

User's Guide

IMLS Indicators Workbook: Economic Status and Broadband Availability and Adoption

The workbook consists of three tabs. The first tab provides supplemental information about the variables included on the second and third tabs. These two tabs provide data at two levels: county and state.

The workbook contains statistics blended from three discrete sources. The main sources used were: the Bureau of Labor Statistics, Local Area Unemployment Statistics¹; the U.S. Census Bureau American Community Survey (ACS) 5-year 2014-2018 estimates²; and a commercial aggregator of FCC data, broadbandnow.com³. In some cases (noted in the table, below) national level comparison statistics were accessed in different ways from the state and county data but used the same fundamental source. For example, the national level metrics for percent without health insurance, poverty rate, percent with no computer, percent with no home Internet access and percent with Broadband were accessed at a U.S. Census Bureau table at <https://www.census.gov/quickfacts/fact/table/US/PST045218>, which populated these metrics from the ACS, the same source IMLS used to assemble the state and county spreadsheets in the workbook.⁴

County⁵ identification variables are included in various ways so that users can blend the statistics on this worksheet with other data sources. These include the GEOID used by the U.S. Census Bureau in the ACS, FIPS state and county codes, the county name both with and without the state name, the state name alone, and the state abbreviation. While these fields are redundant, the various formats are meant to facilitate data use for various purposes.

Population data are 2019 U.S. Census Bureau Vintage estimates available are:

<https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-total.html> (for U.S. Counties and States) and <https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-puerto-rico-municipios.html> (for *Municipios* in Puerto Rico).

Table 1 provides additional information about the variables included in the workbook. Data users should consult the original sources of each metric, which are included in Table 1, for additional notes about data collection, quality and use. There are inherent limitations in the use of administrative information. Third-party data may carry inherent accuracy weaknesses in that the data content often cannot be checked nor the accuracy controlled.⁶ The state-level metrics are provided in the Appendix.

Additional data are available at the U.S. Census Bureau (1) COVID data hub at: <https://covid19.census.gov/>. and (2) the new Household Pulse Survey at <https://www.census.gov/householdpulsedata>.

If you have further questions, email: research@imls.gov.

¹ For more information about the BLS LAUS, data users should consult information at: <https://www.bls.gov/lau/lauov.htm>.

² For more information about the ACS, data users should consult technical documentation at: www2.census.gov/programs-surveys/acs/tech_docs/accuracy/ACS_Accuracy_of_Data_2018.pdf and <https://www.census.gov/programs-surveys/acs/technical-documentation/user-notes.html>.

³ For more information about the data aggregated by broadbandnow.com, visit: <https://broadbandnow.com/data>.

⁴ ACS data were accessed via the U.S. Census Bureau at data.census.gov, which permits various levels of analysis based on geography. IMLS downloaded data separately at the state and county levels to prepare this Workbook.

⁵ Throughout this User's Guide, the term "county" references "counties and county equivalents". For example, in Louisiana, the parish is a county equivalent and in Puerto Rico the *municipio* is a county equivalent. For more information please see: <https://www.census.gov/programs-surveys/geography.html>.

⁶ According to the data page at broadbandnow.com, in addition to using FCC and Census Bureau data: "...the real work starts when we merge, edit, and validate those datasets against private data acquired directly from broadband providers, resellers, IP-verified customers, and other sources. (Most of which we can't share or attribute directly due to the agreements required to access them.)"

Table 1. Data Sources and Notes

Metric	National Metric	Data Source	Additional Information about Data Element
Economic Indicators			
Unemployment rate (%)	4.4%	Bureau of Labor Statistics (BLS). Local Area Unemployment Statistics (LAUS), April 17, 2020 https://www.bls.gov/lau/#tables (Accessed 29 April 2020). Monthly data at the state level are March 2020. Annual data at the county level are 2019 (includes <i>municipios</i> in Puerto Rico).	Data at the jurisdiction level for Puerto Rico were not available for March 2020; the February 2020 statistic (8.8%) was at: https://www.bls.gov/eag/eag.pr.htm#eag_pr.f.2 . According to the BLS website: “The Local Area Unemployment Statistics (LAUS) program is a federal-state cooperative effort in which monthly estimates of total employment and unemployment ⁷ are prepared for over 7,500 areas.”
Percent without health insurance	10.0%	U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov . Measurement Unit: Civilian noninstitutionalized population - individuals	Two items are included in the county workbook: <ul style="list-style-type: none"> • S2701_C05_001E: Percent Estimate, HEALTH INSURANCE COVERAGE, Civilian noninstitutionalized population, No health insurance coverage • S2701_C05_001M: Percent Margin of Error, HEALTH INSURANCE COVERAGE, Civilian noninstitutionalized population, No health insurance coverage
Poverty rate (%)	11.8%	U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov . Measurement Unit: Civilian noninstitutionalized population - individuals	Two items are included in the county workbook: <ul style="list-style-type: none"> • S1701_C03_001E: Estimate, Percent Below poverty level • S1701_C03_001M: Percent Margin of Error, Percent below poverty level
Percent received SNAP	11.3%	U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov . Measurement Unit: Civilian noninstitutionalized population - households	Two items are included in the county workbook: <ul style="list-style-type: none"> • S2201_C04_001E: Estimate, Percent households receiving food stamps/SNAP (Households) • S2201_C04_001M: Margin of Error, Percent households receiving food stamps/SNAP MOE (Households)

