



NEW MEXICO  
LEGISLATIVE  
FINANCE  
COMMITTEE

# Internet access to enable distance learning

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August 27, 2020

# Remote learning through August, hybrid for some thereafter

## 7/23 PED Order

- Remote through Labor Day, 9/7
- Districts and charters can adjust calendars and set a school start date of 9/8
- Potential Exceptions for small group, in-person for PreK-3<sup>rd</sup> grade and special ed students
- All must offer an online-only option for students

REMOTE	PHASE IN TO HYBRID	HYBRID
<ul style="list-style-type: none"><li>• Remote only</li><li>• Small Group Instruction*<ul style="list-style-type: none"><li>▶ Ratio of 5:1</li><li>▶ Possible for:<ol style="list-style-type: none"><li>1. PreK-3<sup>rd</sup> grade</li><li>2. Special education all ages</li><li>3. Students needing additional support all ages*</li></ol></li></ul></li></ul> <p><i>*Students needing additional support shall be determined locally and can include students at risk of dropping out, students least able to participate successfully in remote learning, students with unstable home conditions, and other locally determined support criteria.</i></p>	<ol style="list-style-type: none"><li>1. Grades PreK-5 return no sooner than Sept. 8**</li><li>2. Grades 6-8 will return next***</li><li>3. Grades 9-12 will return last***</li></ol> <ul style="list-style-type: none"><li>• Remote only option</li></ul> <p><i>**Schools serving grades PreK-6 and PreK-8 may bring back grade 6 students beginning Sept. 8. Schools serving grades PreK-8 will bring back students in grades 7 and 8 on the middle school cohort return date.</i></p> <p><i>***The return dates for grades 6-8 and 9-12 will be determined by public health officials based on health conditions.</i></p>	<ul style="list-style-type: none"><li>• Hybrid+ for PreK through 12th grade</li><li>• The number of students in the building at any time is capped by the number that can be accommodated while adhering to at least six feet of social distancing or 50% classroom capacity level.</li><li>• Students not in the building engage in remote learning.</li><li>• Remote only option</li></ul> <p><i>+Hybrid instruction assumes 6 foot social distancing and face coverings for all students.</i></p>



# Remote learning through August, hybrid for *some* thereafter

KOAT Albuquerque

## Rio Rancho hiring teachers

While Albuquerque Public Schools will stay virtual, Rio Rancho Public Schools still plans to start in-class learning after Labor Day. RRPS officials

SANTA FE PUBLIC SCHOOLS

## School year likely to start online



Superintendent, union seek approval for fully remote learning plan for at least first nine weeks

By Robert Nott  
[rnott@sfnwmexican.com](mailto:rnott@sfnwmexican.com)

Students enrolled in Santa Fe Public Schools will be...

99° El Paso



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LOCAL

## Las Cruces Public Schools' 'Red Phase' readies parents, students for virtual learning

## APS to stay in remote learning through Dec.

*3 District schools have already closed due to COVID-19 infections*

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BY SHELBY PEREA  
JOURNAL STAFF WRITER



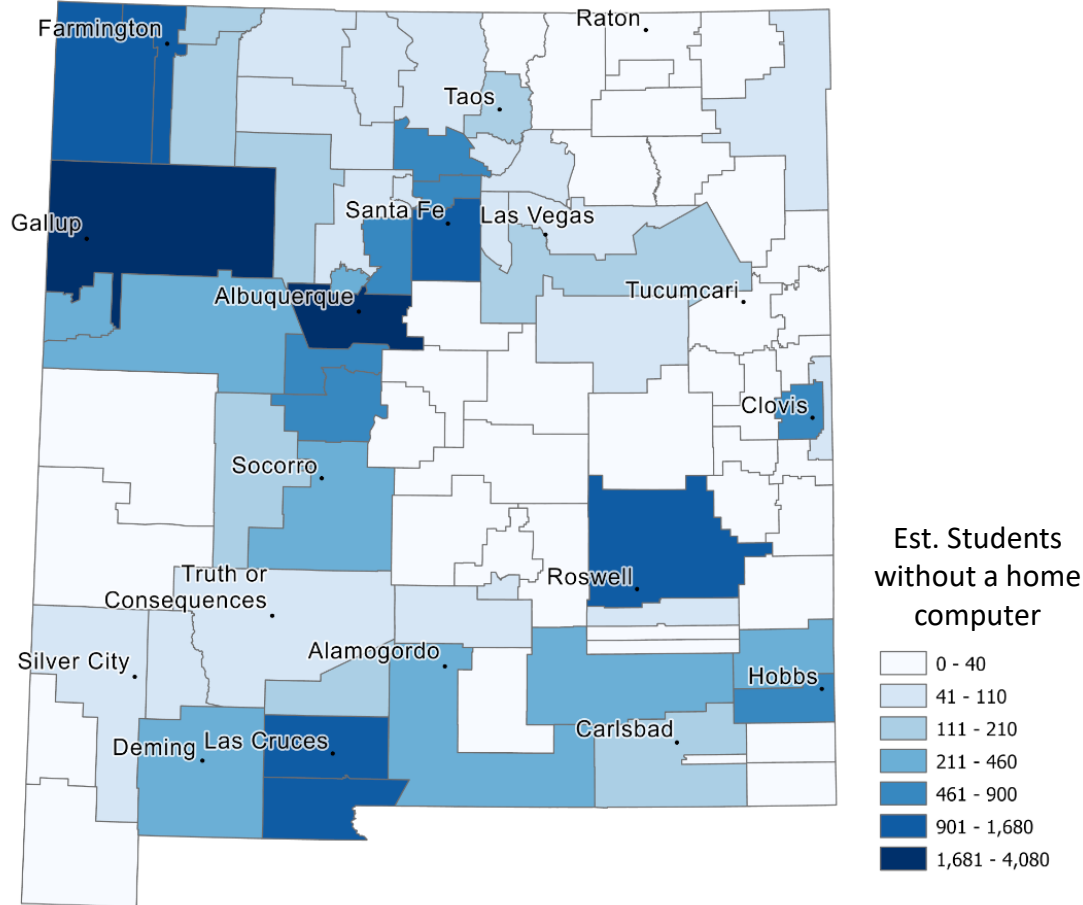
# Districts and Charters in Charge

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With a few exceptions for tribal schools, responsibility for purchasing and distributing computers, hotspots, and other technology has been left to districts.



