



# Funding and Financing Smart Projects

## Global Cities Team Challenge

Washington, DC

July 11, 2019

## Funding and Financing Smart Projects



### **Meghan Houghton**

Senior Advisor for Strategic Engagement, National Science Foundation



### **Oliver Kroner**

Sustainability Coordinator, City of Cincinnati, Office of Sustainability



### **Jeanne Milliken Bonds**

Senior Manager, Community Development, Federal Reserve Bank of Richmond



### **Eric Drummond**

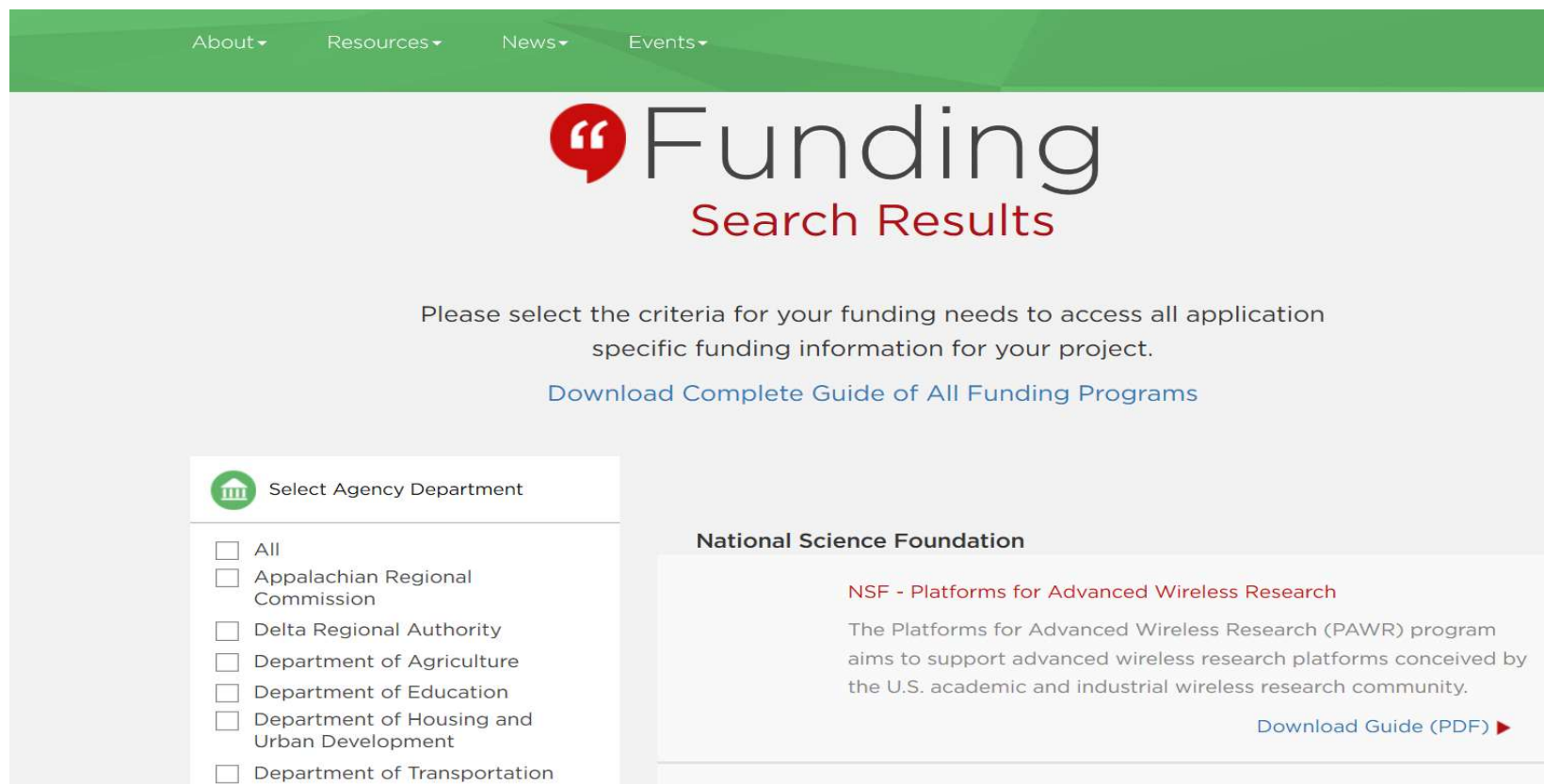
Chair, Colorado Venture Capital Authority and CEO, Innovation Corridor



### **Ryeon Corsi**

Management and Program Analyst, USDA Rural Utilities Service

# BroadbandUSA's One-Stop for Federal Funding



The screenshot shows the 'Funding Search Results' page. At the top, there is a green navigation bar with links for 'About', 'Resources', 'News', and 'Events'. The main heading is 'Funding Search Results' with a red speech bubble icon. Below the heading, a message asks the user to select criteria for their funding needs. A link is provided to 'Download Complete Guide of All Funding Programs'. On the left, there is a sidebar titled 'Select Agency Department' with a list of checkboxes for various agencies. The main content area displays a search result for the 'National Science Foundation' with the title 'NSF - Platforms for Advanced Wireless Research' and a brief description of the PAWR program. A 'Download Guide (PDF)' link is visible at the bottom right of the search result.

About ▾ Resources ▾ News ▾ Events ▾

## Funding Search Results

Please select the criteria for your funding needs to access all application specific funding information for your project.

[Download Complete Guide of All Funding Programs](#)

**Select Agency Department**

- All
- Appalachian Regional Commission
- Delta Regional Authority
- Department of Agriculture
- Department of Education
- Department of Housing and Urban Development
- Department of Transportation

### National Science Foundation

**NSF - Platforms for Advanced Wireless Research**

The Platforms for Advanced Wireless Research (PAWR) program aims to support advanced wireless research platforms conceived by the U.S. academic and industrial wireless research community.

[Download Guide \(PDF\) ►](#)

<https://broadbandusa.ntia.doc.gov/new-fund-search>

# Fundamental Research as an Enabler of Smart and Connected Communities



**Meghan Houghton, PhD, Senior Advisor**

**Michal Ziv-El, PhD, AAAS Science and Technology Policy Fellow**

**David Corman, PhD, Program Director**

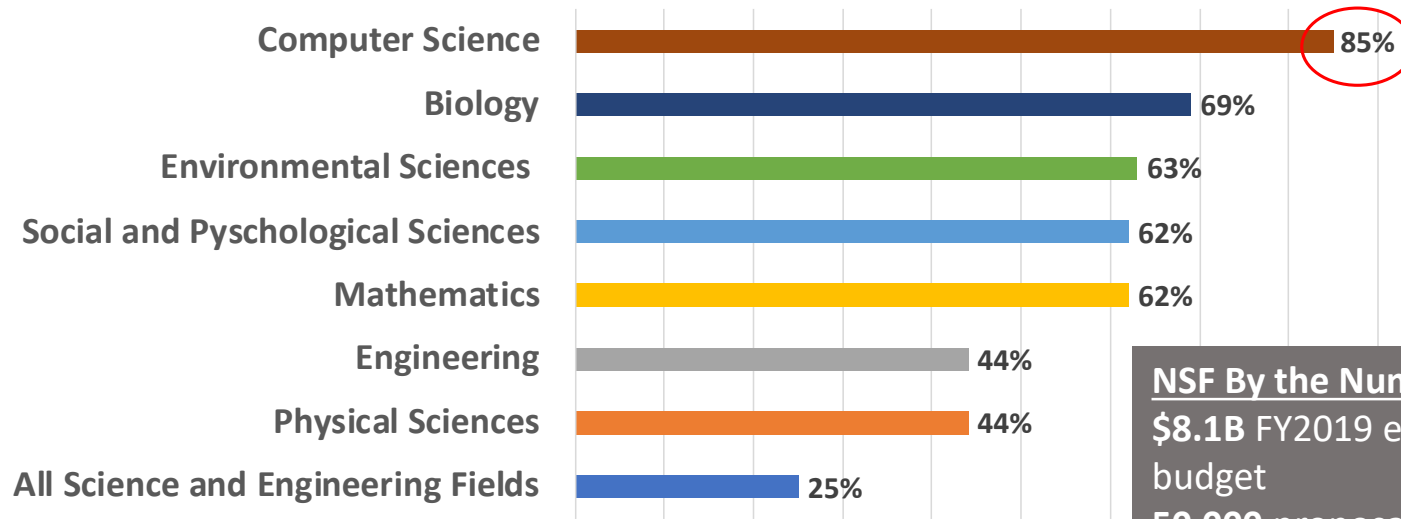
**Directorate for Computer and Information Science and Engineering  
National Science Foundation**

**July 11, 2019**



# NSF supports all areas of fundamental research

*NSF support as a percentage of total federal support for basic academic research*



Source: NSF/NCSES, "Survey of Federal Funds for Research and Development"; FY 2020 NSF Budget Request to Congress.