⁷ For more information about the unemployment metric, see <https://www.bls.gov/lau/lauov.htm>. According to the BLS: “The concepts and definitions underlying LAUS data come from the Current Population Survey (CPS), the household survey that is the source of the national unemployment rate. State monthly model-based estimates are controlled in ‘real time’ to sum to national monthly employment and unemployment estimates from the CPS. These models combine current and historical data from the CPS, the Current Employment Statistics (CES) survey, and state unemployment insurance (UI) systems. Estimates for seven large areas and their respective balances of state also are model-based. Estimates for counties are produced through a building-block approach known as the ‘Handbook method.’ This procedure also uses data from several sources, including the CPS, the CES program, state UI systems, and the Census Bureau’s American Community Survey (ACS), to create estimates that are adjusted to the statewide measures of employment and unemployment. Estimates for cities are prepared using disaggregation techniques based on inputs from the ACS, annual population estimates, and current UI data.”

Metric	National Metric	Data Source	Additional Information about Data Element
Broadband Access (Adoption)			
Percent with no home computer	11.2%	U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov.	Two items are included in the county workbook: <ul style="list-style-type: none"> S2801_C02_011E: Estimate, Percent, TYPES OF COMPUTER, No computer S2801_C02_011M: Margin of Error, Percent MOE, TYPES OF COMPUTER, No computer
Percent with no home Internet	14.7%	Measurement Unit: Civilian noninstitutionalized population - households	Two items are included in the county workbook: <ul style="list-style-type: none"> S2801_C02_019E: Estimate, Percent, TYPE OF INTERNET SUBSCRIPTIONS, Without an Internet subscription S2801_C02_019M: Margin of Error, Percent MOE, TYPE OF INTERNET SUBSCRIPTIONS, Without an Internet subscription
Percent with home Broadband	80.4%		Two items are included in the county workbook: <ul style="list-style-type: none"> S2801_C02_014E: Estimate, Percent, TYPE OF INTERNET SUBSCRIPTIONS, With an Internet subscription, Broadband of any type Two items are included in the county workbook: <ul style="list-style-type: none"> S2801_C02_014M: Margin of Error, Percent MOE, TYPE OF INTERNET SUBSCRIPTIONS, With an Internet subscription, Broadband of any type
Broadband Availability⁸			
Number of broadband providers	4.1*	Broadbandnow.com: Private (commercial) provider that aggregates data from FCC form 471 filings by broadband providers (accessed 29 March 2020 for 50 states and the District of Columbia and on 1 May 2020 for Puerto Rico).	Broadband cost data for Puerto Rico were unavailable. Puerto Rico data were not included in the IMLS computation of national metrics. According to Broadband.now: “Our goal is to give you an all-inclusive answer to the question of: ‘What internet providers are available in my area or at my address?; To answer this question, the system behind BroadbandNow analyzes more than a billion rows of governmental and proprietary data before showing you results specific to your area.” https://broadbandnow.com
Population for whom broadband is available (%)	73.8%*		
Lowest cost per month	\$67.33 per month*		

⁸ Broadband availability has been the subject of research in recent years. Users should note that Broadbandnow.com provides aggregated data submitted by providers on form 471 to the Federal Communications Commission (FCC), which may overrepresent broadband availability. Additionally, availability and home access are separate issues related to the digital divide. For more information, please see: Martin, Michael (2019, April), “Deconstructing the Digital Divide: Identifying the Supply and Demand Factors That Drive Internet Subscription Rates” U.S. Census Bureau. WORKING PAPER NUMBER SEHSD-WP2019-15, at: <https://www.census.gov/library/working-papers/2019/demo/SEHSD-WP2019-15.html>; and Congressional Research Service (2019, October). “Broadband Internet Access and the Digital Divide: Federal Assistance Programs,” CRS RL-30719, at: <https://fas.org/sgp/crs/misc/RL30719.pdf>.