# Census estimates about 25,620 public school-age children living in a household without a computer

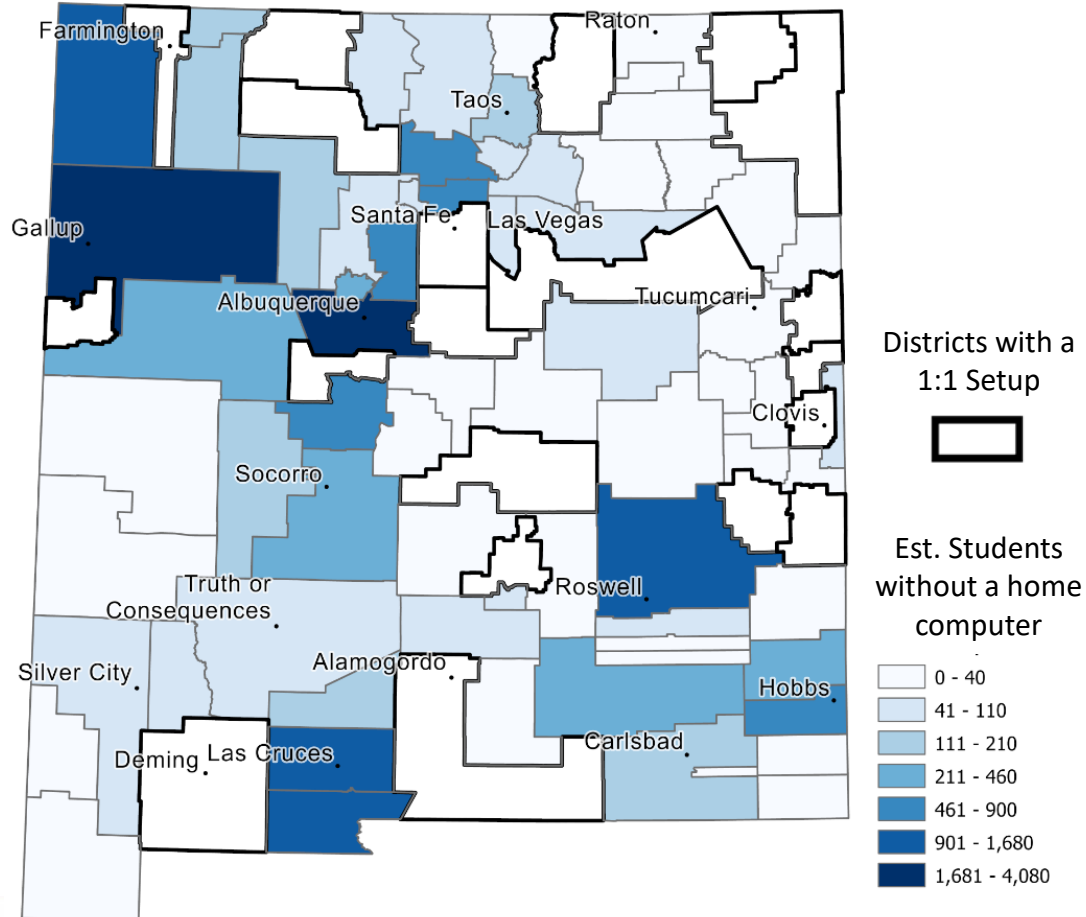


- Approximately 8% of total students
- Most in APS (4,080), Gallup (3,360), Central Cons. (1,680), Gadsden (1,420), Farmington (1,110), and Santa Fe (1,090)

*(all numbers approximate)*



# Twenty districts already had a 1:1 student technology setup at beginning of pandemic



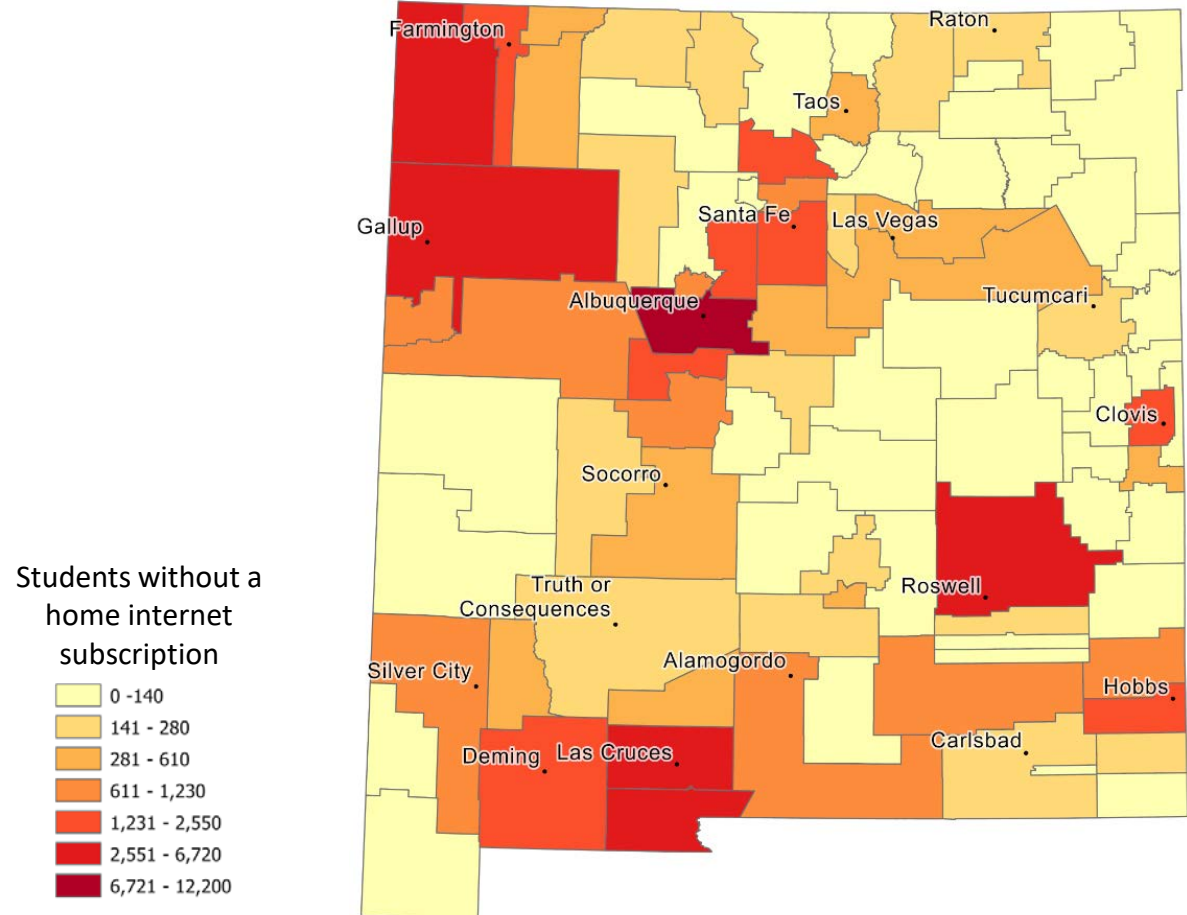
- Should have mitigated the needs of approximately 5,090 of the 25,620 students without computers
- Providing the remaining 20,530 students with loaded Chromebooks would cost districts in total, approximately \$7.2 million
- **Most remaining districts were able to purchase and distribute devices before the first day of school ... but there is no central statewide accounting of device needs or disbursal**



