



## **Economic and Rural Development Committee**

**November 10, 2016**

*PSFA Presenters:*

Eric Moores, Broadband Project Manager

Ovidiu Viorica, Broadband Program Manager

Partnering with New Mexico's communities to provide quality, sustainable school facilities for our students and educators.



# Presentation objectives

- Inform on the progress of schools' broadband upgrades
- Connect school broadband upgrades to broadband statewide
- Encourage partnerships

Partnering with New Mexico's communities to provide quality, sustainable school facilities for our students and educators.



# Introductions

- PSFA – Brief Overview
- Broadband Deficiencies Correction Program (SB 159)
- BDCP Team & Partners
  - PED
  - DoIT
  - ESH
- BB4E: <http://www.broadband4education.nm.gov/>

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# FCC goals



GOALS

The FCC has adopted goals for K-12 connectivity. In this report we used the goals as a benchmark for where students are today

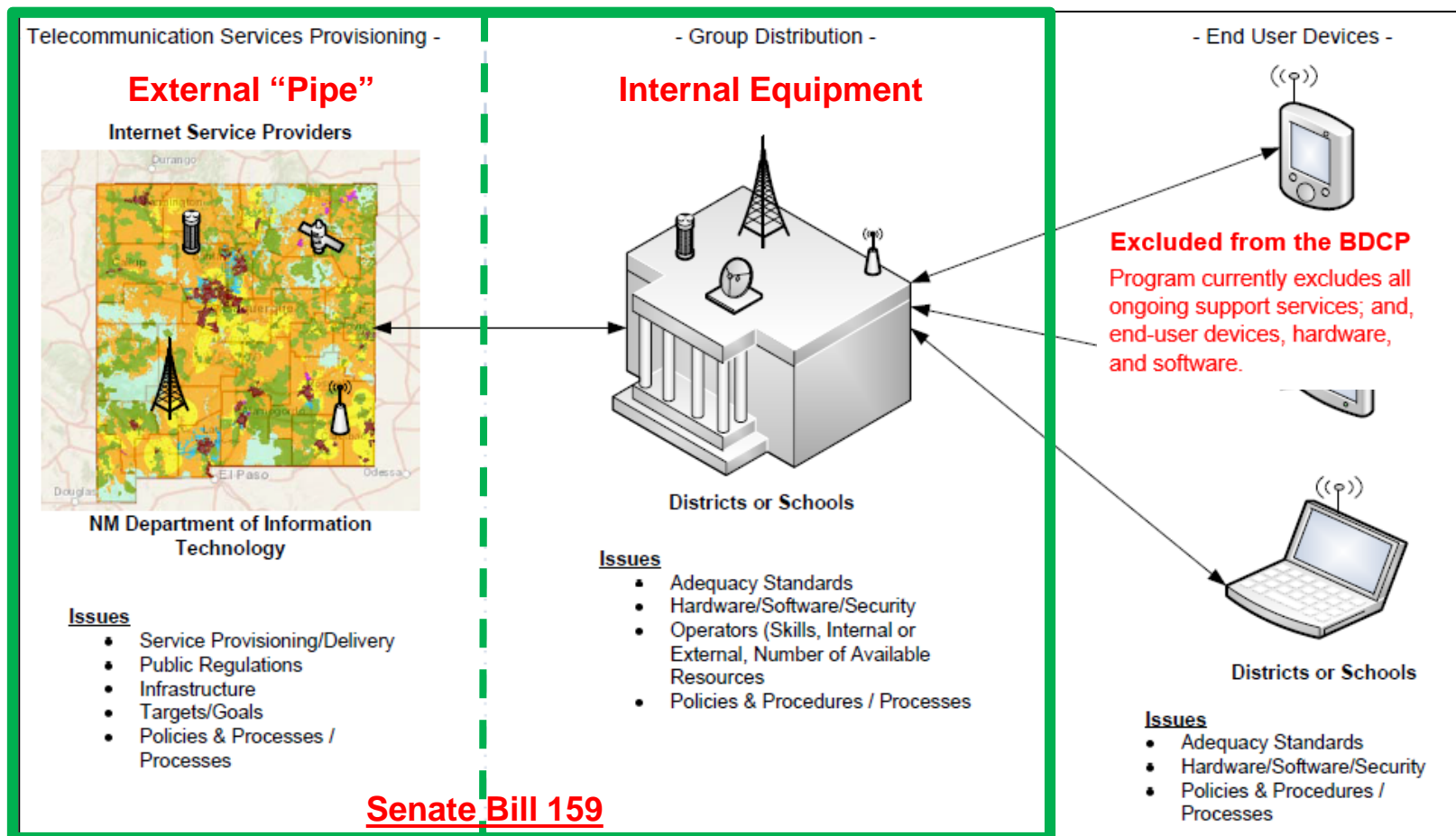
Purpose	2014	2018
Internet access	100 kbps per student/staff	1 Mbps per student/staff
District transport (WAN)	*1 Gbps per school	Scalable to 10 Gbps per school

