Digital Inclusion and K-12 Education: The Impact of COVID-19 on Students and Educators

NTIA Webinar Series

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Conference Line: 800-593-7190 Passcode: 984-4951#

October 21, 2020

Participants

Moderator:

- **Emy Tseng, Senior Broadband Specialist, NTIA's BroadbandUSA**

Presenters:

- Kimball Sekaquaptewa, Chief Technology Director, Santa Fe Indian School, Santa Fe, **New Mexico**

- Dr. Christine Diggs, Chief Technology Officer, Albemarle County Public Schools and Michael Culp, Director of Information Technology Department, Albemarle County, Virginia

- Joshua Edmonds, Director of Digital Inclusion, City of Detroit, Michigan

Helpful Information

Questions
- Please type questions in the Q&A box on the right hand side of the screen. Questions will be taken after the final presenter.

Presentation
- The presentation along with a transcript and recording will be available on the BroadbandUSA website within 7 days of this webinar under Events/past events.
- https://broadbandusa.ntia.doc.gov/past-event

Technical Assistance
- Guides, products, publications, and other tools are available to assist you with the planning, funding and implementation of your broadband project.
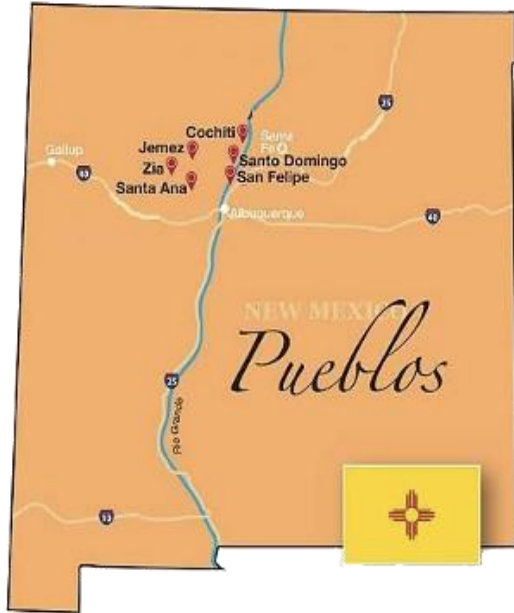- https://broadbandusa.ntia.doc.gov

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Kimball Sekaquaptewa, Chief Technology Director, Santa Fe Indian School

Pre-COVID State of Internet on Tribal Lands

- People: 41% of people living on tribal lands lack access to broadband, with the deficit jumping to 68% for those living in rural areas. (FCC, 2016)

- Homes: With lack of computers/Internet in homes people rely on Tribal libraries other Public Wi-Fi, expensive and often pre-paid cellular plans

- Schools: Bureau of Indian Education schools can pay significantly more than non-BIE schools in the same locations.
  Ch'ooshgai Community School $20,750/mo. vs. NM PED School District $6,005/mo.

- Tribes: In 2020, some tribal governments in New Mexico still connect
  with T1s (1.5 Mbps), or about 10% of a single LTE cell phone)

- And then came COVID-19: The Digital Divide ➔ Digital Chasm

- COVID-19 revealed the existing fault lines and puts a face to **the discrimination against students that aren't connected.**

Santa Fe Indian School Student Connectivity

SFIS is an off-reservation boarding school that serves 702 students from the 19 Pueblos, Apache, and Navajo Tribes of New Mexico

- School Closure sent kids home to 22 rural and tribal lands, least connected in NM, and likely the US

- 44% No Home Internet

- **Students 'find' the Internet in many ways:**
  32% Use Pre-Paid Internet
  27% Use Public Wi-Fi
  21% Go to their Tribal Library
  8% Relative's House or Work

- Cellular Coverage Very Spotty
  Despite the heavy reliance on mobile Internet, user experience is poor in many areas