# About 66,200 (21%) of students in public schools live in a household without an internet subscription

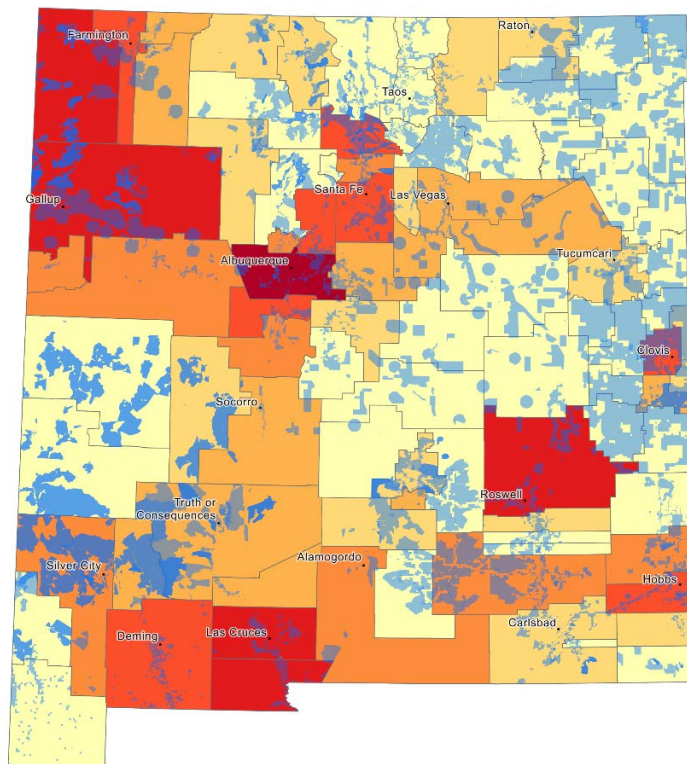
- Assuming 1.5 children/household = 44,140 households without an internet subscription
- Largest numbers of students in APS (12,200), Gallup (6,720), Gadsden (3,990), Roswell (3,860), Central (3,770), Las Cruces (3,380), Farmington (2,550), Clovis (1,970), Hobbs (1,700), Santa Fe (1,650), Deming (1,640) and Bernalillo (1,570)

*(all numbers approximate)*

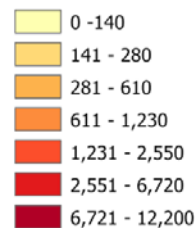


# Between broadband and cellular data, the state has coverage for most households in most school districts

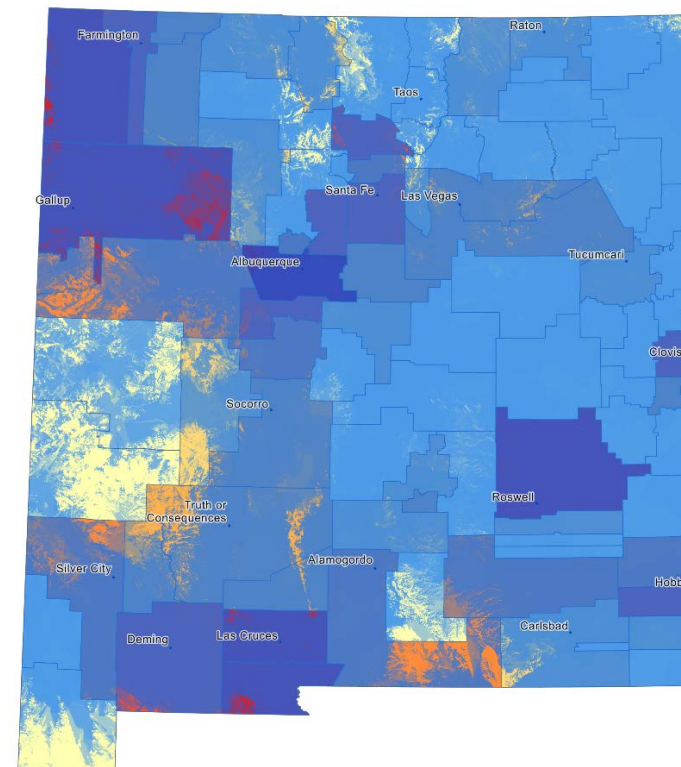
**Broadband Coverage ~ 27% land area**  
(Cable, DSL, and Fiber)



