



# BROADBAND A CASE STUDY

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# Why Broadband Matters

Over **42 million** Americans  
lack reliable broadband access

**Key issues** are Access, Affordability, and Adoption

COVID-19 pandemic furthered our **dependency on the Internet** with school, work, and even governmental affairs now being conducted online. **ARPA** and other federal funding provided local governments with a **unique opportunity** to address broadband issues.

# Methodology

- + **State preemption** was the starting point for research  
Explored cases mostly in states with preemption:  
FL, PA, TX, VA
- + **Identified municipalities** with **creative approaches**  
and **real efforts** in improving broadband access
- + **Interviewed key stakeholders**  
Public sector workers and private sector partners

Canada



# CASES: OVERVIEW

United States



Mexico



Cuba

Puerto Rico

Guatemala

Nicaragua

# Cases: Brownsville, TX

## Context

Border town, "Worst Connected Cities" in the U.S.

## Funding

Used \$19.5 mil of ARPA to enter a PPP with Lit Communities, which committed to providing an additional \$70 mil

## Project Overview

100 miles of publicly-owned middle-mile fiber network and 550 miles of private last-mile fiber connections to all homes and businesses within the city

# Cases: Palm Beach, FL

## Context

School district realized long-planned efforts to serve disconnected students as COVID significantly impacted schooling

## Funding and Project

- + 15.7 mil from CARES (ended in 2020) and 40 mil from ARPA for building fiber and Wifi mesh networks
- + Additional \$1 mil of DOE and Education Foundation of Palm Beach County funding for wifi extenders; approximately 11,000 wifi extenders have been configured by September, 2022

# Cases: York County, PA

## Context

Rural town, “Didn’t have any broadband strategy prior to COVID” but COVID showed the importance of broadband

## Funding

\$20 mil ARPA funding for public middle-mile fiber

\$5 mil ARPA funding for private last-mile to city of York and Hanover

## Project

144 miles of middle-mile network with affordable FTTP plans through York Fiber

# Cases: Shenandoah County, VA

## Context

6 towns in rural, agricultural county

## Funding

- + Received **\$12.1 mil** in grant from the VATI (Virginia Technology Initiative)
- + **\$17 mil** from Shentel (local ISP)
- + **\$3.7 mil** from ARPA

## Project

Deploy fiber optic Internet to **4,090 residences, 42 businesses, 3 community anchors**, and **4 non-residential customers** with FTTH. Collaborate with Dominion Energy and Shenandoah Valley Electric Cooperative to **integrate middle mile fiber** with ISP in **underserved areas**. Formalize resource sharing agreements with VDOT. Extend FTTP.



# Cases: Wrangell County, AK

## Context

A series of islands home to a small community of Tlingit and Haida tribes

## Funding

\$13 mil from ARPA

## Project

4G, 100 Mbps symmetrical wireless connectivity to 10,000 Wrangell City residents by...

- + building 120-foot towers that will broadcast Internet directly to homes and businesses
- + using cell on wheels (COWs) to act as a mobile Internet service

# Themes: Preemption

Preemption, although present in 4 of 5 of the cases, was not a major roadblock

- + TX, PA, VA Preemption = Ban on Municipal broadband provision

  - Public Private Partnership model as a solution

- + FL Preemption = Restrictions on the Use of Funding

  - Broke the project into smaller projects using different funding sources

    - CARES & ARPA: middle-mile construction

    - Others: last-mile digital inclusion

# Themes: Lack of funding

ARPA funding jumpstarted all of these projects. Without substantial funding toward broadband, projects do not get actualized.

- + Shenandoah, VA

*"The availability of state, federal and Shentel funding closed the funding gap."*

- + Wrangell, AK

*Without ARPA, "the Tribal council would not be able to build out the necessary infrastructure required to access their exclusive mid-band broadband spectrum."*

- + Palm Beach, FL

CARES and ARPA made things that cannot be achieved in the last decade happen

# Themes: Private Partnership

In TX, PA, and VA, PPPs helped with:

- + Providing additional project funding
- + Knowledge in network planning, operation, maintenance and customer service
- + Building local workforce and expertise

# Themes: Political Will

Political will played an important role in starting and progressing broadband projects. Many did not get off the ground until community leadership decided it was important.

- + COVID-19 played a significant role in communities realizing the importance of broadband
- + **Palm Beach, FL:** The political will from different levels promoted the initiative to move forward continuously from 2006, but real change came when the county and the school system became champions due to COVID
- + **Brownsville, TX:** Mayor Mendez's election in 2019 was the catalyst taking action, and COVID hastened deployment

# Themes: Incumbent Provider Pushback

While this is not a hurdle for all the cases, incumbent providers did strongly resist municipal-led broadband projects in TX and PA.

- + **Brownsville, TX:** incumbents paid for advertising campaigns to boast their services + filed Freedom of Information Act requests demanding the release of Lit's proprietary business models

Response: detailed survey data before project planning served as justification for project

- + **York County, PA:** incumbents pushed to promote that the project was unlawful on the basis of county provision

Response: no standing → the county isn't providing direct service

# Themes: Practical Approach to Equity

## Many places took an implicit approach to equity

Broadband was a practical need that leaders wanted addressed in their communities

- + **Palm Beach, FL:** Used heat maps to identify low-income areas to provide broadband access to students in need
- + **York County, PA:** Brought broadband to rural parts of the county
- + **Brownsville, TX:** Entire city needed broadband
- + **Wrangell, AK:** Designed their project to address digital equity

# Recommendations

## Do It Now

- + There are many sources of funding right now that can facilitate local broadband efforts

## No need to go alone, partner up

- + Partnership with willing incumbent provider or outside partners can help bring outside money into broadband and can help save on operation and maintenance

## Preemption and state rules do not have to be a barrier

- + Partnership and creative solutions exist



# Thank you!

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The full report can be found at  
[https://labs.aap.cornell.edu/sites/aap-labs/files/2022-12/Chen%20etal\\_2022\\_FullReport.pdf](https://labs.aap.cornell.edu/sites/aap-labs/files/2022-12/Chen%20etal_2022_FullReport.pdf)