- No Cable options on Tribal Lands

2020 COVID-19 Tribal Responses

Response	Timeframe	Technology	Pros	Cons
Immediate Rapid Response	SY19-20 School Closures	• Cellular Hotspots • A lot of Chromebooks	• Immediate connectivity • Cheap devices • CARES eligible	• Cellular Hotspots: Expensive band-aids • Over-reliance on Pre-Paid contracts • Delays in Supply Chain • Spotty Cellular Coverage • Chromebooks dependent on the Internet for best use
Mid-Term	SY 20-21 Doing better in the Fall	• **Hotspots/ Devices Cont'd** • Promote Low-Income ISP offers • Help low-income apply for FCC Lifeline Tribal Subsidy ($34.25/mo discount) • Tribal Wi-Fi ➔ 100+ locations	• Wi-Fi: Affordable • Wi-Fi: Extends existing Internet Connections • Serves many students	• Parking lot Wi-Fi: Hot/cold vehicles • Lack of transportation • Not great space to study • Winter is coming fast!
Long-Term Goal	Fall Onward Setting up for the Long Haul	• Residential Internet Access!! • At least 8 Pueblos installing wireless networks before 2021!	• Permanent Infrastructure, tribally-controlled • Leverages existing fiber backbones • Many Tribes can now use licensed spectrum	• CARES funding spending deadline of 12/30/20 • Not all tribes have fiber backhaul

# Connectivity: Previous Efforts Pave the Way

Tribes as Partners – and as Internet Providers

- Since 2008, 11 of 19 Pueblos have constructed fiber optic backbones ➜ Stages home connections

- In 2020, in the first ever FCC Tribal Priority Window for the 2.5 Ghz band, over 400 eligible tribes (of ~475) applied for a free spectrum license

    - 400 Tribes will be building WISPs

    - Or partnering with local tribal and non-Tribal ISPs, such as Sacred Wind in New Mexico, or Mescalero Apache Telecommunications Inc.

- On-Going collaboration with NM State Effort and Carriers

    - Improve coverage on tribal lands through Carrier network investments

    - Deploy Disaster Recovery Assets, such a Cellular on Wheels (CoW)

Low-income schools underperform without an established technology-rich teaching pedagogy

Figure XX. Average Months of Learning Lost if Schools Resume In-Class Schooling in January, 2021

- **NM LFC Report, "Learning Loss Due to COVID-19 Pandemic" (6/10/20)**
  - Low income schools, students suffer most
  - Lack of Broadband Access a factor
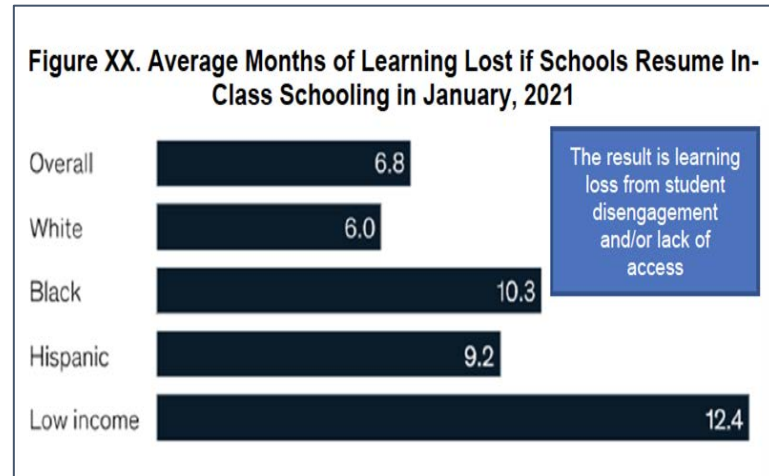
COVID-19 Notwithstanding – Educational Priorities
- Professional Development to develop a technology-rich teaching pedagogy
- Homework Gap: In-Home Broadband is Essential
- Connectivity for ALL schools, including the least connected BIE-operated schools
- Creating a NM State Education Network – 23 Other States have them!

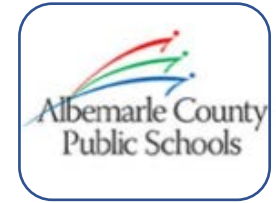# Digital Inclusion and K-12 Education: The Impact of COVID-19 on Students and Educators

Thank you, Kimball!