Students without a home internet subscription



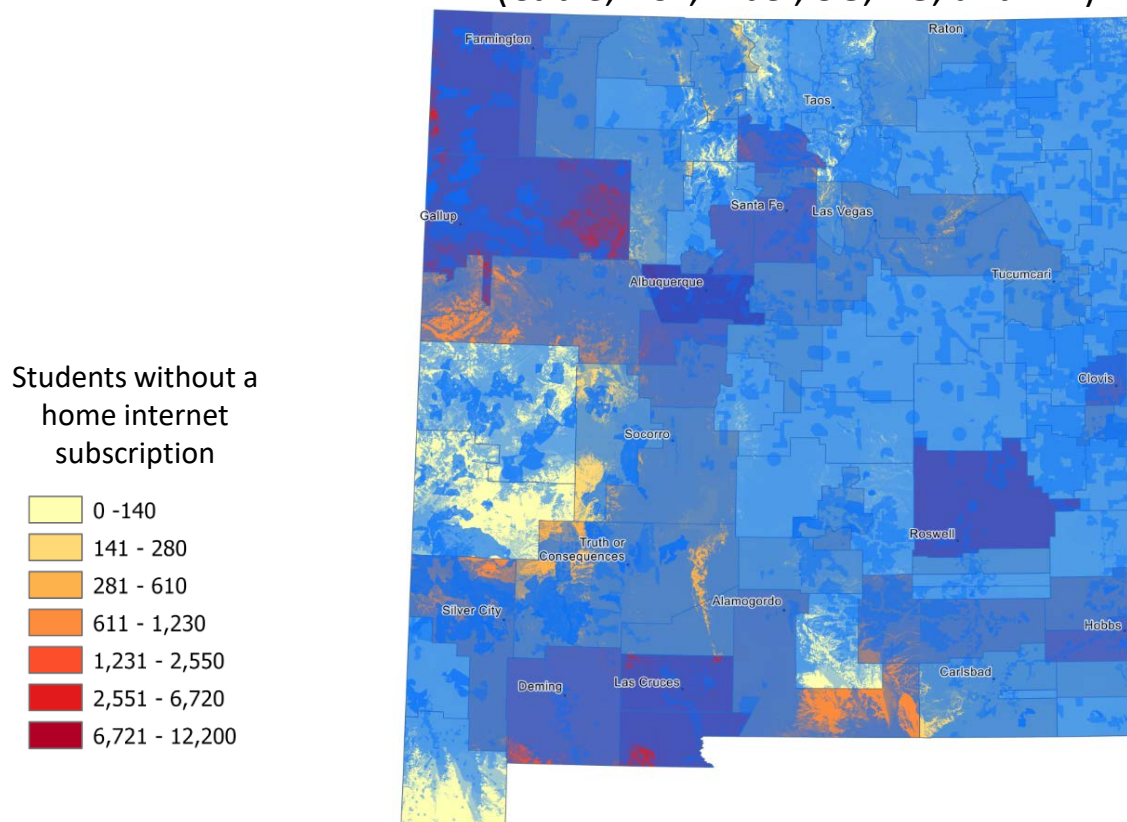
**Mobile Wireless Coverage ~ 95% land area**  
(3G, 4G, and LTE)





# Between broadband and cellular data, the state has coverage for most households in most school districts

## Combined Broadband and Mobile Wireless Coverage (Cable, DSL, Fiber, 3G, 4G, and LTE)



**~ 3% of NM's land area is without some sort of cable, DSL, fiber, 3G, 4G, or LTE coverage**

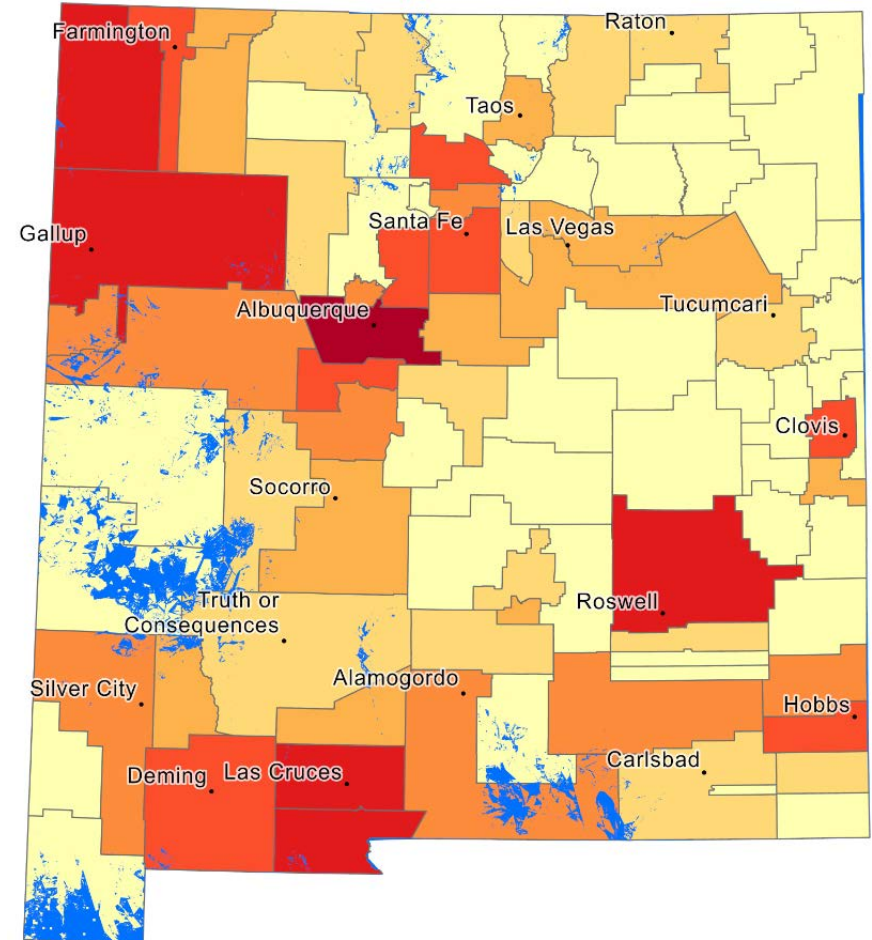
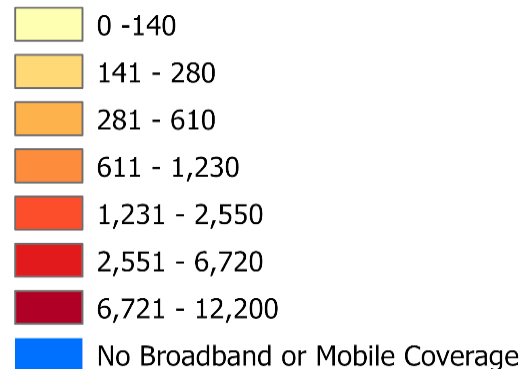


# With the exception of a few districts which have significant areas of no coverage

## Districts with the largest areas without broadband or cellular data coverage

Animas	33%
Reserve	32%
Alamogordo	12%
Magdalena	12%
Quemado	7%
Cloudcroft	7%
Cobre	7%
Grants-Cibola	4%
Questa	4%
Penasco	4%
Truth or Consequences	3%
Chama Valley	3%
Zuni	3%
Mesa Vista	3%
Jemez Mountain	2%

