Virtual Summit on Broadband in Adams County

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Center for Rural Pennsylvania

Legislative research agency of the Pennsylvania General Assembly
***(Act 16, 1987 & Act 12, 2009)***

<u>Mandates</u>
- **Administer grants to conduct research on rural conditions.**
- **Maintain a database on rural conditions and needs.**

<u>Recent Legislative Hearings:</u>
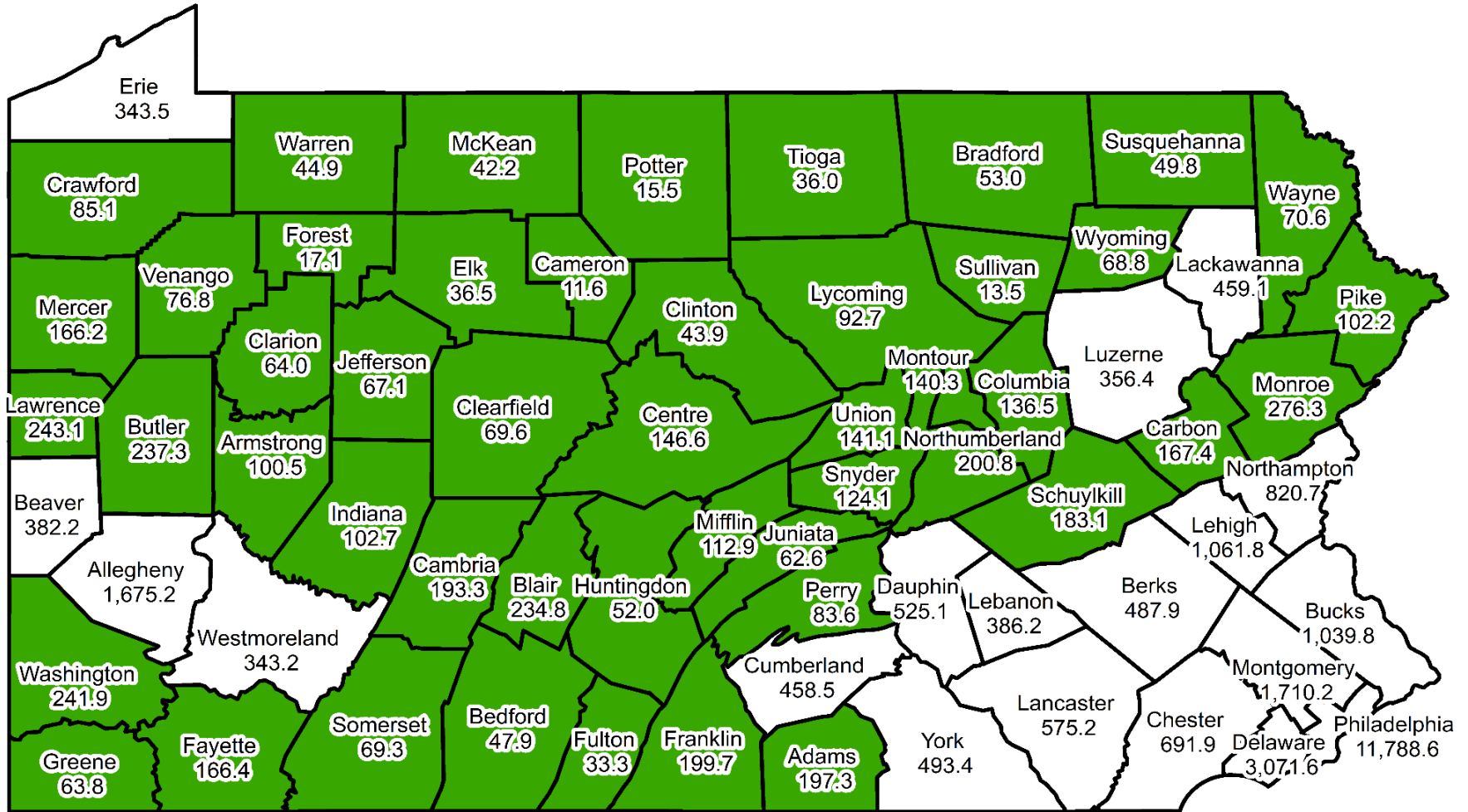**Opioid Use, Broadband Access, COVID-19 Vaccines, Rural Aviation**

This is Rural Pennsylvania

- Rural Pennsylvanians (nearly 3.4 million) represent almost 27% of the state's population.

- Rural Pennsylvania comprises 75% of the state's land area.

- According to the U.S. Census Bureau, Pennsylvania has the third largest rural population in the nation: Texas is first, followed by North Carolina.

- 48 of Pennsylvania's 67 counties are classified as rural.

