United States Department of Agriculture

Rural Development

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United States Department of Agriculture

e-Connectivity & Rural Infrastructure

ACE School and RUS Symposium
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Atlanta, GA

U.S. Department of Agriculture's Motto

"Do right and feed everyone."

-Agriculture Secretary Sonny Perdue

USDA Strategic Goals

1. Work efficiently, effectively, with integrity and customer focus
2. Help agricultural producers feed and clothe the world
3. Market American agricultural products worldwide
4. Increase rural prosperity
5. Employ technology and research to nurture private lands
6. Exercise wise stewardship of our national forests and lands
7. Provide Americans with safe, nutritious, and secure food

The mission of USDA Rural Development (RD)

Committed to helping improve the economy and quality of life in rural America

…with **loans, grants, and loan guarantees** that support essential services, such as:

- Housing
- Economic Development
- Health Care
- First Responder Services and Equipment
- Water, Electric, and **Telecommunications Infrastructure**

USDA Rural Utilities Service Telecommunication Programs

	Program	Funding Types	Program Purpose	2018 Application Submission Timeline	Eligible Entities	FY18 Program Funding Available
LOANS	**Telecom Loan Program**	Direct cost-of-money loans and guaranteed loans	Construction, maintenance, improvement and expansion of telephone and broadband service Rural areas of **5,000 or less**	Rolling	Eligible entities are generally limited to Local Exchange Carriers providing service within their Incumbent service territories	$690 million
	Farm Bill Broadband Loan Program	Direct cost-of-money loans	Construction, maintenance, improvement and expansion of broadband service Rural communities of **20,000 or less**	Rolling	Either a non-profit or for-profit organization, and must take one of the following forms: • Corporation; • Limited liability company (LLC) • Cooperative or mutual organization • A state or local unit of government • Indian tribe or tribal organization Individuals and Partnerships are not Eligible	$29.9 million
GRANTS	**Community Connect Grant Program**	Grants with 15% Matching Fund Requirement	Construction and expansion of broadband service where service does not currently exist Rural communities of **20,000 or less**	Window 3/15 - 5/14	• Most State and local governments • Federally-recognized Tribes • Non-profits • For-profit corporations	$30 million
	Distance Learning & Telemedicine Grant Program	Grants with 15% Matching Fund Requirement	Equipment and infrastructure to deliver telemedicine service and distance learning curriculums Rural communities of **20,000 or less**	Window 4/3 - 6/4	Most entities that provide education or health care through telecommunications, including: • Most State & local governmental entities • Federally-recognized Tribes • Non-profits • For-profit businesses • Consortia of eligible entities	$49 million (includes $20 million for opioid)
*Does not include $600 million for new Broadband Pilot Program appropriated in FY18 Omnibus budget.					FY18 Total:	$798.9 million*

Rural Utilities Service
Customer Service Improvements

- ✓ **Application System:** Launched in 2015, system walks potential applicants through the entire application process

- ✓ **Community Connect Speed:** Increased eligibility speed from 4/1 to 10/1, making more rural areas eligible for the program

- ✓ **Distance Learning and Telemedicine Grant Program:** Reduced information required for project scoring, making the application process less burdensome

- ✓ **Farm Bill Broadband Loan Program:** Created a rolling application window, allowing for engagement with USDA to remedy small discrepancies

Agriculture & Rural Prosperity Task Force

www.usda.gov/ruralprosperity

"The Task Force shall identify legislative, regulatory, and policy changes to promote in rural America agriculture, economic development, job growth, infrastructure improvements, technological innovation, energy security, and quality of life…"

- President Trump, April 25, 2017

ECONOMIC DEVELOPMENT

- Access to Capital
- Tax Reform
- Natural Resources
- Regulatory Reform
- Global Market
- Infrastructure

INNOVATION & TECHNOLOGY

- Biotechnology
- Sound Science
- Productivity
- Research
- Development

WORKFORCE

- Available
- Skilled
- Trained
- Educated
- Reliable

QUALITY OF LIFE

- Educational Opportunities
- Health Services
- Rural Housing
- Community Resiliency
- Infrastructure