### Students without a home internet subscription



# Some of these low-coverage districts have enough space to socially distance

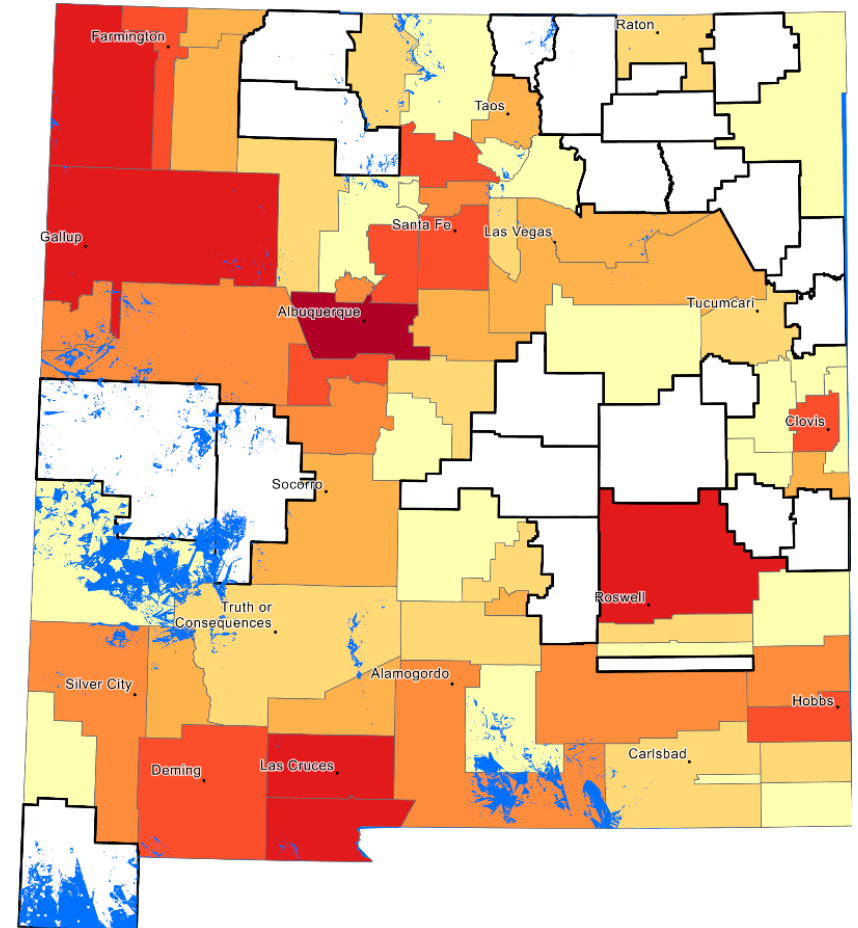
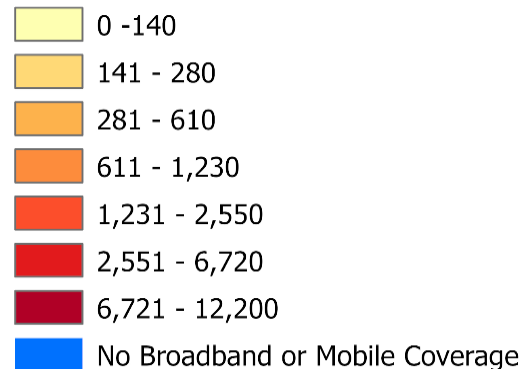
Initial analysis from LESC staff show that 23 districts have enough classroom space alone in all their schools for students to socially distance

*(Range: between 3 and 9 students /classroom or 60 to >600 sq ft of classroom space per kid)*

Districts with enough classroom space in all schools to social distance



Students without a home internet subscription



# Some of these low-coverage districts have enough space to socially distance

If school “flex spaces” are considered, then all but 21 of the districts have enough space at all their schools\*

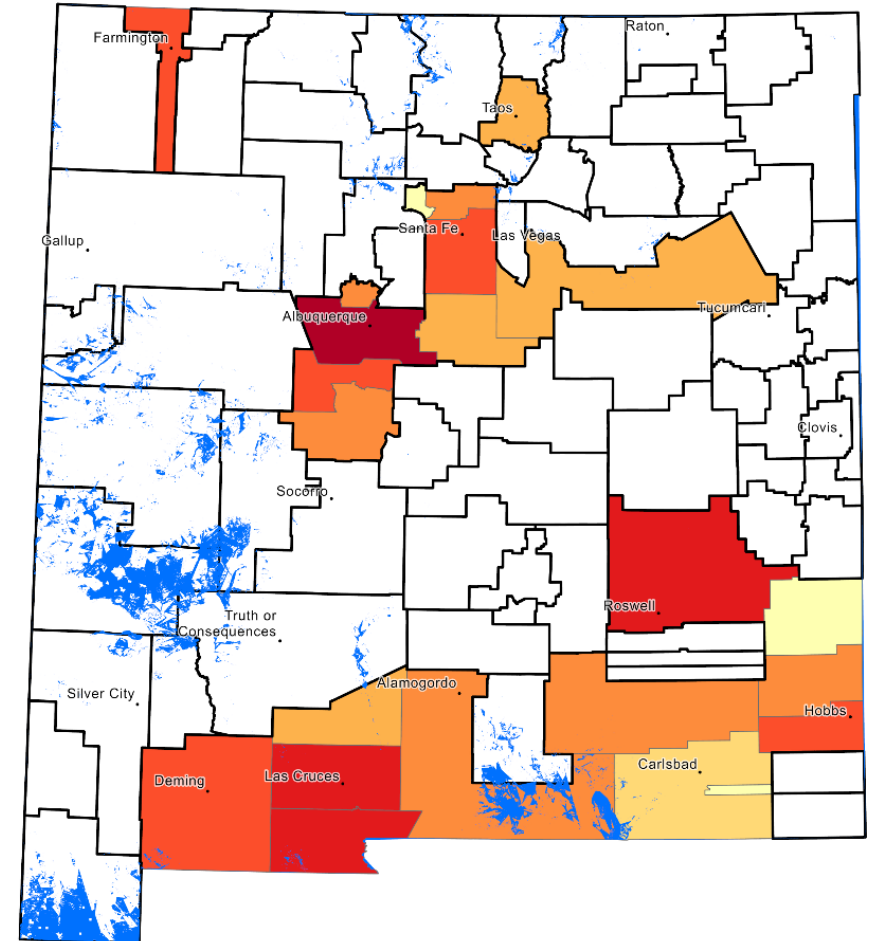
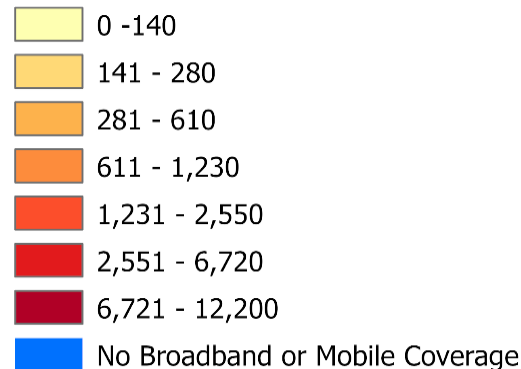
\*note that adequate space ≠ adequate staffing