- Only Delaware and Philadelphia Counties have no rural population.
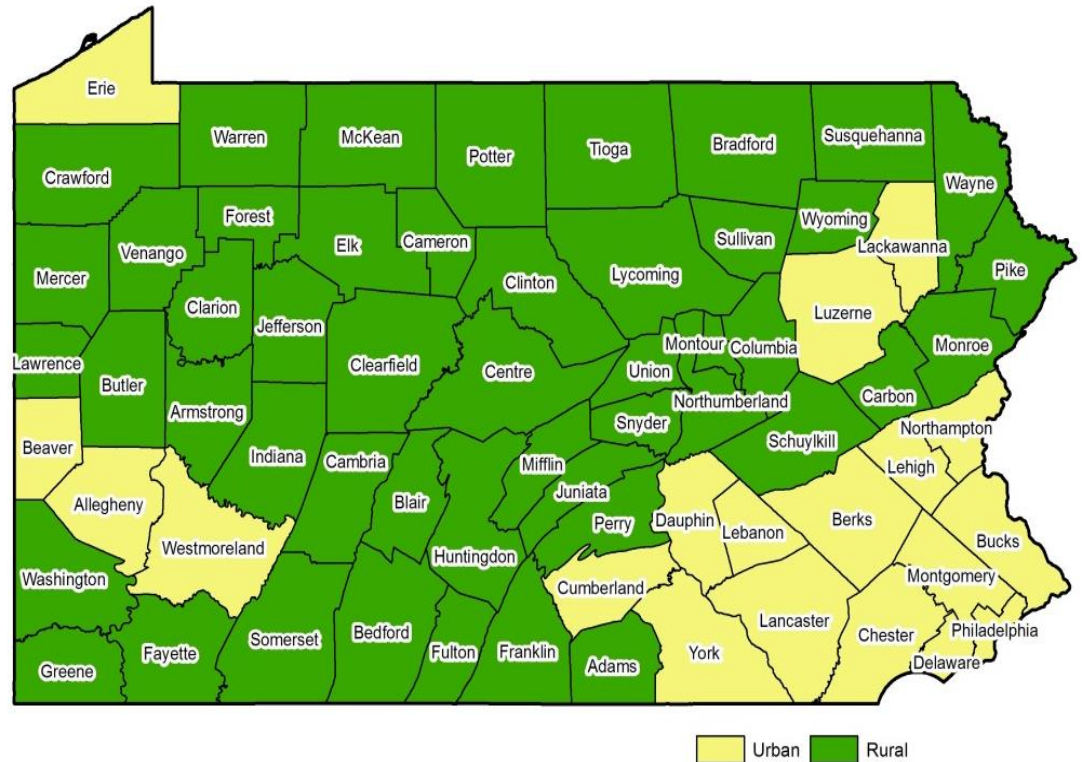
The Center's definition of rural is based on population density. A county is rural when the number of persons per square mile within the county is less than 284 (the statewide average). The Center's rural definition also addresses rural schools districts and municipalities.

Center for Rural Pennsylvania's Rural and Urban Counties, 2010

Erie 343.5
Warren 44.9
McKean 42.2
Potter 15.5
Tioga 36.0
Bradford 53.0
Susquehanna 49.8
Wayne 70.6
Crawford 85.1
Forest 17.1
Elk 36.5
Cameron 11.6
Wyoming 68.8
Lackawanna 459.1
Venango 76.8
Sullivan 13.5
Pike 102.2
Mercer 166.2
Clarion 64.0
Jefferson 67.1
Clinton 43.9
Lycoming 92.7
Luzerne 356.4
Monroe 276.3
Lawrence 243.1
Butler 237.3
Armstrong 100.5
Clearfield 69.6
Centre 146.6
Montour 140.3
Columbia 136.5
Union 141.1
Carbon 167.4
Beaver 382.2
Indiana 102.7
Northumberland 200.8
Snyder 124.1
Schuylkill 183.1
Northampton 820.7
Allegheny 1,675.2
Cambria 193.3
Blair 234.8
Huntingdon 52.0
Mifflin 112.9
Juniata 62.6
Perry 83.6
Dauphin 525.1
Lehigh 1,061.8
Westmoreland 343.2
Lebanon 386.2
Berks 487.9
Bucks 1,039.8
Washington 241.9
Cumberland 458.5
Montgomery 1,710.2
Somerset 69.3
Bedford 47.9
Fulton 33.3
Franklin 199.7
Lancaster 575.2
Chester 691.9
Philadelphia 11,788.6
Greene 63.8
Fayette 166.4
Adams 197.3
York 493.4
Delaware 3,071.6

Urban Counties (n=19)
Rural Counties (n=48)

According to the Center for Rural Pennsylvania's definition, a rural counties has a population density below the statewide average of 284 persons per square mile. Urban counties have a density at or above the statewide average

Data source: 2010 Census, U.S. Census Bureau

Two Studies on Rural Broadband

- Professor Sascha Meinrath and colleagues from Penn State University

Broadband Research: 2018

Average
Download
Speed
(2017):