Dr. Christine Diggs, Chief Technology Officer, Albemarle County Public Schools
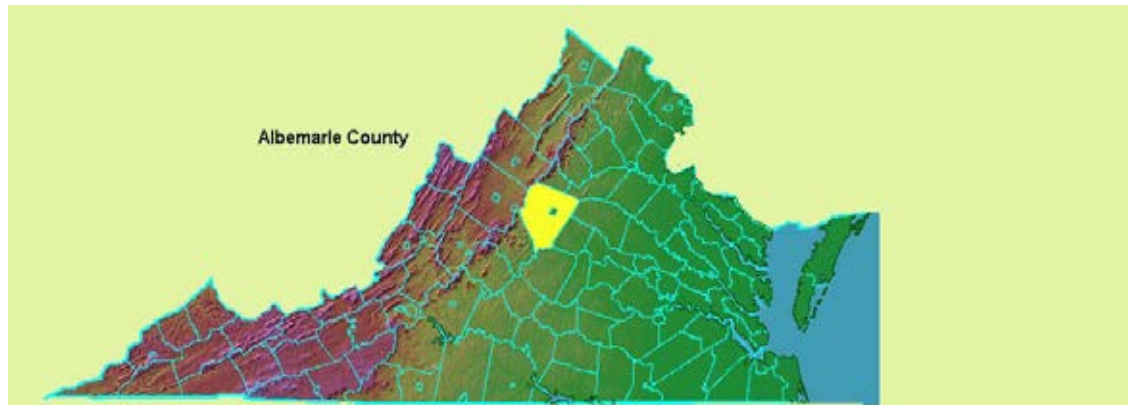
Michael Culp, Director of Information Technology, Albemarle County Public Schools

Albemarle County Government & Albemarle County Public Schools: Partnering to Expand Internet Access

Albemarle County Overview:

- Located in [Central Virginia](#)
- Covers 726 Sq. Miles
- Blue Ridge Mountains, Trees, Rolling Hills
- Established Albemarle Broadband Authority (ABBA) to Expand Connectivity

ABBA History & Timeline / 2017-2019

Virginia Telecommunication Initiative History

2017
$118,400 from DHCD
284 Locations Passed
Albemarle and CenturyLink

Albemarle Broadband Authority (ABBA) Incorporated

2018
$473,366 from DHCD
178 Locations Passed
Albemarle and Comcast

2019
$301,748 from DHCD
341 Locations Passed
ABBA and CVEC/FireFly
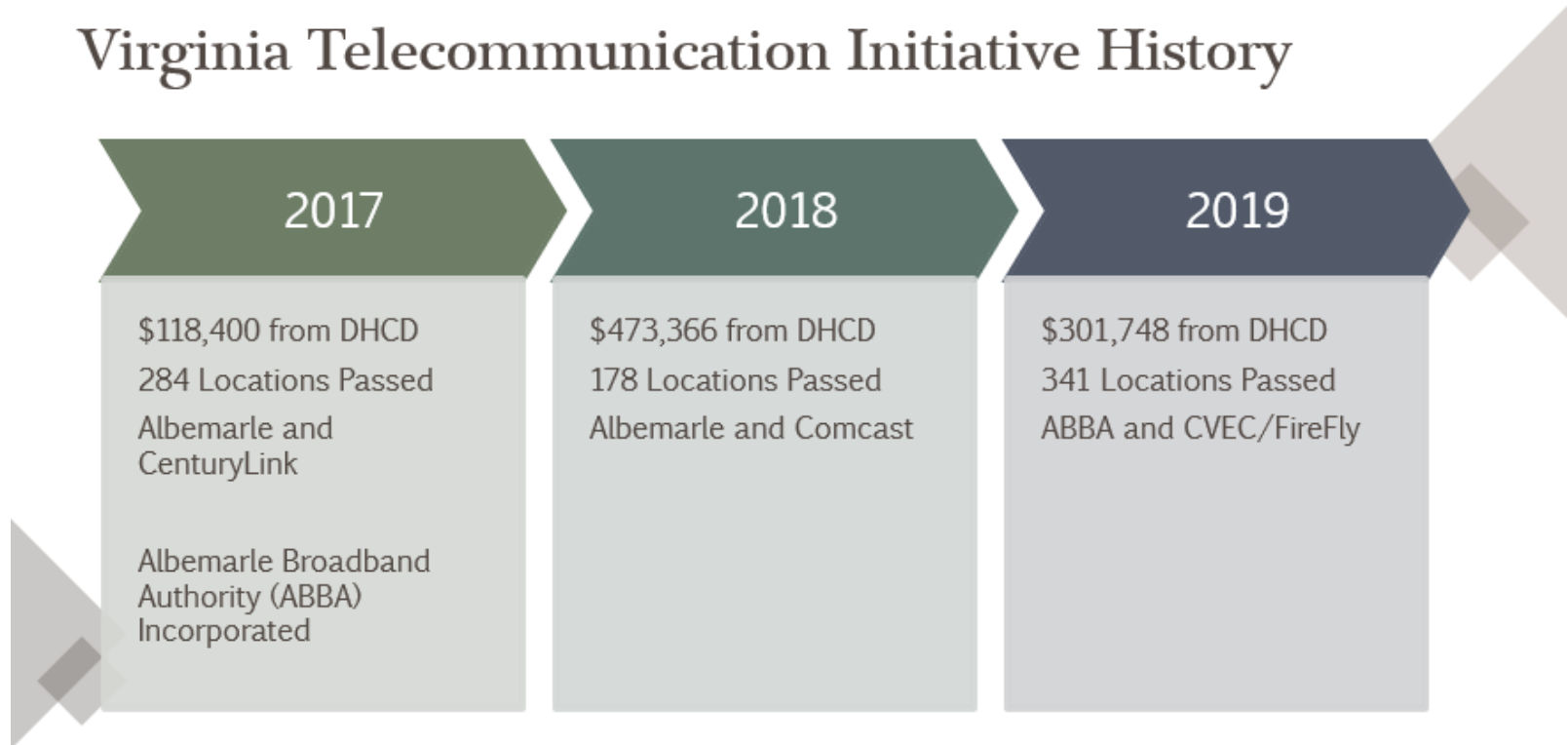
ABBA History & Timeline / 2020 - Future