Appendix

State Level Metrics

State	Population 2019	Unemployment rate 2019	Percent without health insurance	MOE % without health insurance	Poverty Rate (%)	MOE, Poverty Rate (%)	Percent received SNAP	MOE SNAP
National	331,433,217	4.4	8.9	0.1	11.8	0.1	11.3	0.1
Alabama	4,903,185	3.5	10.0	0.2	17.5	0.3	14.5	0.2
Alaska	731,545	5.6	14.4	0.4	10.8	0.4	10.6	0.3
Arizona	7,278,717	5.5	10.9	0.2	16.1	0.2	11.8	0.1
Arkansas	3,017,804	4.8	9.0	0.2	17.6	0.3	12.7	0.2
California	39,512,223	5.3	8.5	0.1	14.3	0.1	9.1	0.1
Colorado	5,758,736	4.5	8.1	0.1	10.9	0.2	8.0	0.1
Connecticut	3,565,287	3.7	5.6	0.1	10.0	0.2	12.2	0.2
Delaware	973,764	5.1	6.0	0.2	11.9	0.4	11.6	0.3
District of Columbia	705,749	6.0	4.0	0.3	16.8	0.5	13.9	0.4
Florida	21,477,737	4.3	13.5	0.1	14.8	0.1	14.2	0.1
Georgia	10,617,423	4.2	13.7	0.2	16.0	0.2	13.7	0.1
Hawaii	1,415,872	2.6	4.1	0.2	9.9	0.3	11.1	0.3
Idaho	1,787,065	2.6	11.0	0.3	13.8	0.3	10.6	0.3
Illinois	12,671,821	4.6	7.3	0.1	13.1	0.1	13.1	0.1
Indiana	6,732,219	3.2	9.1	0.1	14.1	0.2	10.7	0.1
Iowa	3,155,070	3.7	4.9	0.1	11.7	0.2	10.7	0.2
Kansas	2,913,314	3.1	9.0	0.2	12.4	0.2	8.1	0.2
Kentucky	4,467,673	5.8	6.1	0.1	17.9	0.3	15.2	0.2
Louisiana	4,648,794	6.9	10.7	0.2	19.4	0.3	15.6	0.2
Maine	1,344,212	3.2	8.3	0.2	12.5	0.3	14.3	0.3
Maryland	6,045,680	3.3	6.5	0.1	9.4	0.2	10.6	0.1
Massachusetts	6,892,503	2.9	2.8	0.1	10.8	0.2	12.0	0.1
Michigan	9,986,857	4.1	6.1	0.1	15.0	0.1	14.1	0.1
Minnesota	5,639,632	3.1	4.7	0.1	10.1	0.1	8.2	0.1
Mississippi	2,976,149	5.3	12.7	0.2	20.8	0.3	16.5	0.3
Missouri	6,137,428	4.5	9.7	0.2	14.2	0.2	11.6	0.2
Montana	1,068,778	3.5	10.2	0.3	13.7	0.3	9.8	0.3
Nebraska	1,934,408	4.2	8.4	0.2	11.6	0.3	8.7	0.2
Nevada	3,080,156	6.3	11.9	0.2	13.7	0.2	12.2	0.2
New Hampshire	1,359,711	2.6	6.5	0.2	7.9	0.3	7.2	0.2
New Jersey	8,882,190	3.8	8.5	0.1	10.4	0.2	9.0	0.1
New Mexico	2,096,829	5.9	10.7	0.2	20.0	0.4	16.9	0.3
New York	19,453,561	4.5	6.5	0.1	14.6	0.1	15.0	0.1
North Carolina	10,488,084	4.4	11.1	0.1	15.4	0.2	13.2	0.1