5.4 Mbps

M-Lab tests

Mapping Broadband Internet Connectivity Across Pennsylvania

From December 2017 FCC Form 477 Data

Internet Service Availability, Dec 2017

Broadband by Type of Technology, Dec 2017
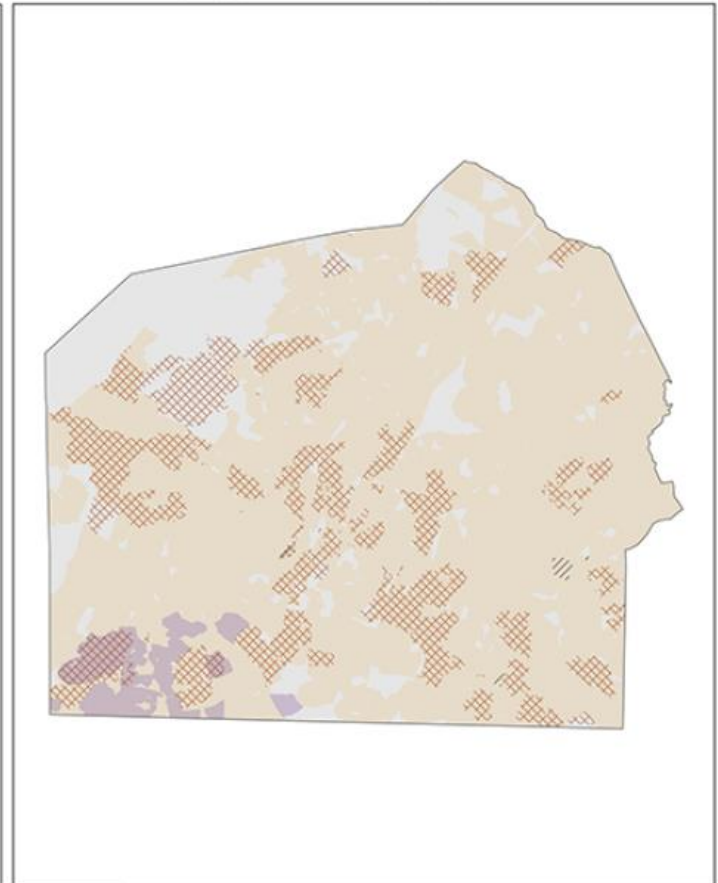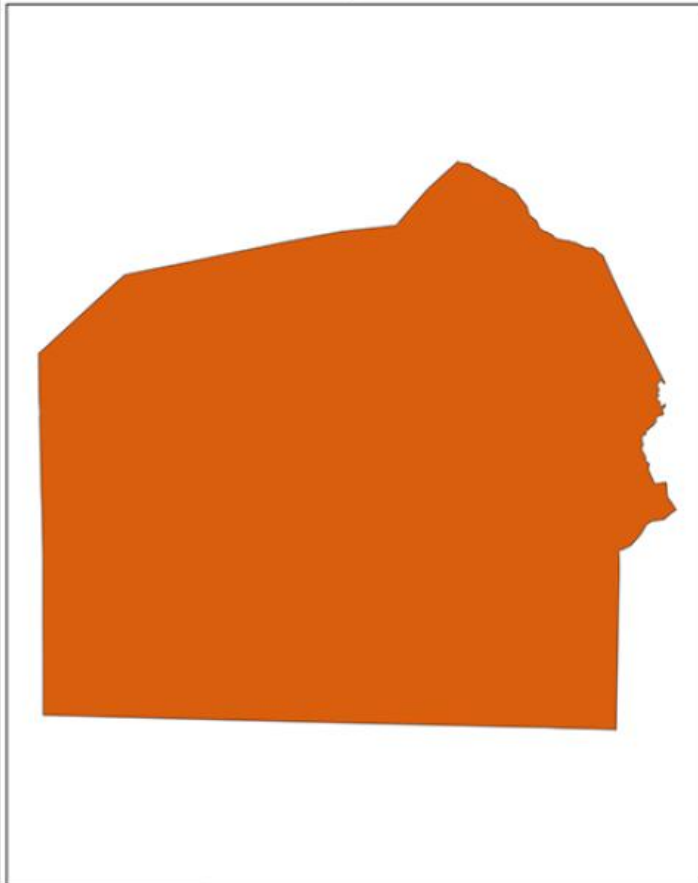
- ≥ 10 Mbps / 1 Mbps
- ≥ 25 Mbps / 3 Mbps

Source: FCC Form 477, Dec 2017 V2
H. Bonestroo and H. Trostle
Institute for Local Self-Reliance 05/13/19

- Fiber
- Satellite
- Cable
- DSL/Other Copper
- Fixed Wireless

Source: FCC Form 477, Dec 2017 V2
H. Bonestroo and H. Trostle
Institute for Local Self-Reliance 05/13/19