Virginia Telecommunication Initiative

2020
- $291,300 from DHCD
- 837 Locations Passed
- ABBA and CenturyLink
- Project Underway Delivery by March 15, 2021

2021
- $3,676,566* requested from DHCD
- 2,322 Locations Proposed
- ABBA and CenturyLink
- Award Notice End of 2020/Start of 2021

FUTURE
- CARES Act
- Digital Equity
- Redundant Fiber Rings for the Region
- CVEC/FireFly Continued Work
- Additional Partnerships
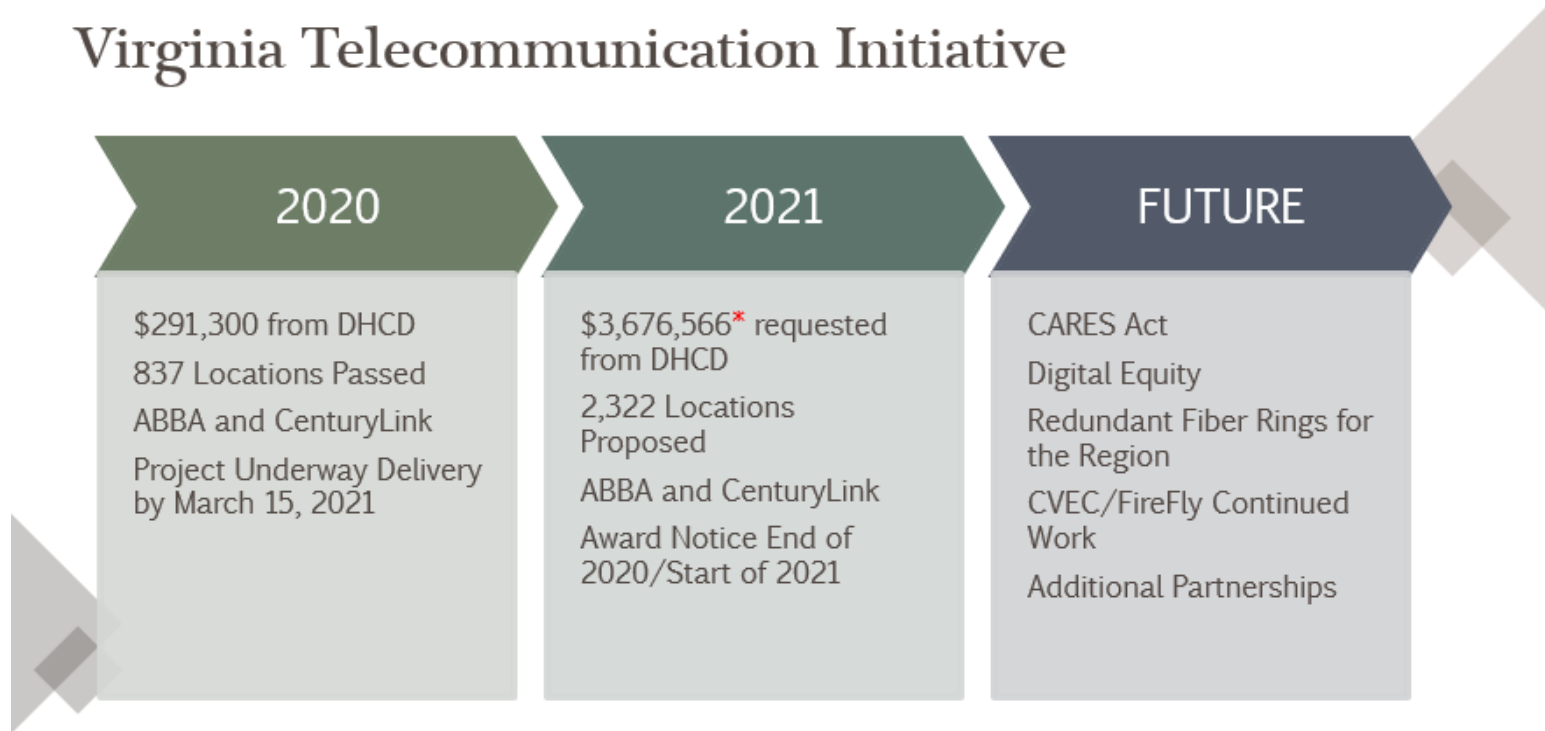
Our Partnership Goal: Digital Equity and Universal Broadband
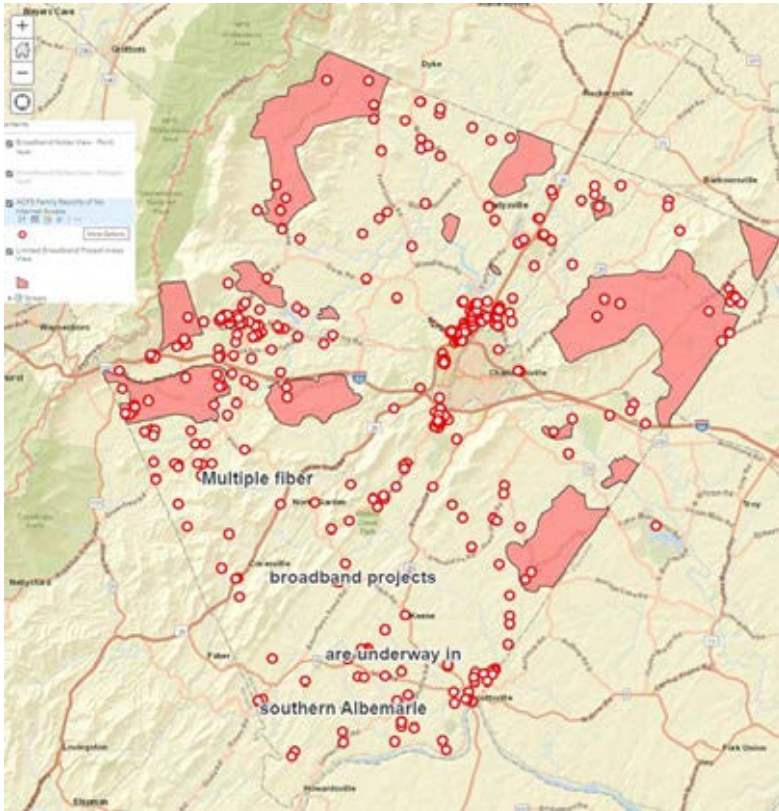
[Countywide survey](#) to report internet access speeds and school division family surveys (online and phone) to determine areas of no or low connectivity