State	Population 2019	Unemployment rate 2019	Percent without health insurance	MOE % without health insurance	Poverty Rate (%)	MOE, Poverty Rate (%)	Percent received SNAP	MOE SNAP
National	331,433,217	4.4	8.9	0.1	11.8	0.1	11.3	0.1
North Dakota	762,062	2.2	7.4	0.3	10.9	0.4	6.9	0.2
Ohio	11,689,100	5.5	6.5	0.1	14.5	0.2	13.7	0.1
Oklahoma	3,956,971	3.1	14.2	0.1	16.0	0.2	13.1	0.1
Oregon	4,217,737	3.3	7.3	0.1	14.1	0.2	16.8	0.2
Pennsylvania	12,801,989	6.0	6.2	0.1	12.8	0.1	13.2	0.1
Rhode Island	1,059,361	4.6	5.2	0.2	13.1	0.4	16.0	0.4
South Carolina	5,148,714	2.6	11.0	0.2	16.0	0.3	13.2	0.2
South Dakota	884,659	3.3	9.4	0.2	13.6	0.4	9.6	0.3
Tennessee	6,829,174	3.5	10.1	0.2	16.1	0.2	14.8	0.2
Texas	28,995,881	4.7	17.4	0.1	15.5	0.1	12.2	0.1
Utah	3,205,958	3.6	10.0	0.2	10.3	0.2	7.2	0.2
Vermont	623,989	3.2	4.1	0.2	11.2	0.4	12.0	0.4
Virginia	8,535,519	3.3	9.2	0.2	10.9	0.2	8.7	0.1
Washington	7,614,893	5.1	6.8	0.1	11.5	0.1	12.5	0.2
West Virginia	1,792,147	6.1	6.5	0.2	17.8	0.3	16.6	0.3
Wisconsin	5,822,434	3.4	5.8	0.1	11.9	0.1	11.5	0.1
Wyoming	578,759	3.7	11.3	0.4	11.1	0.5	5.7	0.3
Puerto Rico	3,193,694	N/A	6.2	0.1	44.5	0.3	39.2	0.3

Note: MOE = Margin of error

Data Sources:

- (1) Unemployment rate at the state and national levels is from (March 2020): Bureau of Labor Statistics. At <https://www.bls.gov/web/laus/lausthl.htm> (Accessed 29 April 2020). At the county level, the most recent data from the Bureau of Labor Statistics are for 2019.
- (2) Percent without health insurance, Poverty rate, and SNAP are all 2018 estimates from: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov. SNAP is the Supplemental Nutrition Assistance Program (previously known as foodstamps).

State	Percent with no home computer	MOE no home computer	Percent with no home Internet	MOE no home Internet	Percent with home Broadband	MOE Broadband	Number of Broadband providers (2019)	Population for whom broadband available, 2019 (%)	Lowest broadband cost per month, 2019 (\$)
National	11.2	0.1	14.7	0.1	80.4	0.1	4.1	73.8	\$67.33
Alabama	16.6	0.2	26.2	0.3	73.3	0.3	5.3	68.5	\$66.70
Alaska	6.7	0.3	15.2	0.4	84.3	0.4	1.0	43.9	\$139.23
Arizona	10.1	0.2	17.8	0.2	81.8	0.2	3.1	68.9	\$71.19
Arkansas	15.9	0.3	29.6	0.4	69.8	0.4	3.8	58.4	\$58.55
California	8.3	0.1	14.9	0.1	84.7	0.1	5.0	76.7	\$70.03
Colorado	7.2	0.1	13.8	0.1	85.7	0.1	4.0	71.4	\$73.26
Connecticut	10.4	0.2	15.8	0.2	83.8	0.2	4.4	98.8	\$73.44
Delaware	10.1	0.3	17.2	0.4	82.4	0.4	3.0	96.5	\$81.51
District of Columbia	10.2	0.3	19.7	0.5	80.0	0.5	3.0	99.0	\$115.18
Florida	10.2	0.1	18.8	0.2	80.8	0.2	5.3	82.1	\$71.30
Georgia	11.4	0.1	20.6	0.2	79.0	0.2	4.4	77.5	\$72.23
Hawaii	10.0	0.3	16.3	0.4	83.3	0.4	2.0	76.2	\$51.30
Idaho	9.8	0.3	19.5	0.4	79.7	0.4	2.8	59.3	\$70.39
Illinois	11.7	0.1	19.0	0.2	80.6	0.2	3.5	72.5	\$64.08
Indiana	12.8	0.1	21.8	0.2	77.6	0.2	5.0	75.1	\$65.23
Iowa	12.4	0.2	20.4	0.2	78.8	0.2	5.6	81.2	\$71.75
Kansas	11.6	0.2	19.9	0.3	79.6	0.3	3.3	72.4	\$63.95
Kentucky	15.7	0.2	23.9	0.3	75.5	0.3	3.7	81.6	\$67.66
Louisiana	16.5	0.2	26.8	0.3	72.8	0.3	4.7	66.1	\$61.53
Maine	11.6	0.2	19.1	0.3	80.0	0.3	4.2	91.7	\$64.30
Maryland	8.7	0.1	15.0	0.2	84.6	0.2	2.3	91.0	\$77.88
Massachusetts	9.9	0.1	15.0	0.2	84.7	0.2	2.6	95.6	\$89.46
Michigan	12.0	0.1	20.5	0.2	79.0	0.2	4.2	70.4	\$68.39
Minnesota	9.7	0.1	16.4	0.2	82.9	0.2	6.0	80.2	\$61.33
Mississippi	18.5	0.3	31.5	0.3	68.0	0.3	5.1	63.3	\$67.81
Missouri	12.7	0.2	21.9	0.2	77.6	0.2	4.3	61.8	\$63.54
Montana	12.7	0.3	21.0	0.4	78.1	0.5	2.5	63.6	\$91.54
Nebraska	11.5	0.2	18.4	0.3	81.0	0.3	3.4	60.7	\$71.60
Nevada	8.8	0.2	18.3	0.3	81.3	0.3	2.0	46.2	\$82.95
New Hampshire	7.8	0.3	13.3	0.3	86.2	0.3	4.8	92.8	\$67.62
New Jersey	9.9	0.1	15.6	0.2	84.1	0.2	3.4	98.8	\$67.67
New Mexico	16.2	0.3	27.0	0.4	72.3	0.4	3.0	63.3	\$70.66
New York	11.8	0.1	18.8	0.2	80.9	0.2	2.8	91.2	\$63.30