## NSF By the Numbers

\$8.1B FY2019 enacted budget

50,000 proposals reviewed

11,000 awards

2,000 Institutions



**“To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense...”**

# The value of fundamental research in communities today and in the future



A fundamental understanding of the complex, dynamic interactions between technology and society is essential for unlocking the potential benefits of smart and connected communities.



# The value of fundamental research for smart and connected communities



# Upcoming opportunities for NSF's Smart and Connected Communities program

- **Smart and Connected Communities solicitation: NSF 19-564**
  - [NSF.gov/SCC](https://www.nsf.gov/SCC)
  - Letter of Intent deadline: August 6, 2019
  - Full Proposal deadline: September 6, 2019
  - NSF/JST joint funding for US-Japan collaborations



- **Civic Innovation Challenge:**
  - [NSFCivicInnovation.org](https://www.nsf.gov/CivInnovation)

## Smart and Connected Communities (S&CC)

**PROGRAM SOLICITATION**  
NSF 19-564

REPLACES DOCUMENT(S):  
NSF 18-520



### National Science Foundation

Directorate for Computer & Information Science & Engineering  
Division of Computer and Network Systems  
Division of Information & Intelligent Systems  
Division of Computing and Communication Foundations

Directorate for Education & Human Resources  
Research on Learning in Formal and Informal Settings

Directorate for Engineering  
Division of Civil, Mechanical and Manufacturing Innovation  
Division of Electrical, Communications and Cyber Systems

Directorate for Social, Behavioral & Economic Sciences  
Division of Behavioral and Cognitive Sciences  
Division of Social and Economic Sciences



# Open NSF/JST joint funding for US-Japan collaborations in Smart and Connected Communities

NSF 19-077

## Dear Colleague Letter: National Science Foundation (NSF) and Japan Science and Technology Agency (JST) Collaborative Research Opportunity in Smart and Connected Communities

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June 28, 2019

Dear Colleagues:

The US National Science Foundation (NSF) and the Japan Science and Technology Agency (JST) have signed a Memorandum of Cooperation (MOC) on Research Cooperation. The MOC provides an overarching framework to encourage collaboration between the US and Japanese research communities. NSF and JST are pleased to announce a collaborative research opportunity aligned with the goals of the NSF Smart and Connected Communities (S&CC) Program.

Complementary expertise and resources in the US and Japan enable research in areas which are fundamental to smart and connected community solutions. Specific areas include, but are not limited to, disaster response and emergency management, precision agriculture, cybersecurity of the electric grid and Internet-of-Things (IoT) devices, and wired and wireless networking.

Proposals are expected to adhere to the solicitation guidelines for the NSF and JST programs from which the funding is sought and must represent an integrated, well-coordinated collaborative effort. This document provides guidelines for the preparation, submission, review, and award of NSF-JST collaborative proposals. Proposers are advised that all documents submitted to NSF or JST may be shared with the other agency in order to implement the two-way agency activities

# Recent transition to practice funding opportunity in Smart and Connected Communities

NSF 19-026

## Dear Colleague Letter: Supporting Transition to Practice Supplemental Funding Requests in the NSF Cyber-Physical Systems and Smart and Connected Communities Programs

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December 6, 2018

Dear Colleagues:

Through this Dear Colleague Letter (DCL), the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) wishes to notify the community of its intention to support **Transition to Practice (TTP) supplemental funding requests for active awards funded through its Cyber-Physical Systems (CPS) and Smart and Connected Communities (S&CC) programs**. Funded TTP supplements will provide support for periods of up to two years. Supplemental funding requests may not exceed more than one-third of the original award amount or \$400,000, whichever is less.

Foundational research is transforming engineered systems and driving innovation in a wide variety of application domains, thereby enabling new levels of economic opportunity and growth, safety and security, health and wellness, and overall quality of life in the Nation's local communities. With this DCL, NSF is inviting supplemental funding requests for high-impact TTP activities that can enable on-going CPS or S&CC projects to go beyond their original, planned research activities.





Green Cincinnati:  
Building a sustainable, equitable, resilient city.







# Renewable Energy

- **Financing:** Power Purchase Agreements



Energy  
Aggregation  

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Reverse Auction





# Net Zero Police HQ

- Net Zero – creates as much energy as it consumes
- Financing: RFP for cost to design + build + operate