Rebuilding Rural Infrastructure is Vital for America's future

USDA

Broadband e-Connectivity: the "digital superhighway" to 21st Century rural prosperity

- 80% of Americans that lack access to broadband live in rural areas (per FCC)
- Rural America shouldn't be left behind in the next-generation network (5G), as has happened in the past

Transportation: importance of farm-to-market efficiencies

- Trucks carry more than 70% of agriculture goods on 3 million miles of rural roadways
- Approx. 56,000 American bridges are in poor condition – 80% of them are in rural areas
- Railroads haul more than 1.5 billion tons of rural products each year, including agriculture commodities, minerals, coal, and timber
- Waterways carry 45% of all grain exports, and:
    - > 500 million tons freight each year traverse America's **25,000 miles of inland waterways**
    - > Shipments are at risk – more than 50% of the **locks and dams are more than 50 years old**

Rebuilding & Modernizing Rural Infrastructure for Future Economic Success

- ✓ **Increase "Made in America" Outputs**
- ✓ **Address Commercial Infrastructure Gaps**
- ✓ **Expand State & Local Transportation Capacity** *(including rural road safety)*
- ✓ **Cutting Red Tape**
- ✓ **Develop the "Digital Superhighway" for broadband e-connectivity**

E-connectivity: “Digital superhighway” of the 21st Century

…it’s the modern day equivalent of rural electrification (1936), connecting rural telephone systems (1934), the Interstate Highway System (1956), and a “must have” for America’s competitiveness today and in the coming decades.

Call to Action: e-Connectivity for Rural America

1. Establish Executive Leadership to Expand E-connectivity Across Rural America
2. Assess State of Rural e-Connectivity
3. Reduce Regulatory Barriers to Infrastructure Deployment
4. Assess Efficacy of Current Programs
5. Incentivize Private Capital Investments

2018 Executive Action: Answering the Call to Action on e-Connectivity Recommendations

President Trump believes in the importance of rural prosperity, with infrastructure as a key ingredient

e-Connectivity Recommendation #1: Executive Leadership through the Broadband Interagency Working Group

Executive Leadership Team: White House, U.S Department of Agriculture, U.S. Department of Commerce (NTIA)

Streamlining Federal Permitting

- USDA | Forest Service:
- Dept. of Commerce | NTIA
- Dept. of Defense
- Dept. of Transportation
- General Services Administration
- Council on Environmental Quality
- Advisory Council on Historic Preservation
- Office of Management and Budget
- Dept. of Homeland Security
- Dept. of Interior
- FCC *(contributing role)*
- Dept. of Veterans Affairs
- Office of Management and Budget
- FirstNet

Federal Funding of Broadband Projects

- Appalachian Regional Commission
- Dept. of Education
- Dept. of HHS
- Dept. of Homeland Security
- Dept. of HUD
- Dept. of Interior
- Dept. of Labor
- Dept. of Treasury
- Dept. of Veterans' Affairs
- Inst. of Museum & Library Services
- Small Business Administration
- FCC (*contributing role*)
- Office of Management and Budget
- Environmental Protection Agency
- Plus…

Leveraging Federal Assets for Broadband Deployment

- USDA | OCIO
- Dept. of Commerce | NTIA
- Dept. of Defense
- Dept. of Transportation
- Dept. of Energy
- Dept. of Homeland Security
- Dept. of HUD
- Office of Management and Budget
- Environmental Protection Agency
- General Service Administration
- Inst. Of Museum & Library Services
- Dept. of Interior

MISC.