(Range: between 1,900 and >194 thousand sq ft per kid)

Districts with enough classroom + flex space in all schools to social distance



Students without a home internet subscription



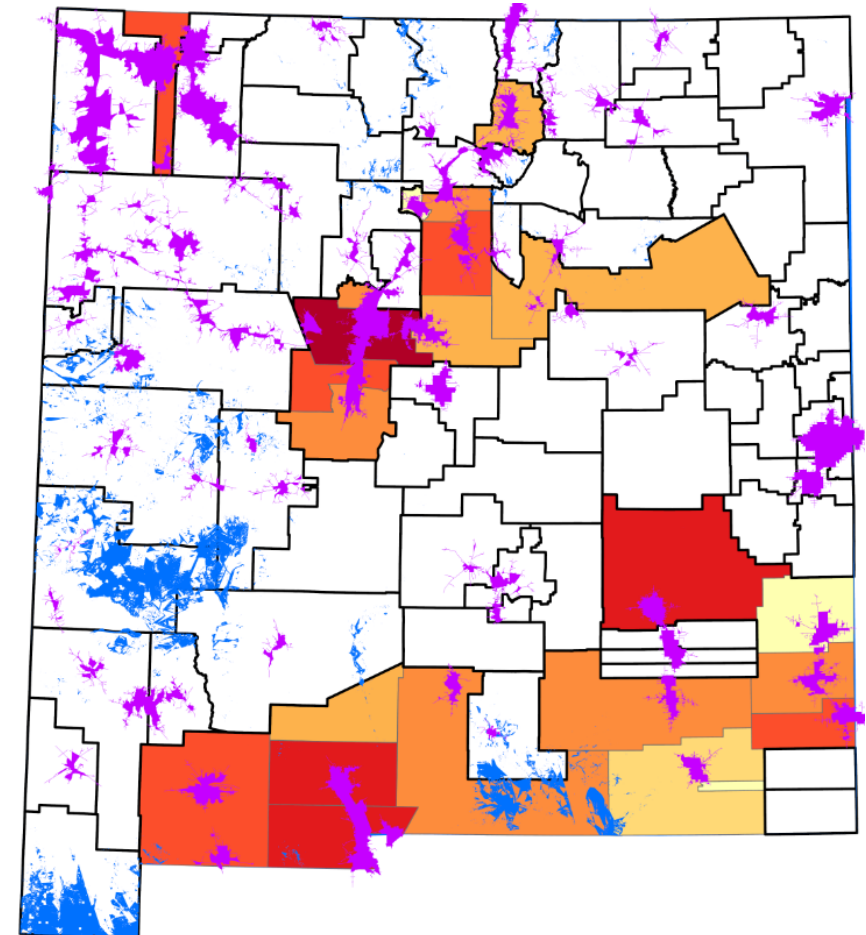
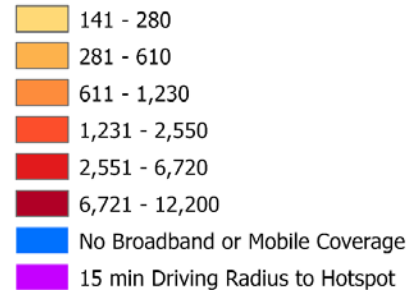
# Another Option: Community WiFi Hotspots

July 2020 DoIT catalogued over 340 fixed or mobile community-based WiFi hotspots available.

Districts with enough classroom + flex space in all schools to social distance



Students without a home internet subscription

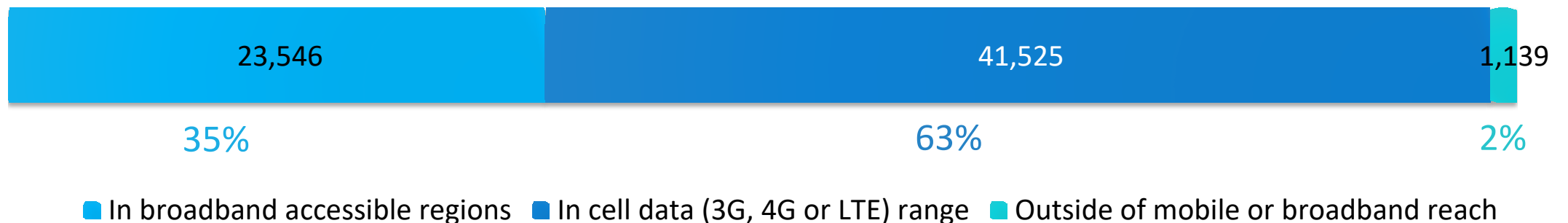


# Cost Estimates for 12 months of Remote Learning

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About 20,530 students without a computer at home and not in a 1:1 district

About 66,200 students without home internet:



# Assumptions for Cost Estimates for 12 Months of Remote Learning

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## **Chromebook with Software: \$350**

- PED already purchased \$2m statewide learning management software (Canvas) for districts to use