Comparing Counties: 2020

Adams County

- Download: 39.3 Mbps

- Upload: 5.7 Mbps

- Rank #20 out of 67 counties for internet download speeds

Others

- Chester County #1
    - Download: 81.2 Mbps
    - Upload: 20.5 Mbps

- Erie County #33
    - Download: 30.4 Mpbs
    - Upload: 9.5 Mbps

- Snyder County #67
    - Download: 1.23 Mbps
    - Upload: 0.6 Mbps
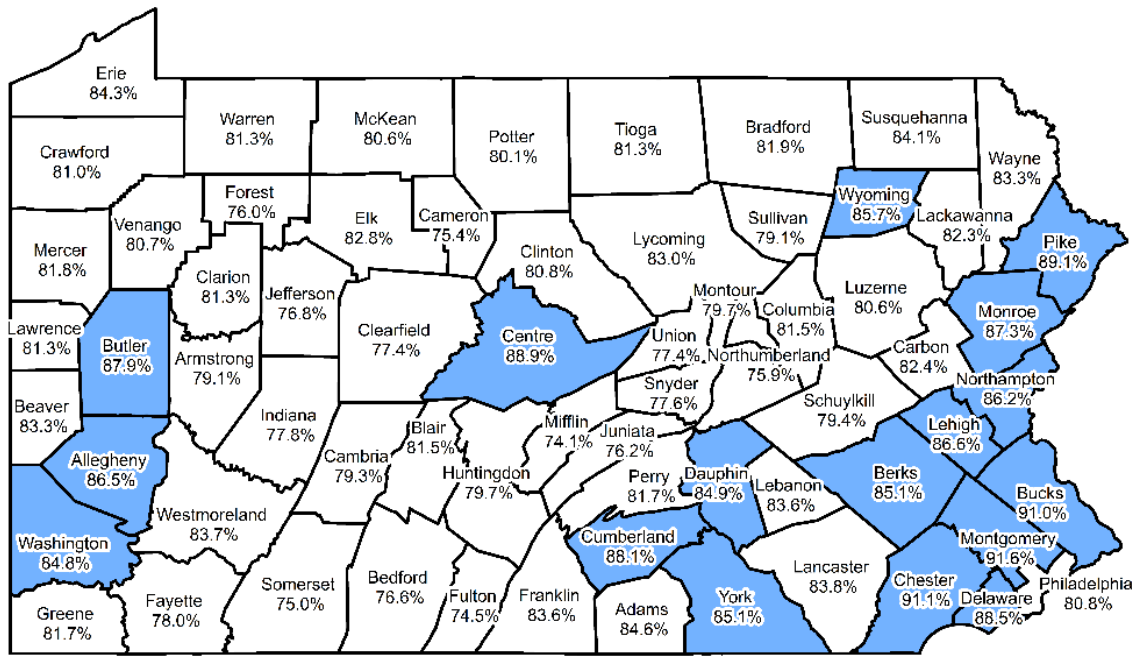
Broadband Research: 2020

Rural vs. Urban Breakdown of Types of Connection Technology in Pennsylvania
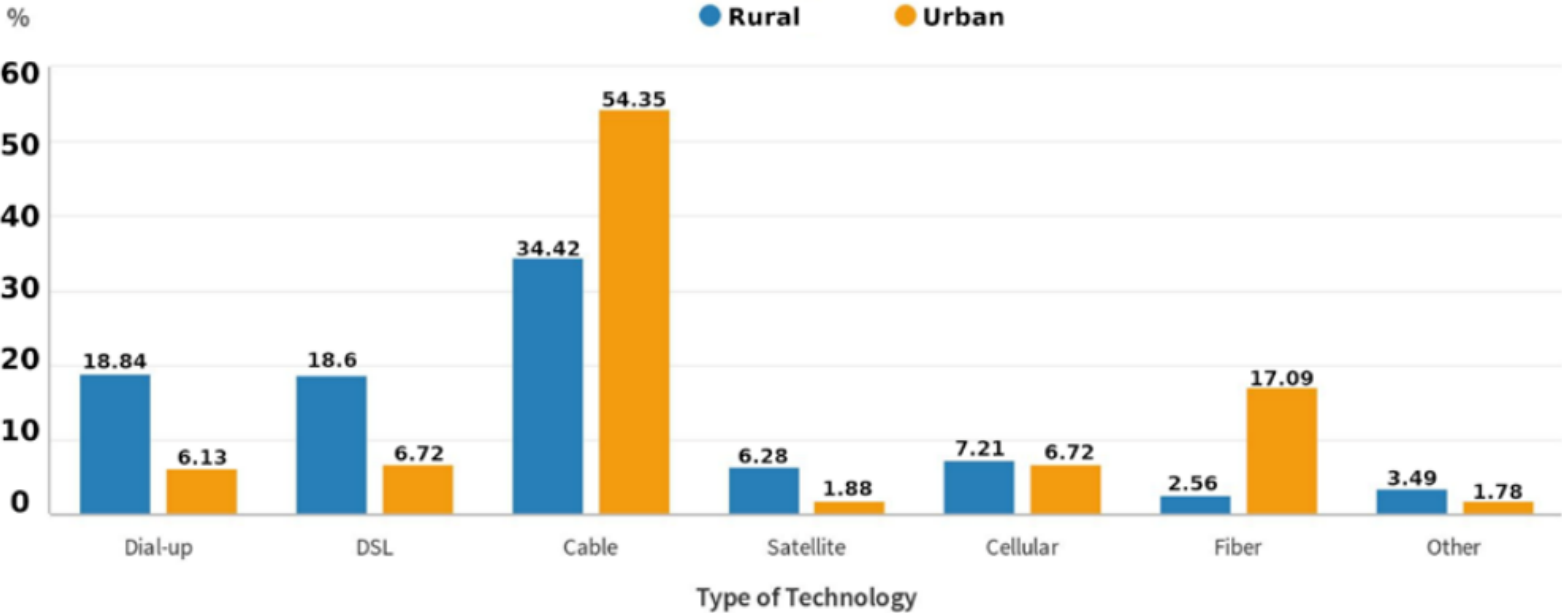
Internet Access