e-Connectivity Recommendation #2: Assessing the State of e-Connectivity

USDA

Rank	Country	Unique IP Addresses	Avg Connection Speed *(Mbps)*	% above 10Mbps
1	South Korea	26,226,184	28.6	85%
2	Norway	3,092,941	23.5	69%
3	Sweden	6,129,690	22.5	66%
4	Hong Kong	3,248,227	21.9	71%
5	Switzerland	3,866,533	21.7	75%
6	Finland	2,588,860	20.5	66%
7	Singapore	1,882,779	20.3	72%
8	Japan	46,179,708	20.2	73%
9	Denmark	3,054,634	20.1	66%
10	**United States**	**142,764,621**	**18.7**	**67%**
11	Netherlands	9,944,810	17.4	70%
12	Romania	3,694,094	17.0	70%
13	Taiwan	31,812,059	16.9	65%
14	Czech Republic	9,524,660	16.9	54%

e-Connectivity Recommendation #2: State of e-Connectivity Quantifying Economic Benefits

	Cost Savings	Yield Increases	Revenue Opportunity
Precision Seeding	$$$	$$$	$$$
Precision Fertilizer	$$$	$$$	$$$
Precision Irrigation	$$$	$$$	$$$
Precision Harvesting	$$$	$$$	$$$
Smart Field & Crop Management	$$$	$$$	$$$
Smart Logistics	$$$	$$$	$$$
Smart Marketing	$$$	$$$	$$$
Weather Modeling	$$$	$$$	$$$
Internet of Things	$$$	$$$	$$$

Economic benefits of Precision Agriculture

Robotic Strawberry Harvester

"Facing an uncertainty labor market, a Florida farmer finds a future solution"

www.GrowingProduce.com

Economic benefits of Precision Agriculture

Crop-monitoring robot

"In a game of margins, precision agriculture comes in all sizes"

www.DigitalTrends.com

Economic benefits of Precision Agriculture

<u>Cow Facial Recognition</u>

"the artificial intelligence-based technology could soon help ensure that milk in your fridge came from a well-fed cow"

www.DigitalTrends.com

<u>Drone Bees</u>

"Declining population of bees may have met their match thanks to technological innovation

www.TechRepblic.com

e-Connectivity Recommendation #3: Removing Regulatory Barriers

VISION

The Broadband Interagency Working Group aims to expand broadband throughout rural America by **collaborating across federal agencies** to align resources, facilitate access to federal assets and eliminate barriers to deployment; strategies which will help promote rural prosperity. The BIWG **empowers agencies** to identify opportunities within their missions and programs to maximize broadband investment across the country

MISSION

We work to implement the broadband-related recommendations from the Agriculture and Rural Prosperity Task Force Report to assess the state of rural E-Connectivity, reduce regulatory barriers to infrastructure deployment, assess the efficacy of current federal broadband programs and incentivize capital investment

Work Stream Goals

Streamlining Federal Permitting

Examine requirements governing the siting of broadband facilities on Federal lands, identify the processes required by statute, regulations, or policy decisions, and streamline and establish consistency across agencies

Federal Funding of Broadband Projects

Survey current Federal broadband programs in order to evaluate the efficacy of the current programs and provide enhancements to improve coordination of Federal funding streams

Leveraging Federal Assets for Broadband Deployment

Identify and make available federal assets, including land and infrastructure, that could be used for Broadband deployment