## **Residential Cell Hotspot and One-year Subscription: \$240 - \$300, depending on carrier.** One hotspot per student

## **Satellite Internet: One year of a 30GB/mo service plan + dish lease: \$1,200 and 1.5 students per household**

- PSFA estimate \$2,070/yr and 1 student per household

## **Subsidized Broadband: Between \$15 and \$30/month and 1.5 students per household (\$180 to \$360/yr)**

- PSFA estimate \$40/mo + \$150 instillation charge and 1 student per household



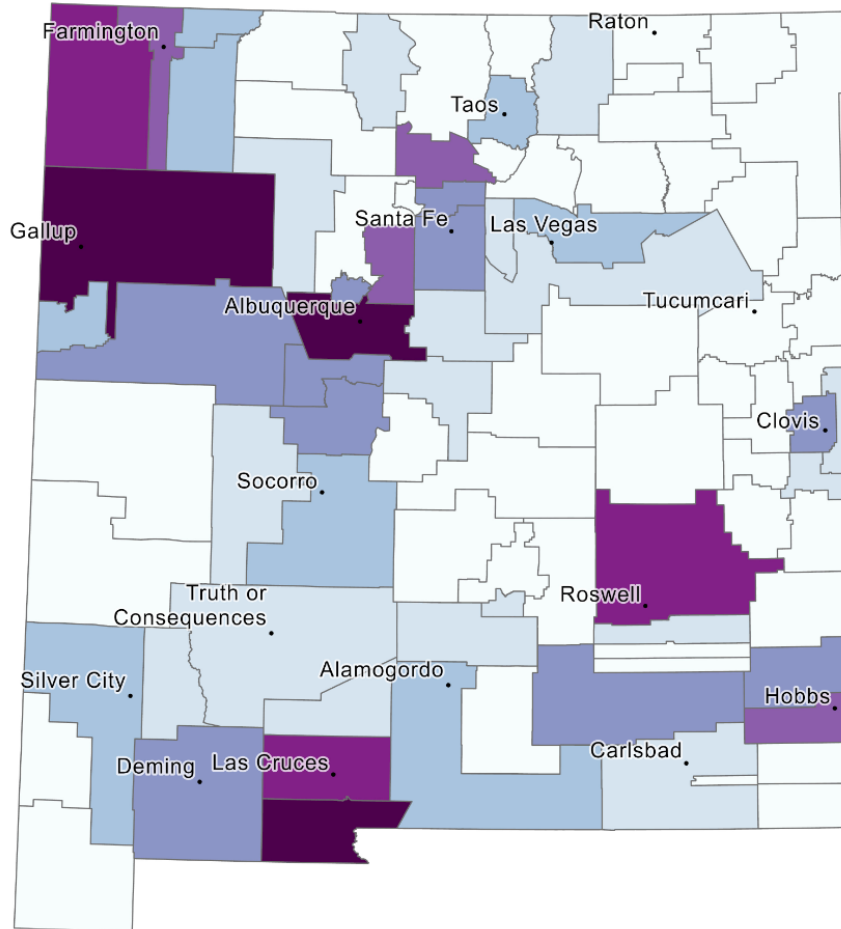
# Statewide Cost Estimates for 12 months of Remote Learning

	Unit Cost	Number of Students	Students per Household	Total Cost (in millions)
Chromebooks	\$350	20,530	n/a	\$7.2
Subsidized Broadband	\$15 to \$30/mo	23,550	1.5	\$2.8 to \$5.7
Cell Hotspot	\$240 to \$300/yr	41,520	n/a	\$10.0 to \$12.5
Subsidized Sat. Internet	\$1,200/yr	1,140	1.5	\$0.9
<b>Total</b>				<b>\$20.9 to \$26.2</b>

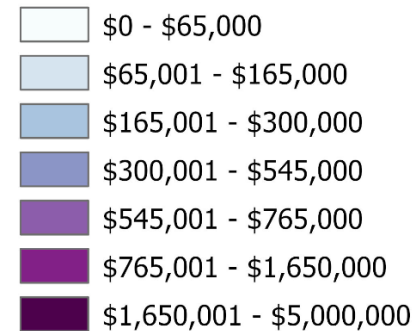




# Cost Estimates by District for 12 Months of Remote Learning



Estimated costs of Chromebooks, Subsidized Broadband and Satellite Internet, and Residential Cell Hotspots



# District options to pay for this technology

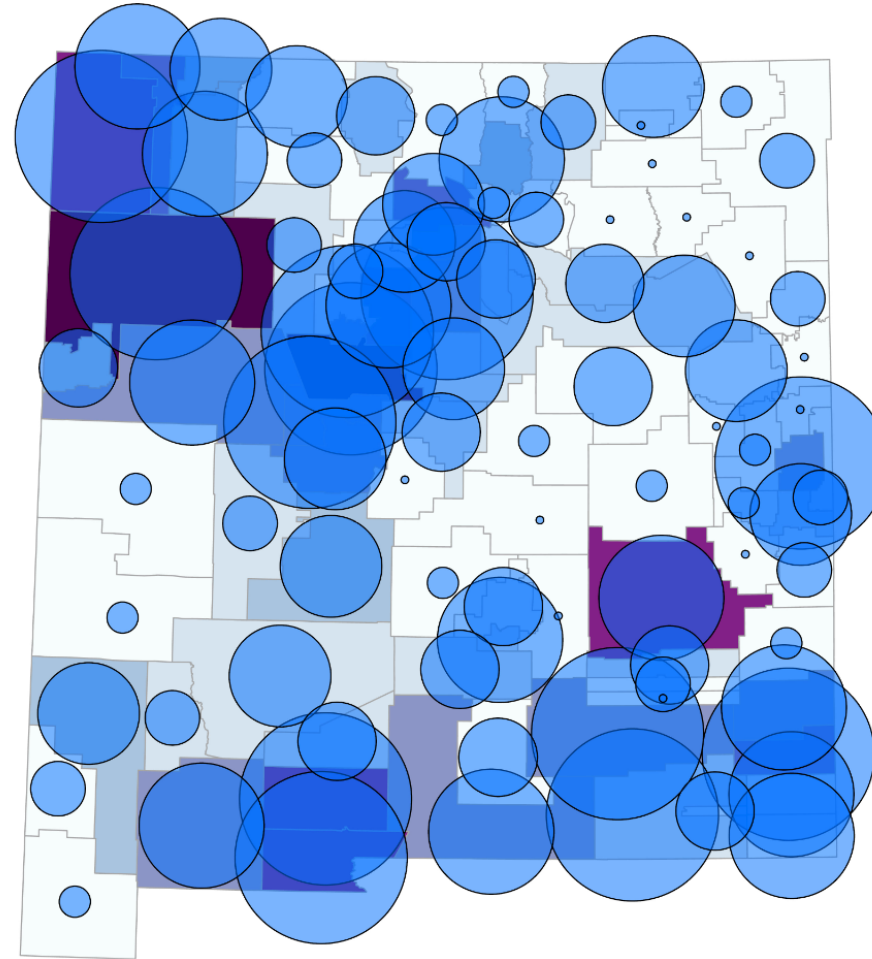
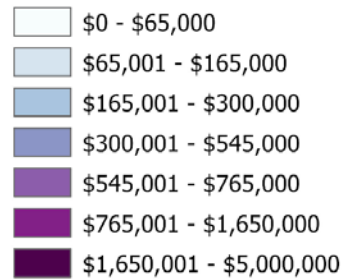
(see attached table for details)

