband % b/w Sept – Dec 2019 | num | M-Lab |
| pct\_broadband\_FCC\_2019 | % of broadband availability based on FCC data (June 2019) | num | FCC |
| mediandown | Median maximum advertised download speed (Mbps) | num | FCC |
| medianup | Median maximum advertised upload speed (Mbps) | num | FCC |
| prom\_provider | The most prominent internet service provider (ISP) in the county | chr | FCC |
| prom\_tech | The most prominent broadband technology (i.e., infrastructure) in the county | chr | FCC |