Key: Corresponds to the five E-Connectivity recommendations identified

E-Connectivity Recommendation #4: Efficacy of Federal Funds

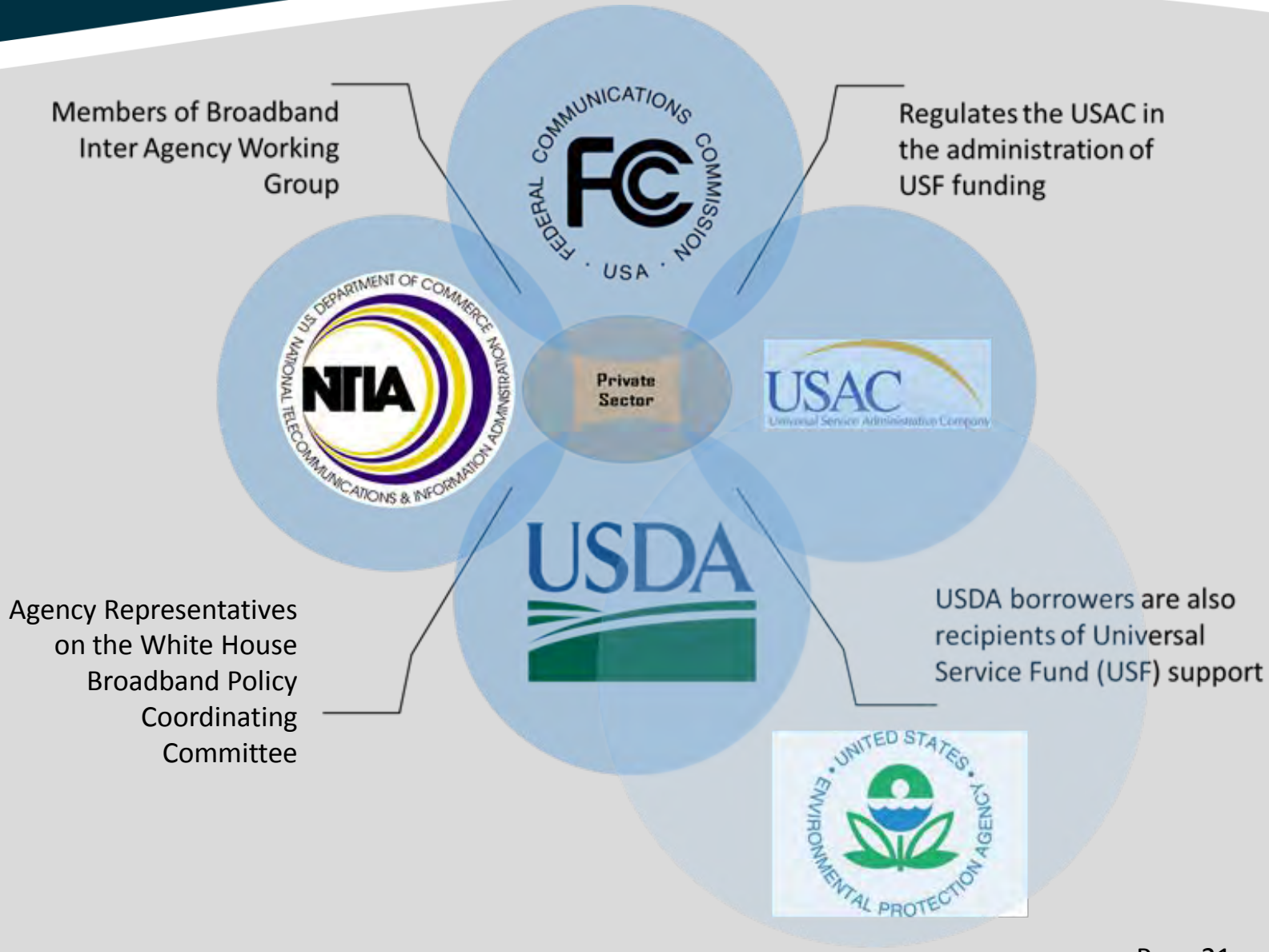
FCC
Regulatory oversight of broadband subsidy and enforcement of communication law

USAC
Disburses funds of Universal Service programs

Commerce's NTIA
Policy leadership in Nationwide Broadband deployment for economic growth

USDA
Finances rural Broadband deployment

EPA
Environmental oversight



E-Connectivity Recommendation #4: Efficacy of Federal Funds

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Current Federal Funding for Broadband…3 Dozen Programs at 9+ Agencies

Funds support various activities, depending on the Federal law and regulation:

- ✓ Infrastructure development and deployment
- ✓ Adoption and Digital Literacy, including equipment and on-premises connection
- ✓ Public computer access
- ✓ Planning