CARES Act: **\$108.6 m**  
Elementary and  
Secondary School  
Relief Fund

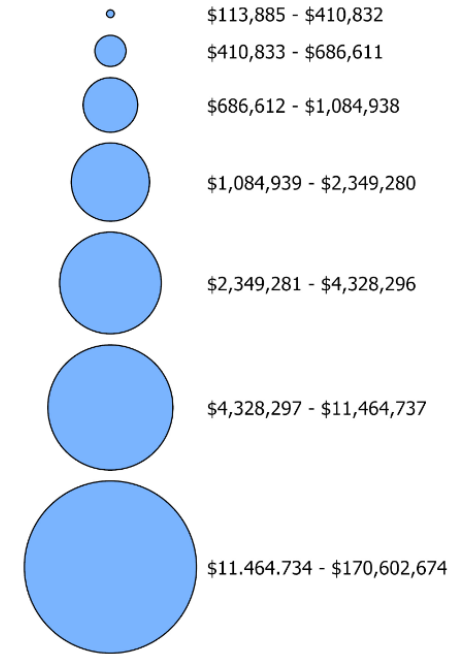
FY20 District and  
Charter Cash  
Balances = **\$319.8 m**

FY19 HB 33 & SB 9  
funding = **\$253.7 m**

Estimated costs of  
Chromebooks, Subsidized  
Broadband and Satellite  
Internet, and Residential  
Cell Hotspots



FY20 Cash Balance + FY19 HB33  
and SB9 Revenue + CARES ESSR  
Fund



# District options to pay for this technology (continued)

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**PSFA: \$18.87 million from the Public School Capital Outlay Fund** for maintenance, repairs, and *infrastructure* in districts and charters that receive federal Impact Aid dollars for students residing on tribal lands.

**Additional CARES Act: Some Portion** of the **\$22 million** Governor's Emergency Education Relief (GEER) Fund

## **Some districts received donations:**

- Belen and Los Lunas \$500k combined from Facebook
- Private Foundation / Kit Carson \$75k for computers and free internet for 200 families



# Outstanding Questions

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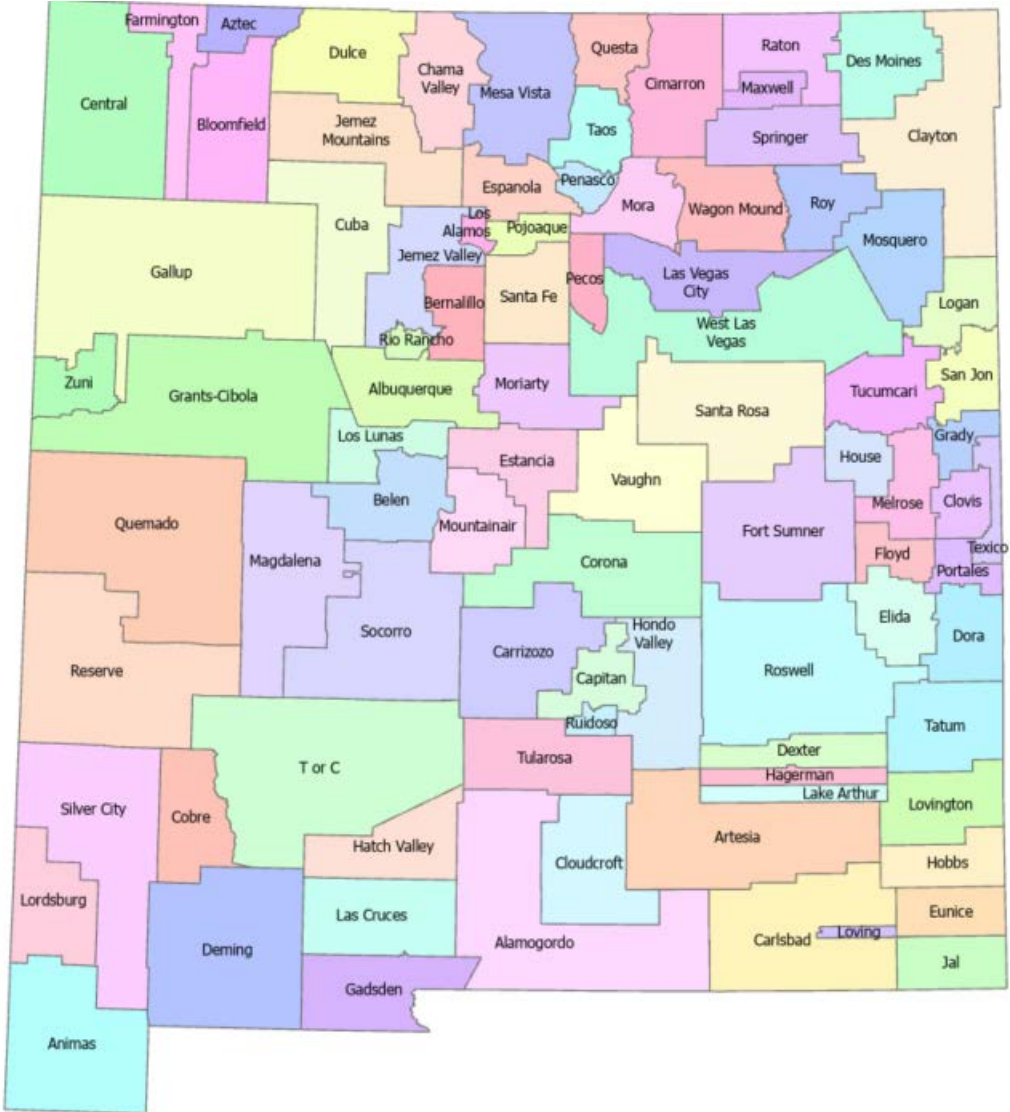
What actual costs did districts incur providing technology and internet access?

How will DoIT/PSFA/PED be using this new information on household internet needs to inform roll-out of broadband projects in the future?

Can districts use these new resources to help make up for lost learning?



# Reference Slide: District Names



# Reference Slide: Definitions

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**Cable, DSL, and Fiber:** Internet delivered to home via physical wires. DSL is the slowest, with download speeds between 5-35 Mbps, Cable between 10-500 Mbps, and Fiber between 250-1,000 Mbps.

**3G, 4G, LTE: Types of internet access from cellular signals.** 3G networks allow for about 0.5 to 3 Mbps of download speed, 4G and LTE between 5-50 Mbps. The G stands for Generation. LTE stands for “Long-term Evolution.”

*For reference: Netflix recommends 3 Mbps for standard definition video streaming.*

**Fixed / Community Hotspot:** Fixed hotspots are like those you might find in a Starbucks where a router is connected to a wired internet connection and puts out a WiFi signal. The WiFi is as fast as the connection and the range is dependent on the router strength. A mobile hotspot does that same, just through a cellular, wireless internet connection. Mobile hotspots can be mounted to busses and moved around a community.

**Residential Hotspot:** Residential hotspots act the same as a mobile hotspot, but often with less power. Residential hotspots can be stand alone devices or retrofitted smartphone that capture cellular data and transmit a WiFi signal.