State	Percent with no home computer	MOE no home computer	Percent with no home Internet	MOE no home Internet	Percent with home Broadband	MOE Broadband	Number of Broadband providers (2019)	Population for whom broadband available, 2019 (%)	Lowest broadband cost per month, 2019 (\$)
National	11.2	0.1	14.7	0.1	80.4	0.1	4.1	73.8	\$67.33
North Carolina	12.6	0.1	21.3	0.2	78.3	0.2	5.4	86.6	\$61.96
North Dakota	11.5	0.3	20.6	0.5	79.0	0.5	3.5	92.3	\$60.89
Ohio	12.6	0.1	19.8	0.1	79.7	0.1	4.8	81.5	\$64.76
Oklahoma	13.3	0.1	23.8	0.2	75.8	0.2	4.0	58.5	\$59.06
Oregon	8.2	0.2	15.5	0.2	83.9	0.2	4.6	76.2	\$74.65
Pennsylvania	13.5	0.1	20.1	0.1	79.2	0.1	4.8	86.4	\$72.42
Rhode Island	12.4	0.4	17.8	0.4	81.8	0.4	2.0	98.2	\$62.59
South Carolina	13.8	0.2	24.2	0.3	75.3	0.3	5.6	79.8	\$64.62
South Dakota	13.2	0.3	21.4	0.4	78.0	0.4	4.0	84.6	\$61.99
Tennessee	14.8	0.1	24.2	0.3	75.4	0.3	4.8	78.7	\$68.24
Texas	10.8	0.1	20.4	0.2	79.3	0.2	3.6	62.9	\$62.64
Utah	5.6	0.2	13.9	0.3	85.7	0.3	3.7	83.0	\$66.06
Vermont	11.1	0.3	19.1	0.4	80.2	0.4	4.1	85.4	\$66.48
Virginia	10.1	0.1	17.5	0.2	82.0	0.2	2.8	79.3	\$66.67
Washington	7.3	0.1	13.1	0.1	86.5	0.1	5.1	82.6	\$73.07
West Virginia	18.2	0.3	26.6	0.4	72.9	0.3	2.0	65.5	\$62.67
Wisconsin	12.0	0.1	18.9	0.2	80.4	0.2	5.5	74.3	\$67.48
Wyoming	9.2	0.4	18.3	0.6	81.1	0.6	4.2	68.5	\$60.82
Puerto Rico	35.5	0.3	42.9	0.3	56.2	0.3	11.2	56	N/A

Note: MOE = Margin of error

Data Sources:

- (1) Percent without home computer, Internet access, and Broadband at home are all 2018 estimates from: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates accessed via data.census.gov. An Internet "subscription" refers to a type of service that someone pays for to access the Internet such as a cellular data plan, broadband such as cable, fiber optic or DSL, or other type of service. This will normally refer to a service that someone is billed for directly for Internet alone or sometimes as part of a bundle.
- (2) All three metrics associated with Broadband Availability are from broadbandnow.com, a private (commercial) provider that aggregates data from FCC form 471 filings by broadband providers (accessed March 2020).