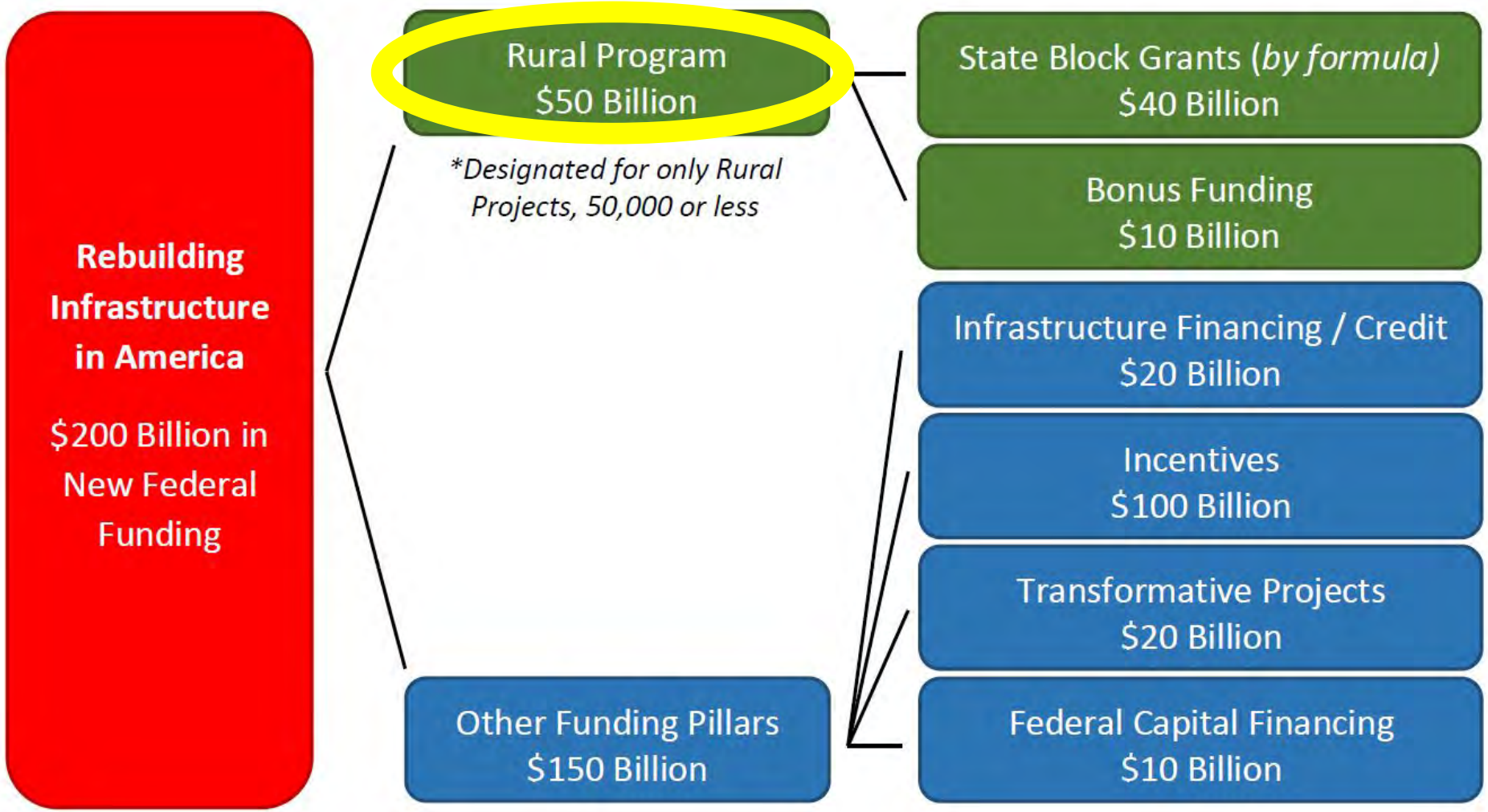
Funds Dedicated to Broadband:

- Department of Agriculture
- Federal Communications Commission
- Department of Commerce

Funds Eligible to Broadband:

- Department of Education
- Department of Labor
- Housing and Urban Development (HUD)
- Institute of Museum and Library Services, Office of Library Services