More information: <https://www.fcc.gov/page/summary-e-rate-modernization-order>

\*2014 WAN targets were recommended by SETDA, but the FCC did not adopt any short term WAN goals

# High-Level View

As displayed below, broadband originates from Internet Service Providers (ISP), is distributed to districts/schools and then reaches students via end-user devices. The green area is covered by the BDCP.



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# State matching can reduce costs even further



FIBER

If the state funds up to 10% of the cost for a school's fiber build, then the FCC will match.

Cost to connect a school in district ABC to fiber:	<b>\$100,000</b>
- E-rate discount for ABC (80%):	- \$80,000
- New Mexico funds 10% of the build:	- \$10,000
- FCC matches New Mexico's 10%:	- \$10,000
<hr/>	
<b>Remaining costs to district ABC:</b>	<b>\$0</b>

# 2016 - Results

1. Fiber upgrades ~ 60 schools (Approximately 300 Miles)
2. Network equipment and WiFi upgrades ~ 240 schools
3. Over \$30M in infrastructure upgrades with less than \$4M in state (PSCOC) and schools funding



# 2017 & 2018

1. State funding availability - uncertain
2. Wide Area Network (WAN) connections:
  - Expensive
  - APS & City of Albuquerque collaboration:
    - Schools & Libraries – Funding (E-rate)
    - Municipalities & Counties – Right Of Way & Permitting
3. Network equipment and WiFi upgrades:
  - Larger participation from schools
4. E-Rate support (statewide)





# Questions





# Questions or Comments?

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## Public School Facilities Authority (PSFA)