Vehicle  
Purchasing  
Collaborative

# Electric Fleet

city of  
**CINCINNATI**  
PUBLIC SERVICES

**CODE ENFORCEMENT**

**19202**



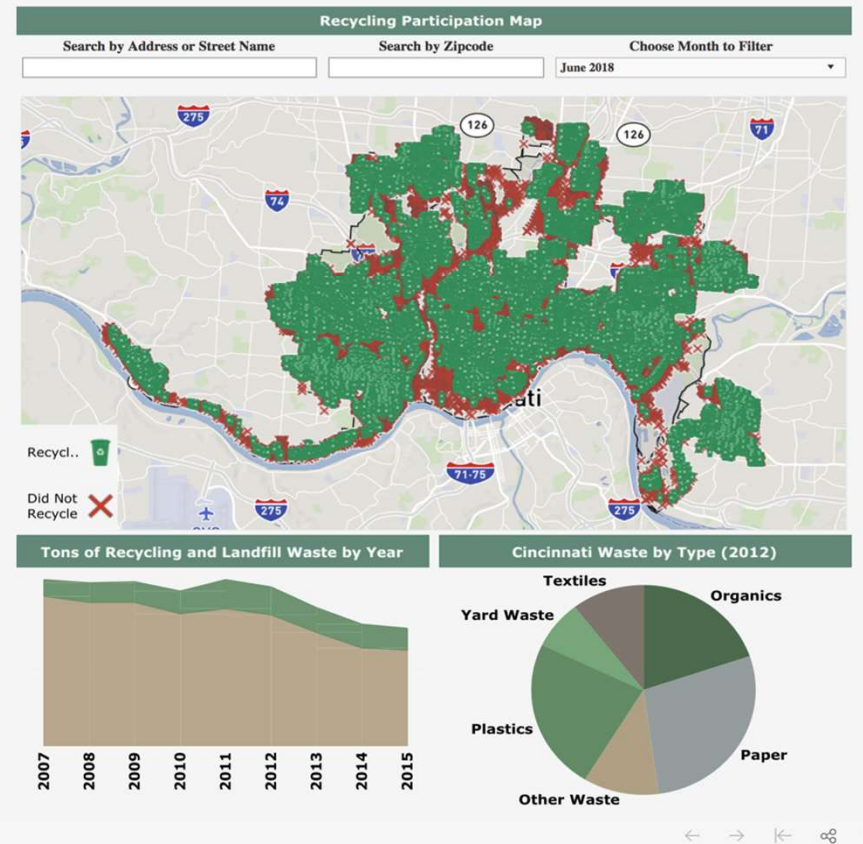




# RECYCLING: Improving with RFID Technology



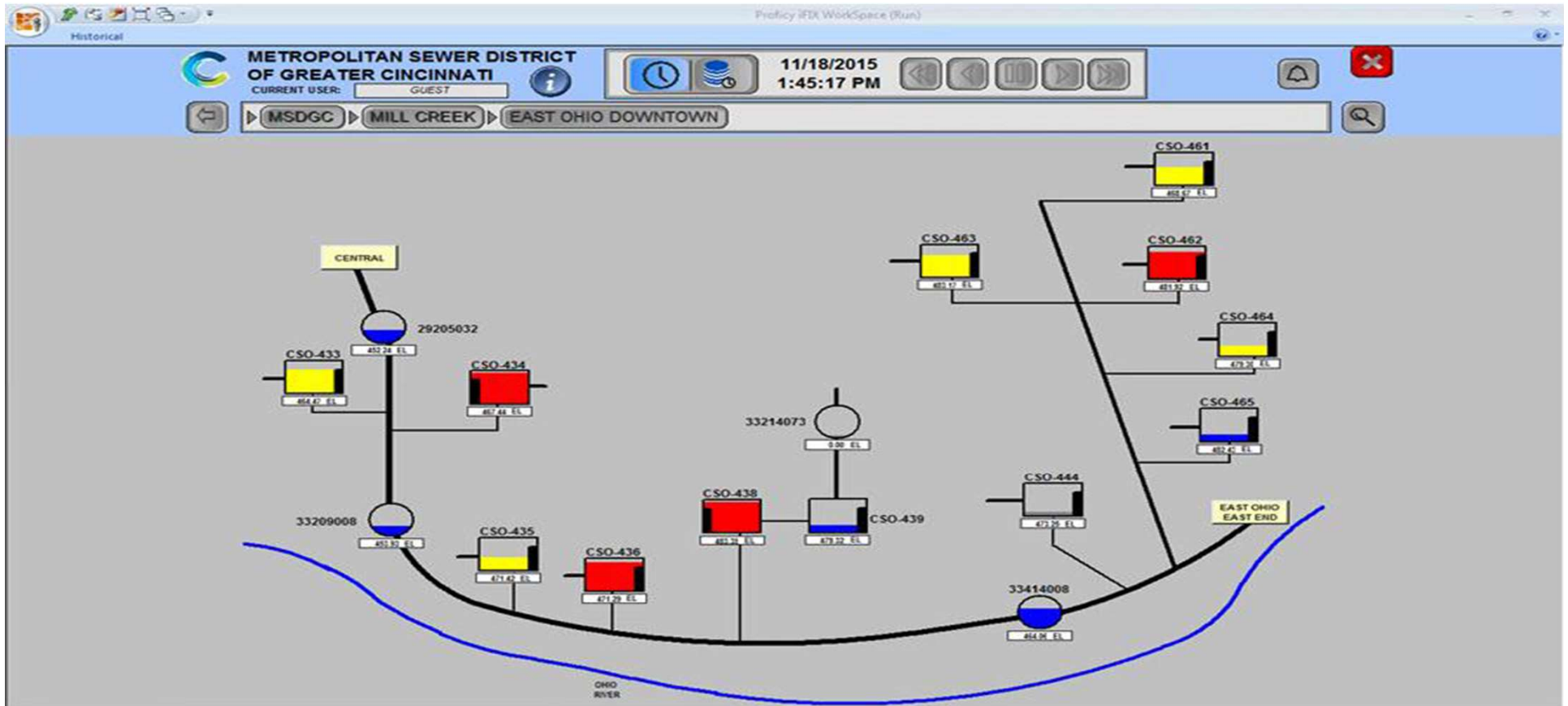
## CINCY INSIGHTS Recycling Participation







# Smart Sewers





# Green Cincinnati

BUILDING A SUSTAINABLE AND EQUITABLE CITY

[GreenCincinnatiPlan.org](https://GreenCincinnatiPlan.org)

@olliekroner | [oliver.kroner@Cincinnati-oh.gov](mailto:oliver.kroner@Cincinnati-oh.gov)



# Financing Opportunities for Resiliency: Broadband and Disaster Recovery

Jeanne Milliken Bonds

[jeanne.bonds@rich.frb.org](mailto:jeanne.bonds@rich.frb.org)

July 11, 2019

*The views and opinions expressed are those of the presenter. They do not represent an official position of the Federal Reserve Bank of Richmond or the Federal Reserve System.*



Richmond • Baltimore • Charlotte



# The Community Reinvestment Act

- The Community Reinvestment Act (CRA)
- Federal law passed in 1977
- Encourages banks to meet the credit needs of the communities they're licensed to serve
- Including low- and moderate-income neighborhoods
- Consistent with safety and soundness
- **Collaborative, innovative, relational**

# Community Development Activities

- Affordable housing for low- and moderate-income (LMI) individuals
- Community services targeted to LMI individuals
- Activities that promote economic development by providing small-business and small-farm financing
- Activities that revitalize or stabilize LMI geographies, distressed or underserved nonmetropolitan middle-income geographies, or designated disaster areas

# 2016 Interagency Question and Answer

- Broadband is included as a form of infrastructure investment—an essential community service
- The CRA service test— banks should show evidence that “alternative delivery systems” using online banking and financial technology are being adopted and are effective in providing services to LMI individuals
- Economic development:
  - Workforce development was included in the CRA; added workforce development/job training examples
  - Small business development was included in the CRA; added an example to include supporting technical assistance for businesses in the use of technology

# Revitalize and Stabilize Disaster Areas

- Providing financing to attract a major new employer that will create long-term job opportunities, including for LMI individuals
- Providing financing to help retain businesses in the area that employ local residents, including LMI individuals
- Providing financing or other assistance for “essential” communitywide infrastructure (flood control measures, levees, dikes, drainage), community services and rebuilding needs<sup>1</sup>
- Providing housing, financial assistance and services to individuals in designated disaster areas and to persons who have been displaced from those areas, including LMI individuals
- As with all revitalization and stabilization activities under CRA, examiners will look for the direct long-term benefits that an institution’s activities provide to a designated disaster area

*Source: Federal Financial Institutions Examination Council Interagency Q&A §.12(g)(4)(ii)—2: examples of activities*