Rebuilding Infrastructure In America – February 2018
President Trump's Proposal

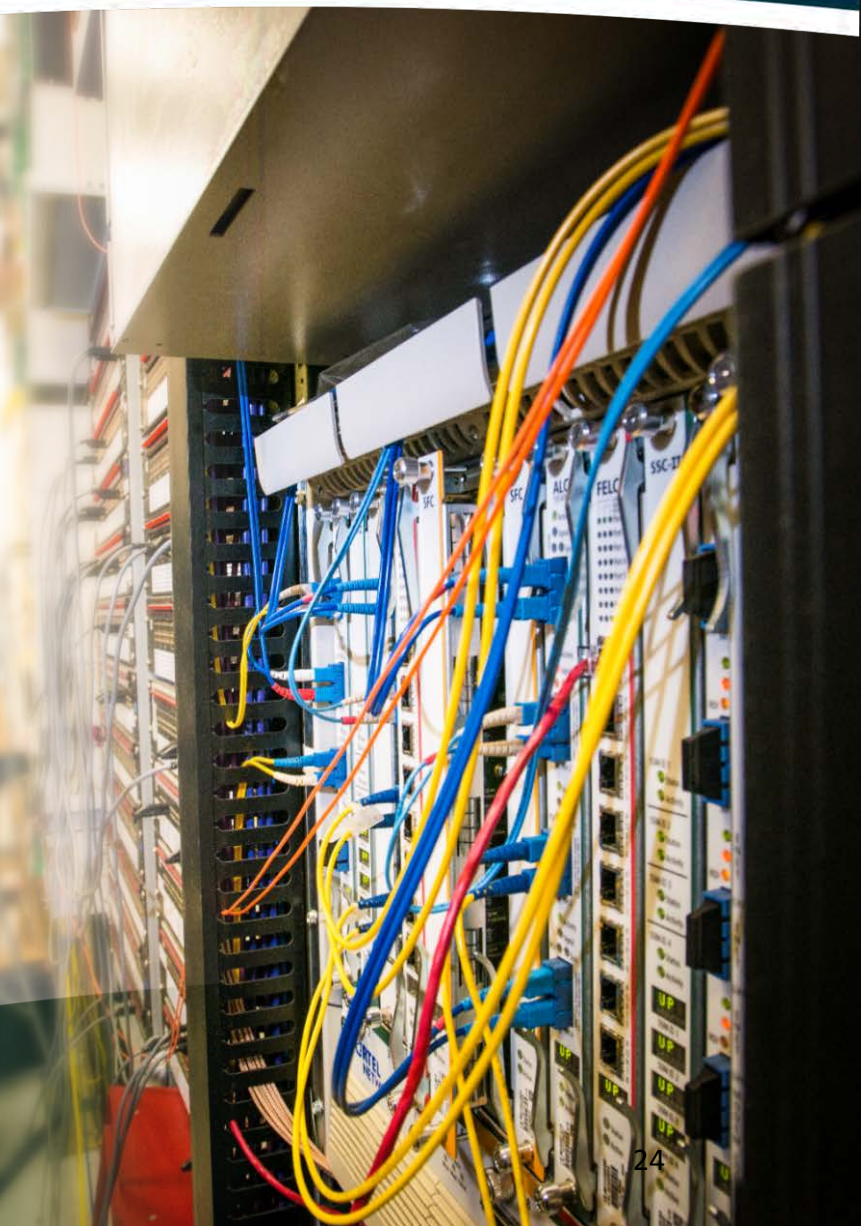


FY 2018 Omnibus Budget – March 2018

Full Funding for Existing Rural Infrastructure Programs:

- ✓ Incumbent Carriers Infrastructure Loan Program - $690M
- ✓ Farm Bill Broadband Loan Program - $29.9M
- ✓ Community Connect Grants - $30M
- ✓ Distance Learning & Telemedicine Grant Program - $49M *($20M to counter opioid abuse)*
- ✓ Rural Water and Wastewater Infrastructure - $5.2B
- ✓ Community Facilities Direct Loan Program - $2.8B

New: Broadband e-Connectivity Pilot Program - $600M
(program set-up is underway)



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THANK YOU!

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