Percent of Households with Internet Access, 2019

Map of Pennsylvania counties showing Percent of Households with Internet Access, 2019:

- Erie 84.3%
- Warren 81.3%
- McKean 80.6%
- Potter 80.1%
- Tioga 81.3%
- Bradford 81.9%
- Susquehanna 84.1%
- Wayne 83.3%
- Crawford 81.0%
- Forest 76.0%
- Elk 82.8%
- Cameron 75.4%
- Wyoming 85.7%
- Lackawanna 82.3%
- Pike 89.1%
- Venango 80.7%
- Clinton 80.8%
- Lycoming 83.0%
- Sullivan 79.1%
- Mercer 81.8%
- Clarion 81.3%
- Jefferson 76.8%
- Luzerne 80.6%
- Monroe 87.3%
- Lawrence 81.3%
- Clearfield 77.4%
- Centre 88.9%
- Montour 79.7%
- Columbia 81.5%
- Carbon 82.4%
- Butler 87.9%
- Armstrong 79.1%
- Union 77.4%
- Northumberland 75.9%
- Northampton 86.2%
- Beaver 83.3%
- Indiana 77.8%
- Snyder 77.6%
- Schuylkill 79.4%
- Lehigh 86.6%
- Allegheny 86.5%
- Blair 81.5%
- Mifflin 74.1%
- Juniata 76.2%
- Cambria 79.3%
- Huntingdon 79.7%
- Perry 81.7%
- Dauphin 84.9%
- Lebanon 83.6%
- Berks 85.1%
- Bucks 91.0%
- Washington 84.8%
- Westmoreland 83.7%
- Cumberland 88.1%
- Montgomery 91.6%
- Greene 81.7%
- Fayette 78.0%
- Somerset 75.0%
- Bedford 76.6%
- Fulton 74.5%
- Franklin 83.6%
- Adams 84.6%
- York 85.1%
- Lancaster 83.8%
- Chester 91.1%
- Delaware 88.5%
- Philadelphia 80.8%

Statewide Percent of Households with Internet Access, 2019 = 84.7%

☐ At or Below Statewide Rate   ■ Above Statewide Rate

Data Snapshot of Rural Pennsylvania Households and Householders With and Without Internet Access, 2019	No Internet Access	With Internet Access
Avg. Age	68.0	52.8
Household Income	$26,264	$64,649
Poverty Rate	22%	10%
% With Children in Household	10%	29%
% Female	49%	48%
% Minority	4%	7%
% No High School Diploma	23%	5%
% with Disability	40%	17%
% Employed	27%	64%
% No Vehicle Available	24%	5%

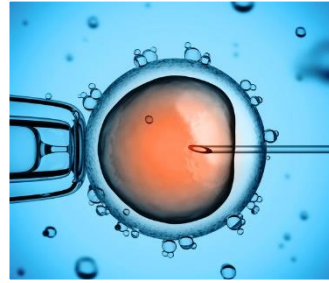*Data sources: Map = 2019, 5-Year Average and Table = 2019 Public Use Microdata Sample, American Community Survey, U.S. Census Bureau.*

Demand Indicators for Broadband in Greater Adams County

103 High Technology Businesses, 2019[1]

12% Adults are employed in engineering, science and computer occupations, 2019[2]

7% Adults have a college STEM degree, 2019[2]

49 Businesses that employ 100 or more employees, 2020[3]

37 Public and private elementary and secondary school building with total of 14,300 student, 2020[4]

2 Degree granting colleges with 2,700 students[4]

8 Health care facilities (hospital, health clinic and nursing homes)[5]

2 Public libraries with 54 public use computers, 2018[6]

2,880 residents worked at home, 2019[2]

1. NAICS Codes for high technology businesses determined by National Science Foundation. Data includes only Adams County. Data source: U.S. Bureau of Labor Statistics.
2. Data include all of Adams County and Washington Township and Waynesboro Borough in Franklin County. Data source, 2019, 1-year average, American Community Survey, U.S. Census Bureau.
3. Data includes only Adams County. Data source: Pennsylvania Department of Labor and Industry.
4. Data includes only Adams County. Data source: Pennsylvania Department of Education.
5. Data includes only Adams County, Data source: Integrated Postsecondary Education Data System (IPEDS).
6. Data includes only Adams County. Health Resources and Services Administration (HRSA).
7. Data includes only Adams County. Data source: Institute of Museum and Library Services.