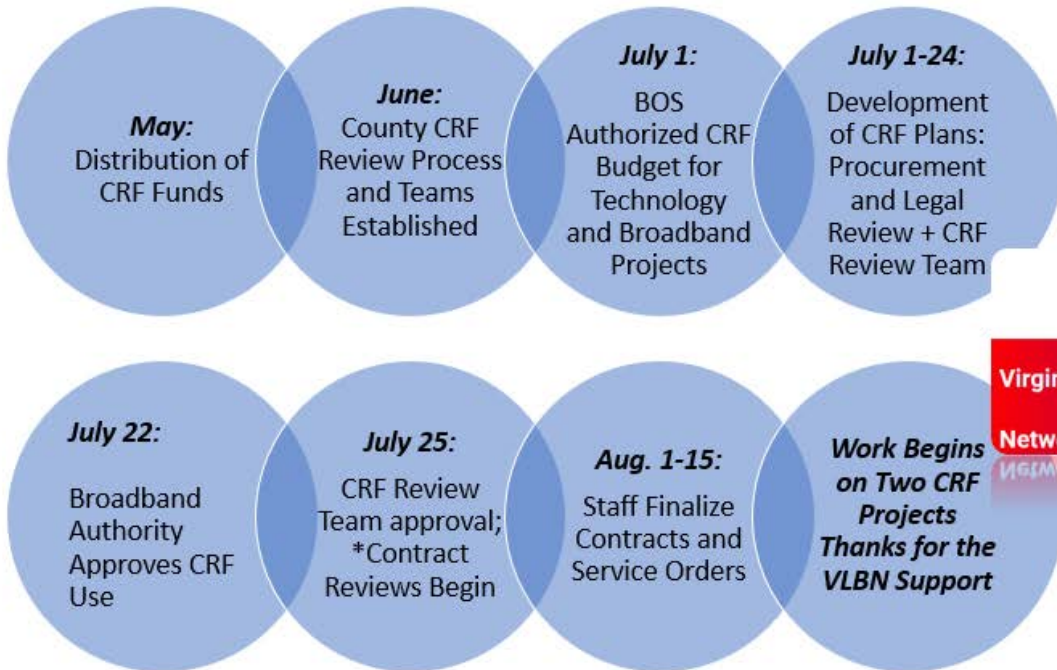**Red Circles:** ACPS Family Reported Internet Access Areas

Pink Polygons: Broadband expansion areas

The public has access to this [interactive map](#)

CARES CRF Process

May:
Distribution of CRF Funds

June:
County CRF Review Process and Teams Established

July 1:
BOS Authorized CRF Budget for Technology and Broadband Projects

July 1-24:
Development of CRF Plans: Procurement and Legal Review + CRF Review Team

July 22:
Broadband Authority Approves CRF Use

July 25:
CRF Review Team approval; *Contract Reviews Begin

Aug. 1-15:
Staff Finalize Contracts and Service Orders

Work Begins on Two CRF Projects Thanks for the VLBN Support

Virginia Local Broadband Network

Challenges & Opportunities

Challenges Despite Having Funding

- Capacity to Plan the Work
- Workers to Perform the Work
- Amount of Time Required
- CARES Funding Deadline

Projects Currently Being Planned

- Electric Cooperatives
- Use of ACPS Educational Broadband Service (EBS)
- Community Center Installations
- FireFly Expansion

ABBA partners with Internet Service Providers, Citizens, Business and Governments to advance broadband to every citizen and business in Albemarle County.

Albemarle County Public Schools (ACPS)

- Vision for Student Learning: "All learners believe in their power to **embrace learning**, to **excel**, and to **own their future**."

- Comprised of 26 buildings surrounding Charlottesville; includes a mix of rural, urban, and suburban schools serving 13,500 students

- Over 30% of the population economically disadvantage and approximately 10% identify as English Language Learners

- Internet connectivity for students at home is a critical component for meeting the learning needs of all students

- ACPS@Home Project established December, 2019

Multi-Prong Approach: ACPS@Home

- Partnering with County Government to expand broadband
- Utilizing public-private partnerships to expand connectivity for students, including Shentel, Kajeet and Comcast
- Established a digital equity position within the technology department by re-allocating an existing position
- Issuing hotspots to students
- Serving as the financial sponsor for providing broadband service from the partner internet service provider (ISP)
- Funding these efforts enabled by leasing the ACPS Educational Broadband Spectrum to Shentel, a commercial internet provider

Determining Needs for Start of School:

- All students in grades 3-12 historically issued an ACPS laptop
- Students in grades K-2 needed to be provided an ACPS iPad (historically had been at a 2 to 1 student to device ratio)
- Teacher Professional Development (PD) needs and resources for delivering virtual instruction both synchronously and asynchronously
- Data Dashboard illustrating low/no internet data reported by families
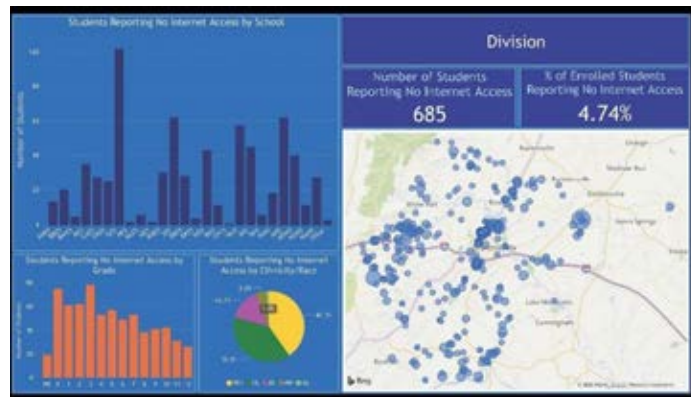
Supporting Our Students & Teachers

- ACPS@Home Project greatly accelerated to support 97% virtual learning for fall 2020

- [Return to School website](#) to provide families support and answers to questions and issues; multiple avenues to access technology support

- School based technology staff: 14 Learning Technology Integrators and 15 Technology Support Specialists (TSS)

- Teacher [Professional Development](#) & [Technology Resources Library](#)

- Policies for [students](#) and [staff](#) to support successful use of technology

- Family "Tech Nights" offered by building based technology staff in partnership with teachers

- Family "[Field Guide](#)" to technology in 2 languages

Keeping Our Kids Safe & Healthy in a Digital World

A Technology & Digital Citizenship Field Guide for ACPS Families

Using unique strategies of support for tech integration and equity.

Current State & Moving Forward

- Kajeet Wifi "smartspots" – over 1700 active, each using avg of 8GB/day

- Comcast 'Internet Essentials' participants – 47 households and growing

- Unprecedented number of support needs being met 7 days/week

- Students with no internet, or internet we cannot improve working on virtual learning in our school buildings

- School WiFi signal extended to school parking lots for community access

- Continuing to address connectivity needs as they arise, realizing these are interim measures until our long term sustainable goal is reached

Shared Goal with Albemarle County Government: Broadband to every citizen and business in Albemarle County

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Thank you, Christine and Michael!

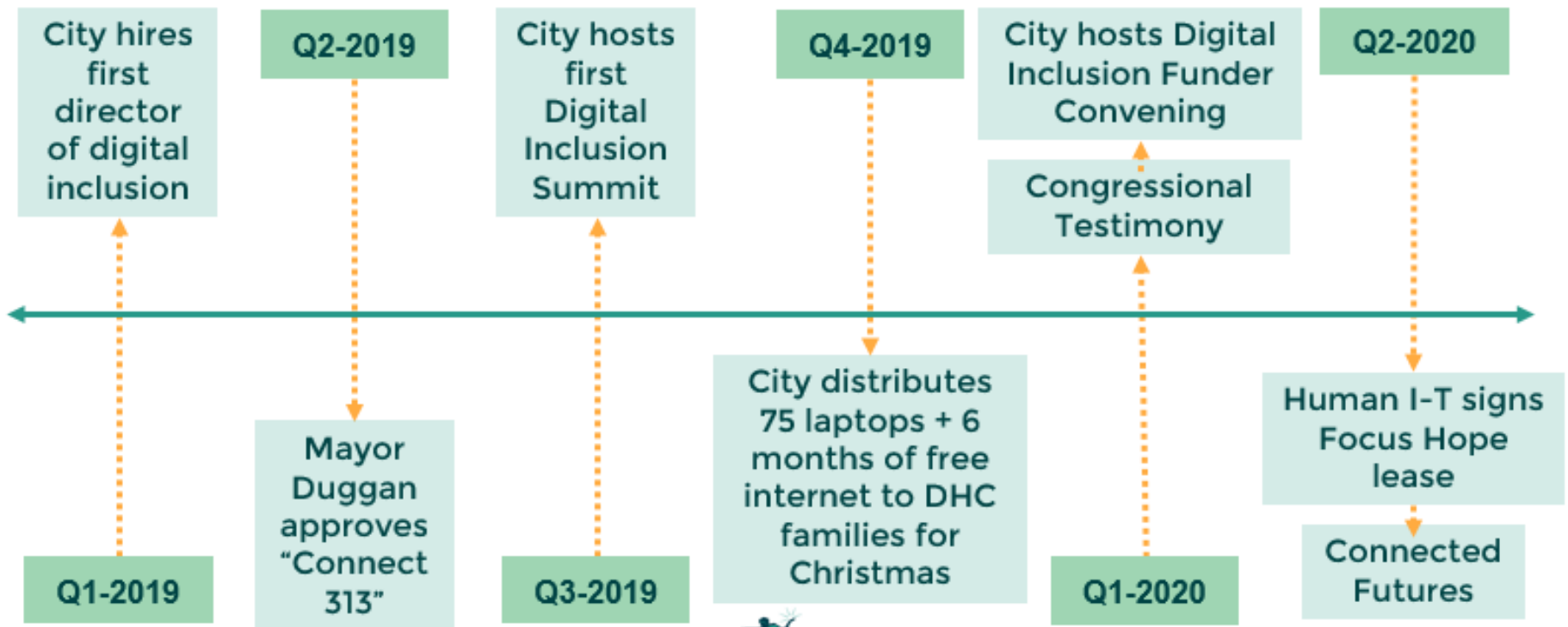# Joshua Edmonds, Director of Digital Inclusion, City of Detroit