# Layer and Leverage the Capital Stack

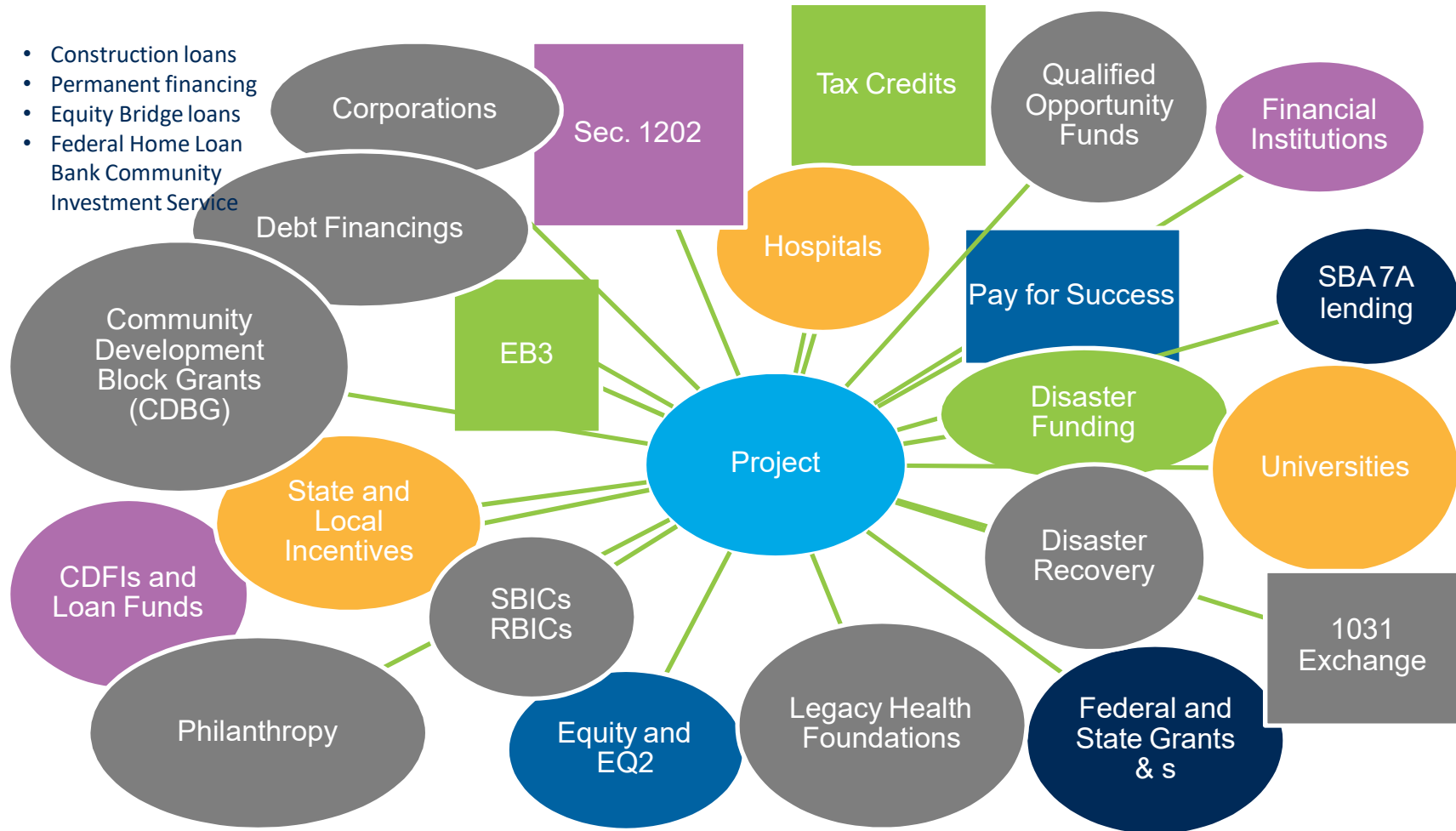
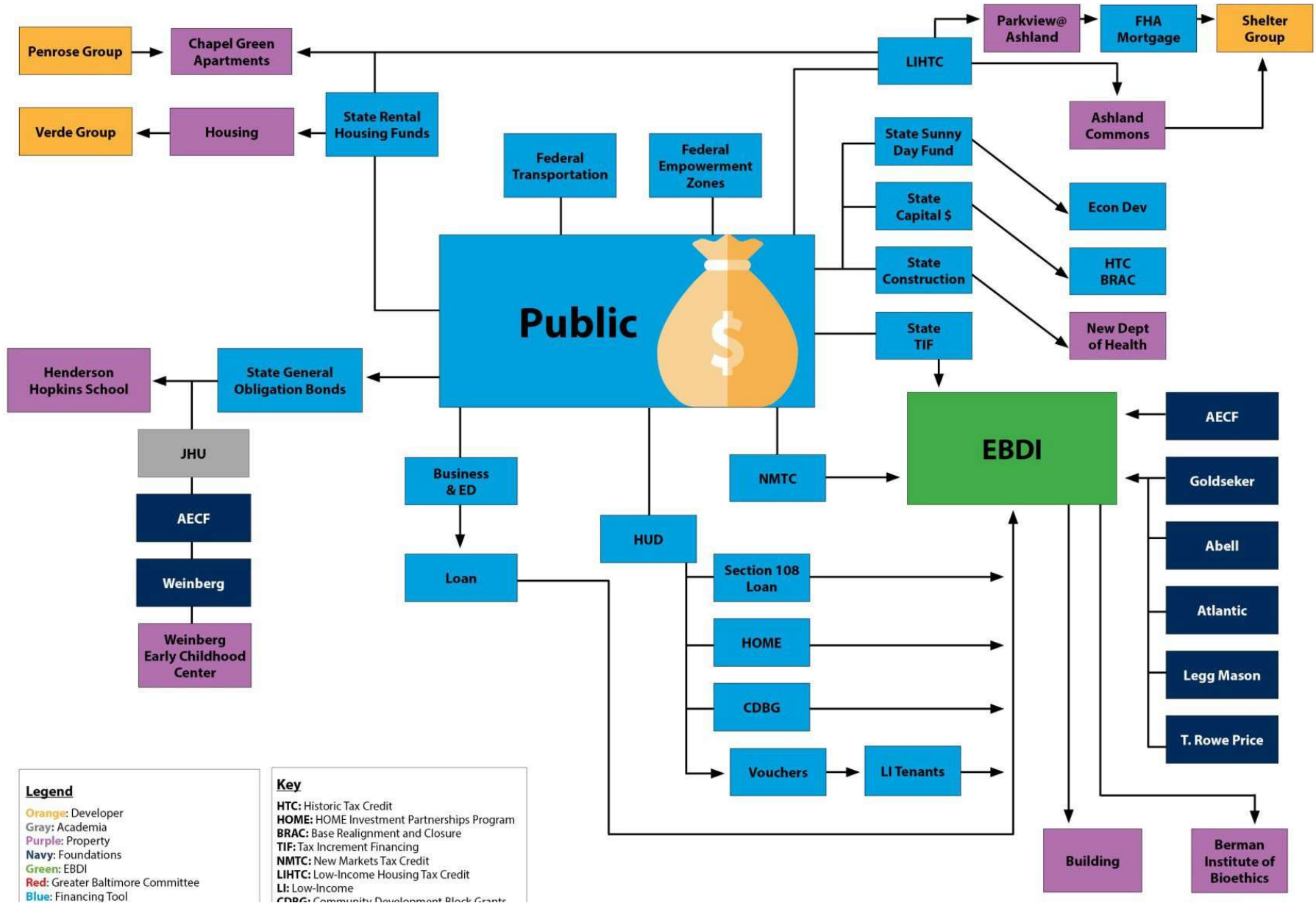
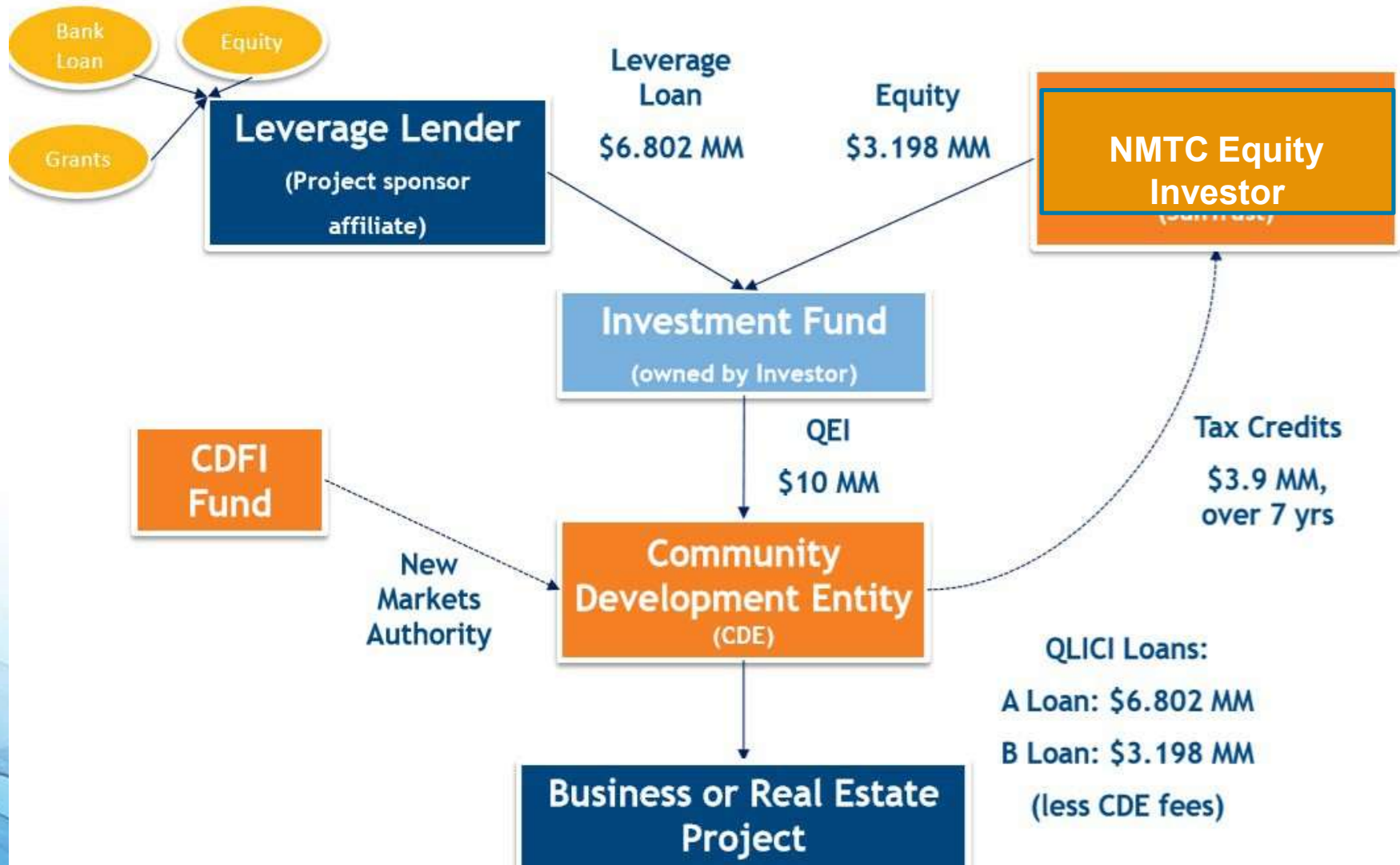