1-in-10 Households in Greater Adams County Do Not have a Computer Device

Census Block Groups with Low Internet Penetration Rates, 2019

Census Block Groups Where 20%+ Households Have No Internet Access

Types of Computer Devices Greater Adams County, 2019

No Computer 10%

Laptop/ Desktop Computer Only 6%

Smartphone Only 9%

Tablet or Other Devises Only 1%

Multiple Computer Devices 74%
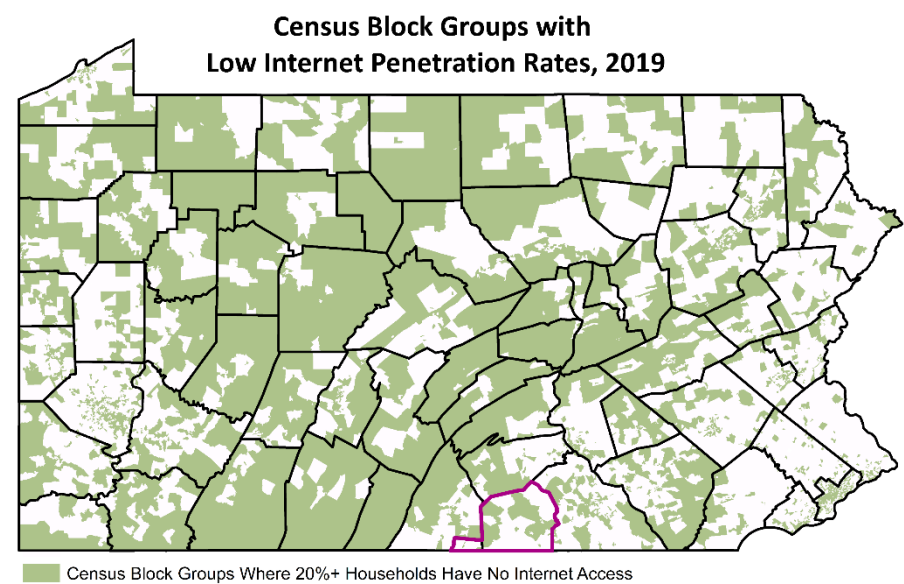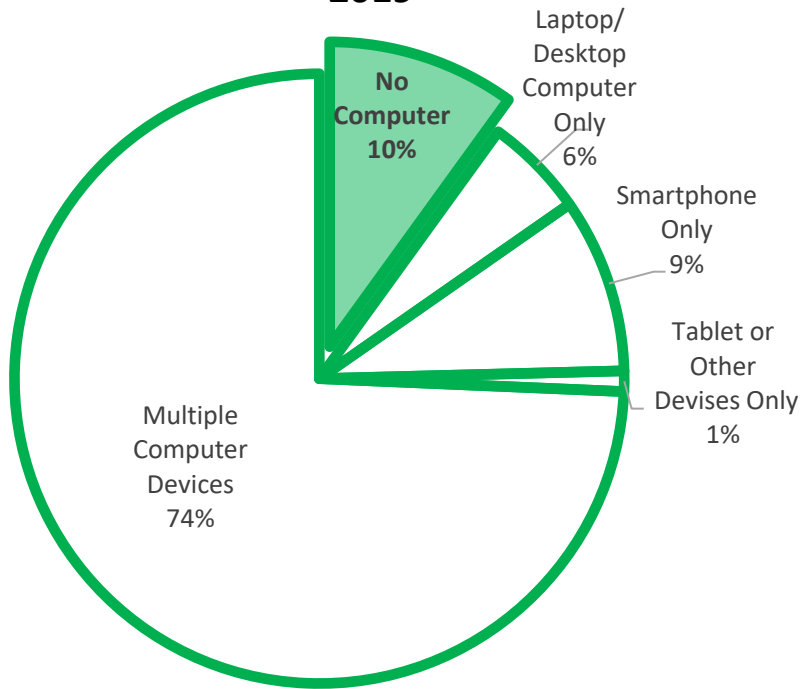
Characteristics of Householders that Do Not Have a Computer in Greater Adams County, 2019

73.9 Avg. Age of Householder
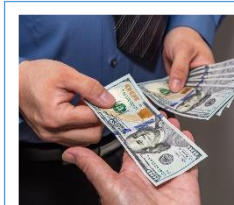
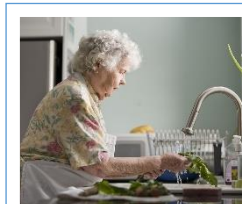$25,860 Median Household Income

3% Households have Children
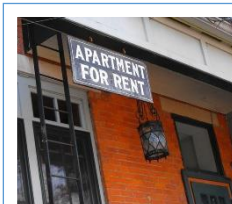
36% Householders Rent their Home

76% Householders Living Alone

Data for the map is from the 2019, 5-year Average, American Community Survey. All other data include all of Adams County and Washington Township and Waynesboro Borough in Franklin County. Data source, 2019, 1-year average, American Community Survey, U.S. Census Bureau.