Connect 313 X Connected Futures

2019 + 2020 "Major Wins" Timeline

City hires first director of digital inclusion

Q2-2019

City hosts first Digital Inclusion Summit

Q4-2019

City hosts Digital Inclusion Funder Convening

Q2-2020

Congressional Testimony

Q1-2019

Mayor Duggan approves "Connect 313"

Q3-2019

City distributes 75 laptops + 6 months of free internet to DHC families for Christmas

Q1-2020

Human I-T signs Focus Hope lease

Connected Futures

Data Framing

Topic	%	Note
% W/O Internet Access	29.4%	Internet of any type
% W/O Computers	45%	Desktop/Laptop
% W/O Wired Broadband	52%	High Speed Internet
% Cellular Only	20%	Cell Phone Only Hh
DPSCD *Under connected*	**90%**	**Struggling to maintain internet/computer**

Core Function Partners (Outside of Funders)

The Pieces & Parts

Organization	Core Digital Inclusion Role(s)
Detroit Public Schools Community District (DPSCD)	• Fundraising • Device User Testing • Data Provider/Aggregate • Account Holder
Human I-T	• Family Tech Support • Long-Term Device Replacement Partner • Data Aggregate/Intake
T-Mobile	• LTE Provider (6months)
DTE	• Project Management • Funding Support
Comcast	• Home Internet Provider (Internet Essentials)
City of Detroit	• Subject Matter Expert/Chief Advocate • Funder Convener/Co-signer • Sustainability Plan Developer • Ecosystem Owner

Major Funders (100k+)

- Detroit Public School District
- DTE Energy
- Kellogg Foundation
- Dan Gilbert Family Foundation
- TCF Bank
- United Way of Southeast Michigan
- Skillman Foundation
- Ralph C. Wilson Jr. Foundation

- Quicken Loans Community Fund
- JP Morgan Chase
- FCA
- General Motors
- Hudson-Webber Foundation
- Fisher Foundation
- John Kennedy
- Anonymous Donor

Total Raised: $23 Million on behalf of 51K Students

The Larger Picture

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Thank you, Joshua!

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Broadband USA

Thank you for attending.

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How Broadband Enhances Local Economies

November 18, 2020

2:00 pm EST

Registration is required for each webinar:

https://broadbandusa.ntia.doc.gov/event

BroadbandUSA is available to help communities with their broadband access and digital inclusion efforts

For General Information:

202-482-2048

broadbandusa@ntia.doc.gov

https:broadbandusa.ntia.doc.gov/resources

To Request Technical Assistance (TA):

Broadband TA Request Form -
https://broadbandusa.ntia.doc.gov/ntia-common-content/how-we-can-help

BBUSA Resources

- Implementing a Broadband Network Vision: A Toolkit for Local and Tribal Governments
- Community Broadband Roadmap Toolkit
- Guide to Federal Funding of Broadband Projects
- Using Partnerships to Power Smart Cities