Diagram 1: Financing Tools, Projects and Actors in Phase 1 Redevelopment of East Baltimore



# NMTC Deal Flow



Source: CAHEC

# CRA Contributions and Financing in Broadband and Digital Inclusion

- New Markets Tax Credits-NMTC for broadband infrastructure
- Interim Construction Loans for fiber optic infrastructure deployment and expansion
- Equity Investments
- Equity Equivalent Investments (EQ2)
- Grants for digital inclusion programs: Digital skills in workforce development, closing the homework gap, financial literacy/online & mobile banking, small business technical assistance in the access and use of digital platforms, etc.
- Low-income Housing Tax Credits (LIHTC)
- Grants and/or loans for broadband infrastructure: last-mile infrastructure: WiFi Mesh Networks, WiFi hotspots

# Example: RS Fiber (Minnesota) Cooperative

(6,000 HHs, businesses, farms, schools, public and private institutions, hospitals)

- 10 cities formed a Joint Powers Agreement Board – issued a **generally obligated tax abatement bond \$13.6m** in two phases, including construction (the bond payments were covered by member fees instead of property tax increases)
- Fiber to the Home; 700 square miles; **development cost \$53m**
- Banks; federal, state and local gov'ts; CDFI; private foundation; private equity investors; member revenues
- Bank's **\$50,000 Investment** – engineering and predevelopment work; catalyst for construction financing; PWI authority
- Phase 1 Construction – bond, public and private debt, grants, equity investments, member payments (13 towers for wireless + 17 townships, FFTH)

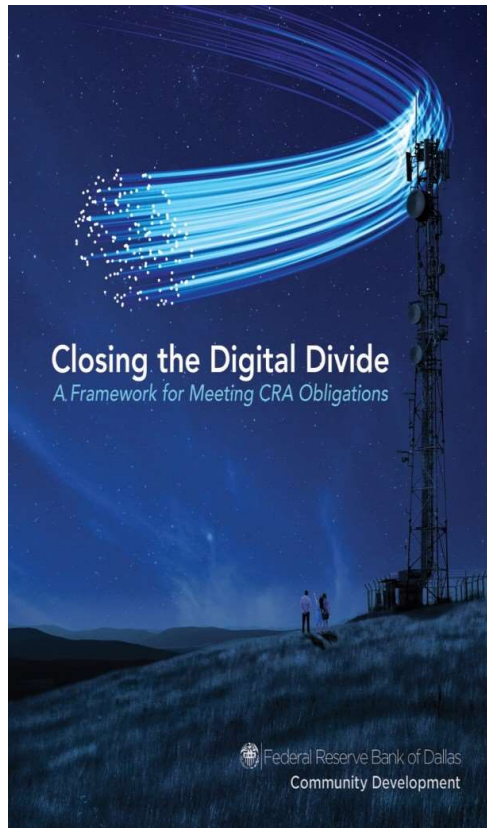
## Example: RS Fiber (Minnesota) Cooperative

- **Construction** credit - Banks
- **Preferred stock** in RS Fiber under PWI Authority - Bank
- **Loans and Grants** – Rural Electric Economic Development
- **Debt Financing** – CDFI
- Rural Economic Development **Grant** – USDA
- Rural Economic Development **Loan** - USDA

## New Layers in the Capital Stack: Opportunity and Revitalization Council Actions

- Thirteen federal agencies and led by the Housing and Urban Development Secretary
- The council will work to prioritize opportunity zones in a variety of federal efforts, including grant funding, loan guarantees, infrastructure spending and crime prevention.
- **150 potential actions** – i.e. USDA water infrastructure and rural broadband spending in certain zones, or SBA focusing certain loan programs in designated tracts.
- **Disaster recovery**

# Resource: Closing the Digital Divide, Federal Reserve Bank of Dallas



## A Template for Financial Institutions to Tell Their CRA Story

PART FIVE

### Your Financial Institution's Community Development Story

#### Section A: Background

##### I. Your mission and/or purpose

##### II. Your geographic market(s):

A discussion of demographic data related to income, deposit market share, Home Mortgage Disclosure Act market share, CRA small-business/small-farm share and identified needs. For demographic information, a bank can use the Census Bureau data (some of which is provided in this report), the broadbandmaps and the community's economic development plan.

##### III. Define the CRA

Below is sample text.

- "Under the Community Reinvestment Act (CRA), it is our responsibility to identify and invest in low- and moderate-income (LMI) communities. These activities must benefit both our financial institution and these communities."
- "The CRA defines community development as that which encompasses affordable housing (including multifamily rental housing) for LMI individuals; community services targeted to LMI individuals; activities that promote economic development by financing businesses or farms that meet the size eligibility standards of the Small Business Administration's Development Company or Small Business Investment Company programs or have gross annual revenues of \$1 million or less; or activities that revitalize or stabilize LMI geographies, designated disaster areas or distressed or underserved nonmetropolitan middle-income geographies designated by the Federal Reserve Board of Governors, the Federal Deposit Insurance Corporation (FDIC) and the Office of the Comptroller of the Currency (OCC)."

##### IV. Examples of how your financial institution has met your CRA obligations

Below is sample text.

- "There is a distinct digital divide in our assessment area (see NTIA broadband map for our assessment area below) and this is how LMI people are affected. ... Our work with (give name of partner, such as nonprofit, economic development center or school) to bring broadband infrastructure to LMI communities is designed to revitalize and stabilize the LMI geography. ... (Provide evidence of impact on workforce development, access to health care through telemedicine, small-business development or improved educational outcomes.)"
- "Specifically, we provided a grant (amount) to offer home Wi-Fi and computers, as well as training for students at the local high school to help close the homework divide. The majority of students at the high school are LMI (>51 percent of the students qualify for free and reduced lunches.)"