PSFA team: Ruth Bingham, Eric Moores, Richard Govea

Ovidiu Viorica – Broadband Program Manager

visit: <http://www.nmpsfa.org/it/bdcp.htm>

or phone: 505-843-6272



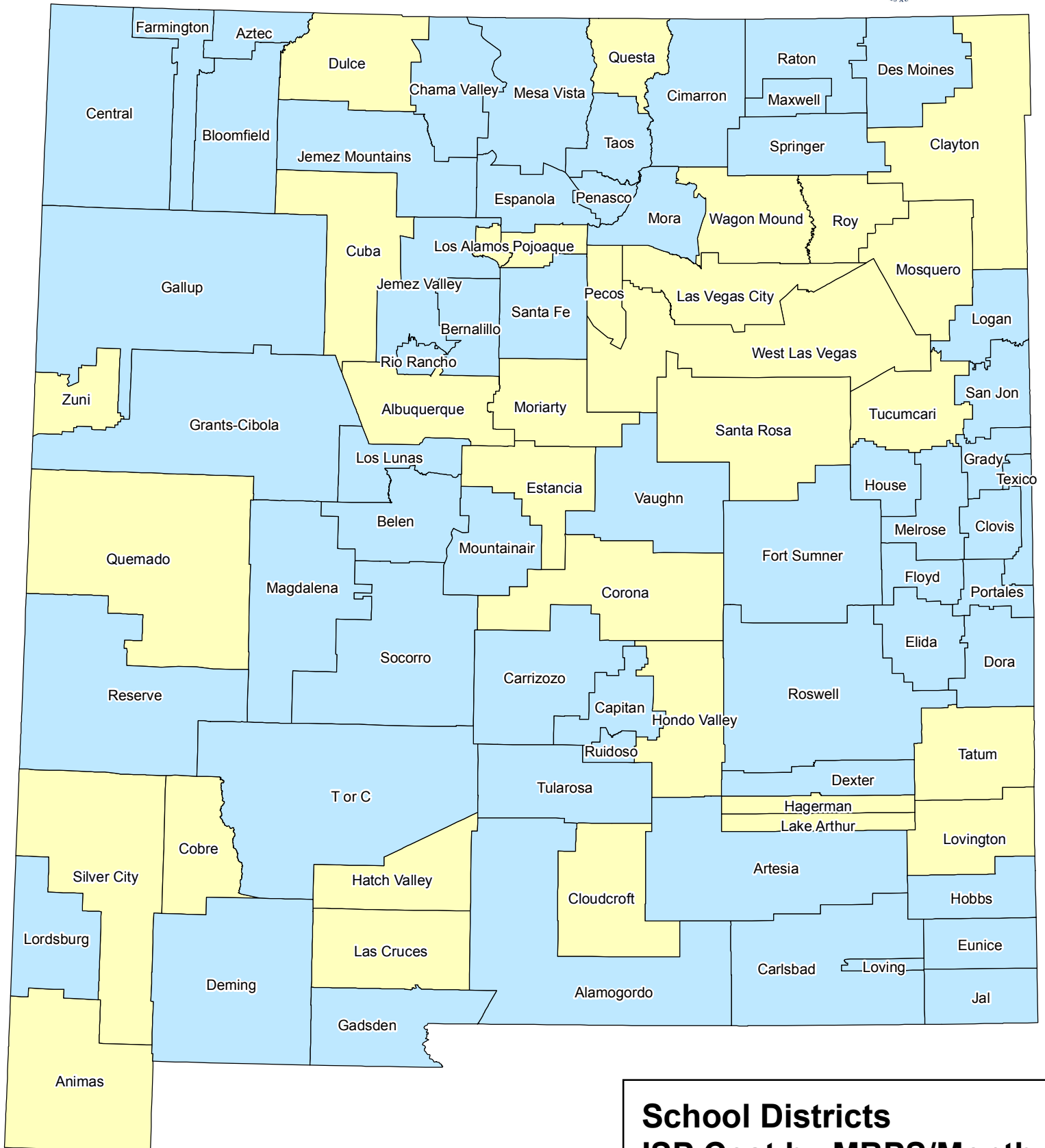
# Estimated Connection Speed/Cost Progress After Fiber Projects