How Households are Assessing the Internet in Greater Adams County, 2019

Cellular Data Plan
91% Greater Adams County
89% Pennsylvania
90% United State
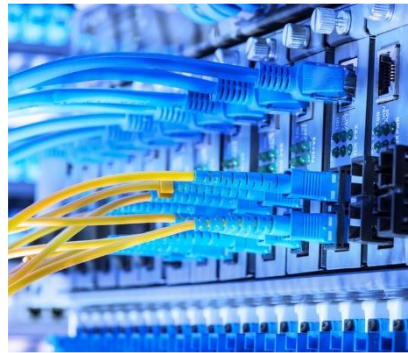
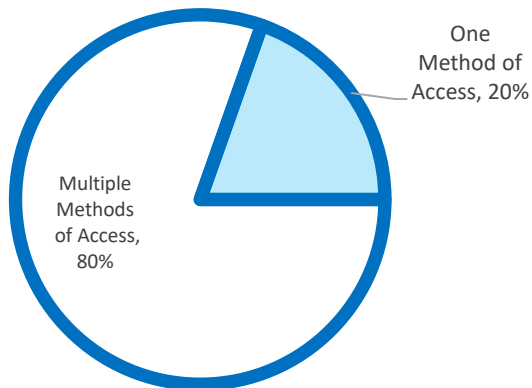**Broadband** *(DSL, Cable, Fiber, etc.)*
83% Greater Adams County
84% Pennsylvania
82% United State

Satellite
9% Greater Adams County
5% Pennsylvania
6% United State

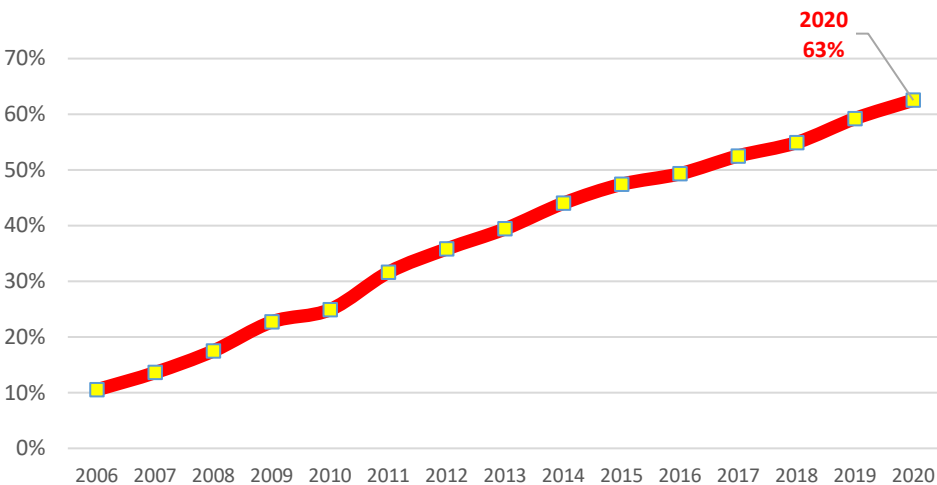**80% of Greater Adams County Households Have More than One Method to Access the Internet Access, 2019**

One Method of Access, 20%

Multiple Methods of Access, 80%

Free Wi-Fi
2% Greater Adams County
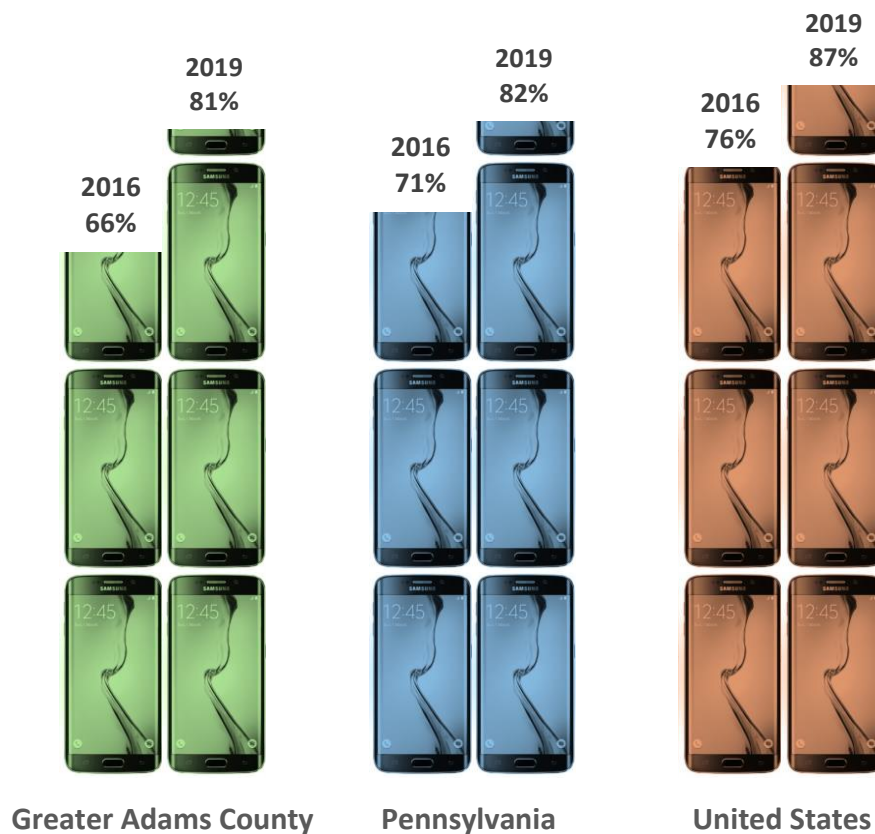2% Pennsylvania
3% United States

Dial-Up
3% Greater Adams County
2% Pennsylvania
2% United States

Wireless only Households in the United States, 2006 to 2020[1]
(January to June)