Part Five is a template a financial institution can use to tailor its own community development story and recognize ways to demonstrate leadership, responsiveness, and innovation

Source: Federal Reserve Bank of Dallas Community Development



# Resource: A Case Study on Closing the Digital Divide Federal Reserve Bank of New York

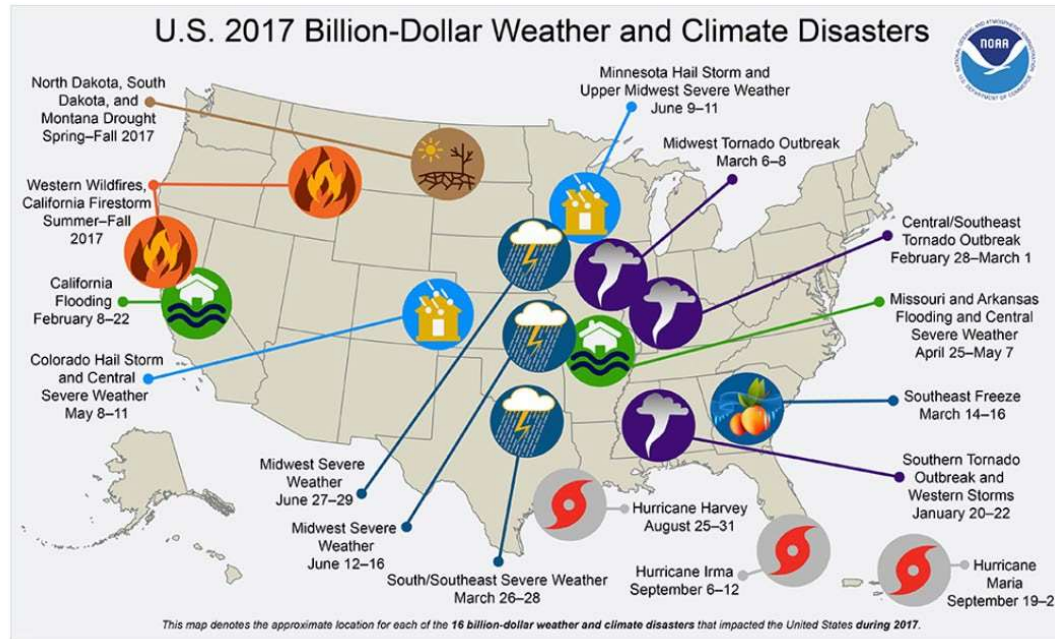


- [Investing in Our Communities: A Case Study on Closing the Digital Divide](#)
- The case study follows the events in New Amsterdam, a fictional urban area that has suffered economic hardship.

*Source: Federal Reserve Bank of New York Community Development*



# Resource: Weathering the Storm



2017 brought widespread weather and climate disasters to the U.S., emphasizing the need for additional discussion on this topic nationally. Credit: National Oceanic and Atmospheric Administration



## A Framework for Meeting CRA Obligations

Source: Federal Reserve Bank of Dallas Community Development

# Resources



“Closing the Digital Divide: A Framework for Meeting CRA Obligations” to provide the rationale and “How to” for banks and their community partners. Visit: [www.fedcommunities.org](http://www.fedcommunities.org) or [www.dallasfedcomdev.org](http://www.dallasfedcomdev.org)

New York Fed published teaching activities for CRA trainings, “A Case Study on Closing the Digital Divide,” [www.newyorkfed.org](http://www.newyorkfed.org)

OCC’s Rural Broadband Financing and Development resources page at [www.occ.gov/rural](http://www.occ.gov/rural)

“Climate Adaption Investment and the Community Reinvestment Act”  
Visit: <https://www.frbsf.org/community-development/>

“Weathering the Storm: A Framework for Meeting CRA Obligations”  
Visit: [www.dallasfedcomdev.org](http://www.dallasfedcomdev.org)

“Community Finance in East Baltimore: a Study of Phase One Redevelopment and Financing” Visit: [www.richmondfed.org/community\\_development](http://www.richmondfed.org/community_development)

“Pay for Success: How Emerging Finance Tools Are Supporting Workforce Development” Visit: [www.investinwork.org/reports](http://www.investinwork.org/reports)

## Resources



- Videos Resources on the CRA
- [What is the Community Reinvestment Act?](#)
- [The Small Bank and Intermediate Small Bank CRA Examination](#)
- [Leading Practices for Effective CRA Programs](#)
- [CRA Community Development Defined](#)

# What Communities Need to Know about CRA

- Financially safe and sound strategic partnerships
- Integration into the institution's short- and long-term business plan
- Explore needs of the least-served areas
- Use government programs as resources to enhance opportunities to manage and mitigate risk
- Target loans, investments, and services to benefit LMI individuals or geographies
- Fulfill community development goals and objectives



United States  
Department of  
Agriculture

**Rural Development**



Presented by:  
Ryeon Corsi

## Overview of Rural Utilities Service Programs

*Global Cities Team Challenge  
Washington, DC  
7/11/2019*

# Rural Development's (RD) Mission

USDA Rural Development

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

Provide **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**

Page  
27



# Rural Development Background

Rural Development includes 3 agencies with unique programs and objectives:

- **Rural Utilities Service (RUS)**
- Rural Housing Service (RHS)
- Rural Business-Cooperative Service (RBS)

Across the three agencies, Rural Development administers over 40 programs.

- RUS Electric & **Telecommunications** programs are administered by National Office
- RHS and RBS programs are administered by State & National Offices



# RUS Telecommunications Programs History

## From electricity to broadband...

---

- 1935** Rural Electrification Administration (REA) created and began providing financing to promote rural electrification
- 1949** REA received authority to finance telephone service in rural communities
- 1995** Evolving from the REA, the Rural Utilities Service (RUS) required all financed telecommunications networks have the capacity to deliver broadband
- 2010** RUS has provided over **\$6 billion** in loans and grants to build out broadband infrastructure in rural areas

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# Rural Broadband Loan Programs

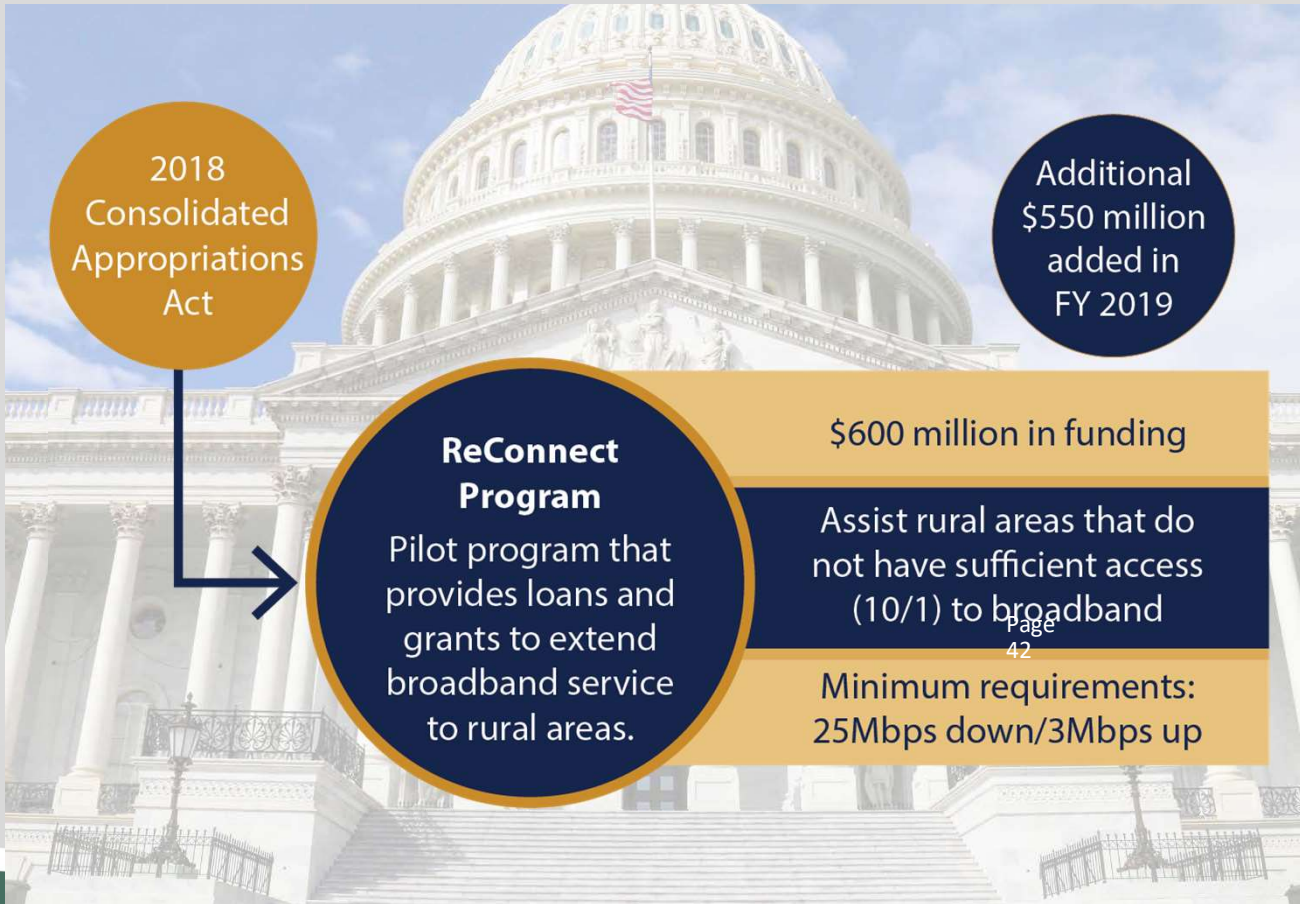
- Telecommunications Infrastructure Loan Program
- Rural Broadband Access Loan Program