	District	School	Award Language	Bandwidth Increase	Kilobit per Student		Cost per Megabit Change	Notes
					Before	After		
1	Anthony Charter School	Anthony Charter School to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	9,900%	15k	1,481k	-82%	
2	Bernalillo	Connect to Bernalillo HS: Bernalillo ES Bernalillo MS WD Carroll ES Placitas ES Santo Domingo ES/MS Algodones ES Cochiti ES/MS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	9,900% 4,900% 4,900% 4,900% 16,567% 22,122% 16,567%	20k 37k 34k 136k 14k 18k 20k	1,996k 1,835k 1,734k 6,803k 2,392k 4,000k 3,356k	-98% -97% -97% -97% -97% -91% -96%	
3	Bloomfield	Connect Blanco ES to Admin Hub Admin Hub to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	39,900% 1,400%	81k 65k	3,2362k 968k	-100% -90%	Blanco ES fiber will be District owned. No monthly fees.
4	Central	Connect to Kirtland Data Center: Mesa ES Nashitti ES Newcomb HS Ojo Amarillo ES Shiprock HS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	19,900% 99,900% 6,567% 9,900% 6,567%	20k 37k 34k 136k 14k	1,996k 1,835k 1,734k 6,803k 2,392k	-100% -100% -100% -100% -100%	Migration from Wireless connections to District owned fiber. No monthly fees.
5	Cimarron	Connect Cimarron ES/MS and Cimarron HS to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	122%	227k	505k	-82%	Shared campus
6	Clovis	Connect Barry ES to Gattis MS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	9,900%	164k	16,367k	0%	Migration from Wifi connection to self-provisioned fiber.
7	Cobre	Connect San Lorenzo ES to Cobre Admin	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	1,567%	73k	1,220k	-97%	
8	Deming	Columbus Elem to Central Office	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	1,011%	72k	796k	-92%	
9	Farmington	Connect to Farmington HS: Animas ES Apache ES Bluffview ES CATE Country Club ES Heights MS Hermosa MS Juvenile Services Center McCormick ES Mesa View MS Piedra Vista HS Tibbetts MS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	900% 900% 900% 2,757% 900% 2,757% 2,757% 2,757% 2,757% 2,757% 900% 2,757%	2,193k 1,923k 2,252k 1,862k 1,832k 504k 621k 12,963k 681k 571k 705k 603k	21,930k 19,231k 22,523k 53,191k 18,315k 14,388k 17,730k 370,370k 19,455k 16,313k 7,052k 617,241k	-100% -100% -100% -100% -100% -100% -100% -100% -100% -100% -100% -100%	Migration from Wireless connections to District owned fiber. No monthly fees.
10	Gallup	Connect to Gallup-McKinley School Office: David Skeet ES Ramah ES Ramah MS/HS Tse Yi Gai HS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	900% 900% 900%	417k 251k 422k	4,167k 2,531k 4,219k	-96% -96% -96%	Tse Yi Gai HS did not receive any bids.
11	Grants	Connect to Grants Data Center: Internet Laguna-Acoms MS/HS Milan ES San Rafael ES Seboyeta ES Bluewater ES	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	233% 100% 100% 100% 100% 733% 100%	83k 154k 134k 110k 735k 154k 431k	275k 309k 268k 220k 1,474k 1,282k 862	-93% -82% -82% -82% -82% -97% -82%	
12	Hondo	Hondo Schools to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	300%	152k*	606k	266%	* Speedtests measured speeds of 27k per student through current wireless solution
13	Jal	Jal Schools to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	1,900%	28k	556k	-97%	
14	Penasco	Penasco Schools to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	1,805%	20k	386k	-93%	
15	The Great Academy	The Great Academy to Internet	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	1,329%	31k	444k	178%	
16	Socorro	Connect to Socorro Data Center: Midway ES San Antonio ES	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	9,900% 9,900%	901k 1,124k	90,090k 112,360k	-100% -100%	Migration from Wireless connections to District owned fiber. No monthly fees.
17	West Las Vegas	Connect to West Las Vegas Data Center: Valley ES & MS	NM State match eligible for additional E-Rate Federal funding to upgrade infrastructure that allows the schools to reach the 2018 NM and FCC connectivity goals.	13,233%	43k	5,714k	-97%	

Note: The values listed are preliminary. Final circuit capacities and costs are subject to agreement negotiation and E-rate final approval.