2020
63%

70%
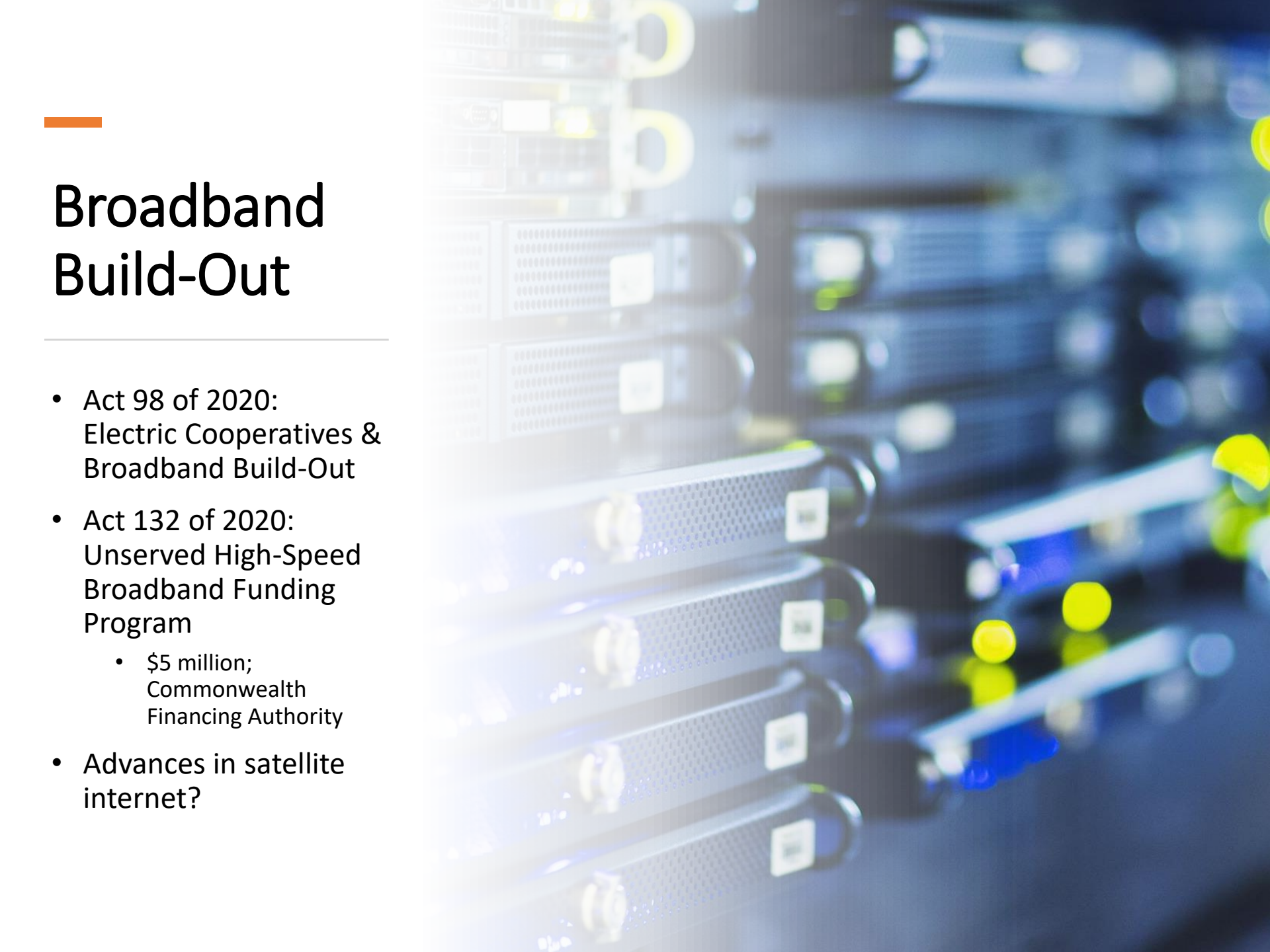60%
50%
40%
30%
20%
10%
0%

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

Households in Greater Adams County with and without Smartphones 2019[2]

	No Smartphone in Household	Smartphone in Household
Avg. Age of Householder	71.8	51.7
Median Income	$36,365	$79,801
% Adults Employed	33%	70%
% No Home Internet Access	43%	2%
% Homeowners	76%	77%

Households with Cellphones

Percent of Households with Smartphones, 2016 and 2019[2]

2019
81%

2016
66%

2019
82%

2016
71%

2019
87%

2016
76%

Greater Adams County   **Pennsylvania**   **United States**

1. National Health Interview Survey (NHIS), National Center for Rural Pennsylvania Health Statistics.
2. Data include all of Adams County and Washington Township and Waynesboro Borough in Franklin County. Data sources, 2016 and 2019, 1-year average, American Community Survey, U.S. Census Bureau.

Broadband Build-Out

- Act 98 of 2020: Electric Cooperatives & Broadband Build-Out

- Act 132 of 2020: Unserved High-Speed Broadband Funding Program
  - $5 million; Commonwealth Financing Authority

- Advances in satellite internet?

Thank You

Questions & Comments
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