# Telecommunications Grant Programs



- Community Connect Grants
- Distance Learning & Telemedicine Grants



2018  
Consolidated  
Appropriations  
Act

Additional  
\$550 million  
added in  
FY 2019

**ReConnect  
Program**  
Pilot program that  
provides loans and  
grants to extend  
broadband service  
to rural areas.

\$600 million in funding

Assist rural areas that do  
not have sufficient access  
(10/1) to broadband

Minimum requirements:  
25Mbps down/3Mbps up

Page  
42



# USDA e-Connectivity Resource Matrix

USDA has 27 programs that can be used to fund planning, construction, research and e-Connectivity activities. These are illustrated on the following pages and organized by customer and project type. More information can be found at [www.usda.gov/broadband](http://www.usda.gov/broadband).



## How to Use the USDA e-Connectivity Matrix

- STEP 1** ▶ Identify the type of customer (matrix rows) that will be applying and match it with the type of project (matrix columns) the community needs.
- STEP 2** ▶ Review the list of resources that are applicable to your customer and project types. To obtain more information on each resource, either click on its name to be taken to the relevant website (for online viewers) or find the corresponding number in the agency and resource description section starting on page 12 of this booklet (for print viewers).
- STEP 3** ▶ Reach out to the USDA specialist for each resource whose contact information is posted online at the locations detailed below.
- STEP 4** ▶ Discuss the eligibility of your project(s) and the application process with the USDA specialist to ensure feasibility.
- STEP 5** ▶ Develop an application timeline for your project, and closely review requirements, then proceed with the application process.
- STEP 6** ▶ Follow up with the USDA specialist if you have any questions before submission of an application, during the process, or after submission.

## We have specialists available for each program to help you get started:

**National Institute of Food and Agriculture:** Use the [NIFA grant database](#) to find contacts for NIFA grant programs.

**Natural Resources Conservation Service:** Contact your local [NRCS Service Center](#) to learn more about conservation opportunities.

**Farm Service Agency:** Contact your local [FSA Service Center](#) to learn more about programs for farmers and ranchers.

**Forest Service:** Visit the [FS Special-Use Permits site](#) to learn more about use of FS lands.

**Rural Development:** Contact your local [RD State Office](#) or [Telecom General Field Representative](#) to learn more about RD loan, grant, and technical assistance programs.

**Partnerships:** Contact USDA's [Office of Partnership and Public Engagement](#) for partnership opportunities with USDA.

**Community Solutions:** Contact the [Rural Development Innovation Center](#) for creative solutions to your rural community's e-Connectivity needs.

For resources at other Federal agencies, visit the Department of Commerce's [BroadbandUSA site](#).

# USDA e-Connectivity Resource Matrix

 <p>Customers:</p>	 <p>Agriculture Technology Research: Innovate farming research using broadband technology.</p>	 <p>Technical Assistance, Training &amp; Workforce Development: Sharing information, expertise, instruction, and/or skills training in broadband technology use.</p>	
<p><b>Farmers &amp; Ranchers:</b> Individuals who operate a farm or ranch.</p>	<p><a href="#">2b) Sustainable Agriculture Program</a></p>	<p><a href="#">4c) Agriculture Conservation Easement Program</a> <a href="#">4e) Agricultural Management Assistance</a>  <a href="#">4e) Conservation Stewardship Program</a>  <a href="#">4f) Conservation Technical Assistance Program</a> <a href="#">4g) Conservation Innovation Grants</a>  <a href="#">4d) Environmental Quality Incentives Program</a> <a href="#">4b) Regional Conservation Partnership Program</a> <a href="#">3a) Direct Operating Loans</a>  <a href="#">3b) Farm Ownership Loans</a> <a href="#">3c) Guaranteed Farm Loans</a> <a href="#">3c) Farm Microloans</a></p>	<p><a href="#">3b) Farm Ownership Loans</a> <a href="#">3c) Guaranteed Farm Loans</a> <a href="#">3c) Farm Microloans</a>  <a href="#">1g) Business and Industry Loan Guarantees</a></p>
<p><b>For-Profit Businesses:</b> Corporations, Limited Liability Companies, Competitive and Incumbent Local Exchange carriers, sole proprietorships, etc.</p>	<p><a href="#">2b) Sustainable Agriculture Program</a>  <a href="#">2a) Agriculture and Food Research Initiative</a> <a href="#">2c) National Robotics Initiative 2.0</a>  <a href="#">2d) Cyber-Physical Systems Grant Program</a></p>	<p><a href="#">2b) Sustainable Agriculture Program</a>  <a href="#">2a) Agriculture and Food Research Initiative (AFRI) Foundational and Applied Science Program</a></p>	<p><a href="#">1g) Business and Industry Loan Guarantees</a></p>
<p><b>Government Entities:</b> State or local governments, federally recognized Tribes, or Tribal organizations.</p>	<p><a href="#">2b) Sustainable Agriculture Program</a>  <a href="#">2a) Agriculture and Food Research Initiative</a> <a href="#">2c) National Robotics Initiative 2.0</a>  <a href="#">2d) Cyber-Physical Systems Grant Program</a></p>	<p><a href="#">2b) Sustainable Agriculture Program</a> <a href="#">4g) Conservation Innovation Grants</a>  <a href="#">4b) Regional Conservation Partnership Program</a> <a href="#">1f) Rural Business Development Grants</a>  <a href="#">1h) Community Facilities Technical Assistance and Training Grants</a></p>	<p><a href="#">1f) Rural Business Development Grants</a>  <a href="#">1h) Community Facilities Technical Assistance and Training Grants</a>  <a href="#">1g) Business and Industry Loan Guarantees</a></p>
<p><b>Co-ops &amp; Nonprofits:</b> Telecom and electric cooperatives, private non-profit schools, hospitals, libraries, faith-based organizations, etc.</p>	<p><a href="#">2b) Sustainable Agriculture Program</a>  <a href="#">2a) Agriculture and Food Research Initiative</a> <a href="#">2c) National Robotics Initiative 2.0</a>  <a href="#">2d) Cyber-Physical Systems Grant Program</a></p>	<p><a href="#">2b) Sustainable Agriculture Program</a> <a href="#">4g) Conservation Innovation Grants</a>  <a href="#">4b) Regional Conservation Partnership Program</a>  <a href="#">2a) Agriculture and Food Research Initiative (AFRI) Foundational and Applied Science Program</a>  <a href="#">1f) Rural Business Development Grants</a>  <a href="#">1h) Community Facilities Technical Assistance and Training Grants</a></p>	<p><a href="#">1f) Rural Business Development Grants</a>  <a href="#">1h) Community Facilities Technical Assistance and Training Grants</a>  <a href="#">1g) Business and Industry Loan Guarantees</a></p>
<p><b>Universities &amp; Higher Education Institutions:</b> Universities, community colleges, technology institutes, vocational &amp; technical schools, etc.</p>	<p><a href="#">2b) Sustainable Agriculture Program</a>  <a href="#">2a) Agriculture and Food Research Initiative</a> <a href="#">2c) National Robotics Initiative 2.0</a>  <a href="#">2d) Cyber-Physical Systems Grant Program</a></p>	<p><a href="#">2b) Sustainable Agriculture Program</a> <a href="#">4g) Conservation Innovation Grants</a>  <a href="#">4b) Regional Conservation Partnership Program</a>  <a href="#">2a) Agriculture and Food Research Initiative (AFRI) Foundational and Applied Science Program</a>  <a href="#">1f) Rural Business Development Grants</a>  <a href="#">1h) Community Facilities Technical Assistance and Training Grants</a></p>	<p><a href="#">1g) Business and Industry Loan Guarantees</a></p>
<p><b>Private Lenders:</b> Banks, credit unions, intermedialenders, etc.</p>	<p><a href="#">2a) Agriculture and Food Research Initiative</a></p>	<p><a href="#">2b) Sustainable Agriculture Program</a></p>	<p><a href="#">1g) Business and Industry Loan Guarantees</a></p>