# ISP Cost by MBPS Per Month Change

2015 - 2016

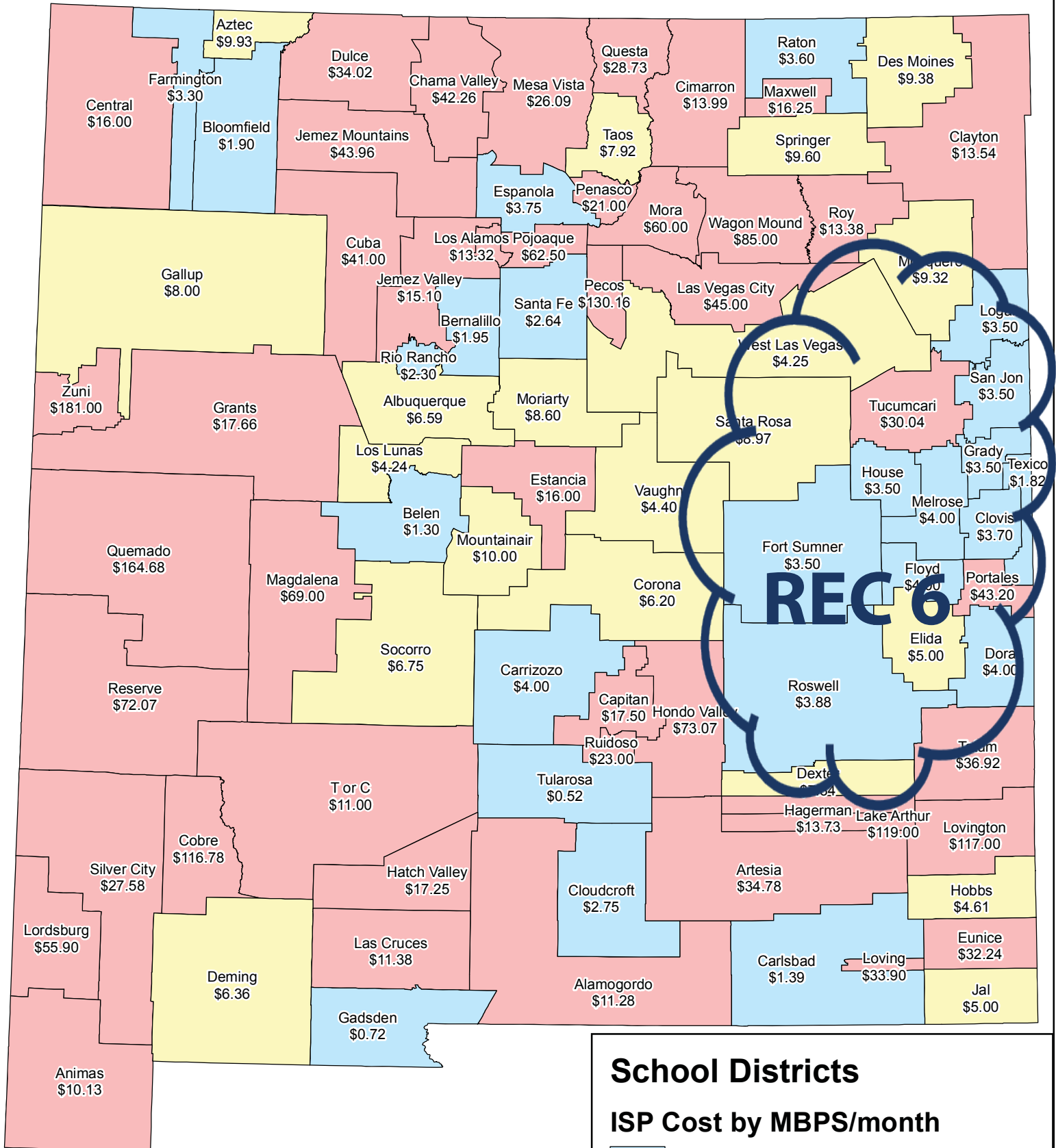


## School Districts ISP Cost by MBPS/Month

- Decreased
- Increase or Same cost

Created 6/9/16  
By AM PSFA  
Sources: PSFA & BDCP

# 2016 ISP Cost by MBPS Per Month



## School Districts

### ISP Cost by MBPS/month

- \$0.00 - \$4.00 - Goal
- \$4.01 - \$10.00 - Acceptable
- \$10.01 - \$181.00 - Unacceptable

Created 6/6/16  
By AM PSFA  
Sources: PSFA & BDCP

**DRAFT**