# For Planning, Construction, Research, and Other Projects and Activities

More information can be found at [www.usda.gov/broadband](http://www.usda.gov/broadband).



Permits: Reimbursement for environmental, engineering, and archeological permits.



Broadband Infrastructure: Network plant and extension of broadband systems through fiber, poles, communication towers, wireless equipment, etc.



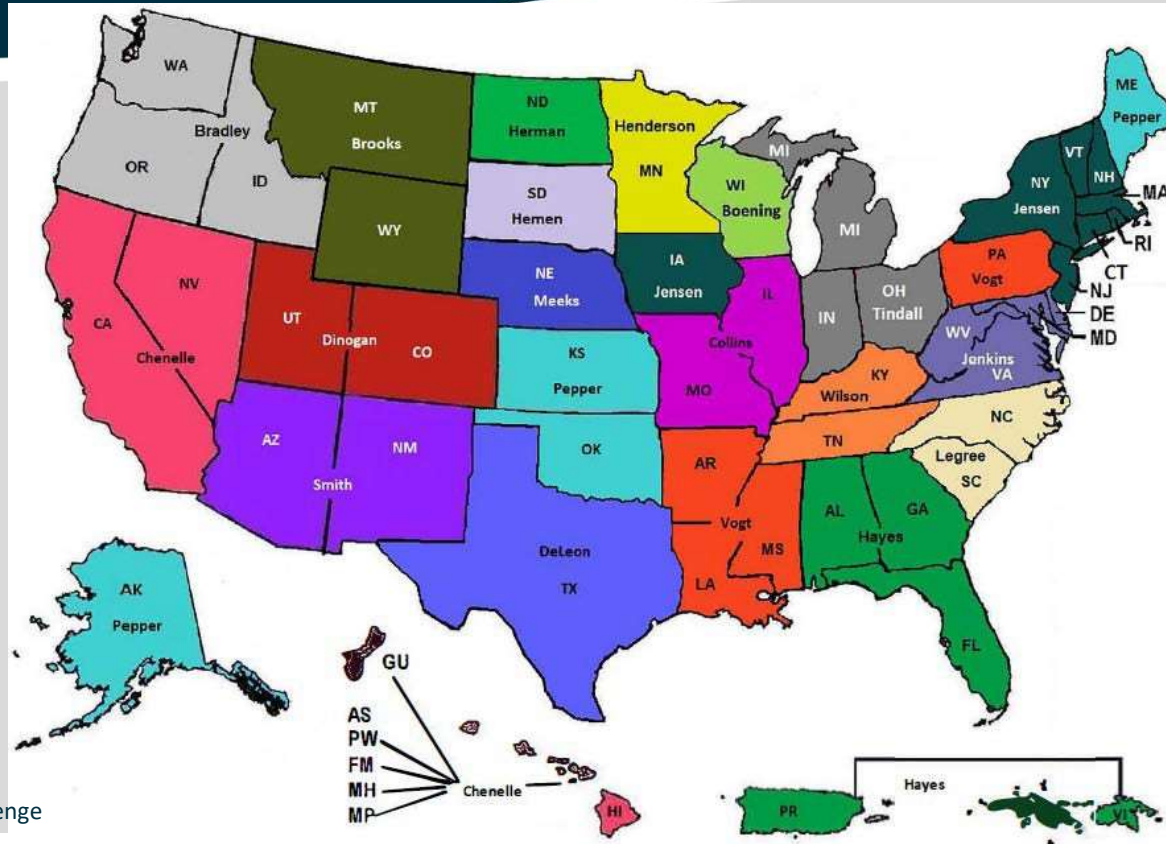
Equipment or Facilities: Buying, improving, or renting equipment or facilities.

Permits: Reimbursement for environmental, engineering, and archeological permits.	Broadband Infrastructure: Network plant and extension of broadband systems through fiber, poles, communication towers, wireless equipment, etc.	Equipment or Facilities: Buying, improving, or renting equipment or facilities.	
<a href="#">3b) Farm Ownership Loans</a> <a href="#">3c) Guaranteed Farm Loans</a> <a href="#">3c) Farm Microloans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">3b) Farm Ownership Loans</a> <a href="#">3c) Guaranteed Farm Loans</a> <a href="#">3c) Farm Microloans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">4a) Agricultural Management Assistance</a> <a href="#">4g) Conservation Innovation Grants</a> <a href="#">4b) Regional Conservation Partnership Program</a> <a href="#">3b) Farm Ownership Loans</a> <a href="#">3a) Farm Operating Loans</a> <a href="#">3c) Farm Microloans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">3b) Farm Ownership Loans</a> <a href="#">3c) Guaranteed Farm Loans</a> <a href="#">3c) Farm Microloans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>
<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1a) Community Connect Grants</a> <a href="#">5a) Forest Service Special Use Permits</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1a) Community Connect Grants</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1a) Community Connect Grants</a> <a href="#">1g) Business and Industry Loan Guarantees</a> <a href="#">1e) Rural Economic Development Loans &amp; Grants</a> <a href="#">2a) Small Business Innovation Research Program</a>	<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>
<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1a) Community Connect Grants</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">4g) Conservation Innovation Grants</a> <a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1k) ReConnect Program</a> <a href="#">1a) Community Connect Grants</a> <a href="#">1b) Distance Learning &amp; Telemedicine Grants</a> <a href="#">1j) Community Facilities Loans &amp; Grants</a> <a href="#">1g) Business and Industry Loan Guarantees</a> <a href="#">1e) Rural Economic Development Loans &amp; Grants</a>	<a href="#">1d) Telecommunications Infrastructure Loans</a> <a href="#">1c) Rural Broadband Access Loans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>
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<a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">2c) National Robotics Initiative 2.0</a> <a href="#">4g) Conservation Innovation Grants</a> <a href="#">1b) Distance Learning &amp; Telemedicine Grants</a> <a href="#">1j) Community Facilities Loans &amp; Grants</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1g) Business and Industry Loan Guarantees</a>
<a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1j) Community Facilities Guaranteed Loans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>	<a href="#">1j) Community Facilities Guaranteed Loans</a> <a href="#">1g) Business and Industry Loan Guarantees</a>

**USDA Broadband Reports &  
Resources:**  
**<https://www.usda.gov/broadband>**

**Rural Utilities Service, Telecommunications Program:**  
**<https://www.rd.usda.gov/programs-services/all-programs/telecom-programs>**

# GFR States Covered - [www.rd.usda.gov/contact-us/telecom-gfr](http://www.rd.usda.gov/contact-us/telecom-gfr)



Global Cities Team Challenge

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# Rural Utilities Service Telecommunications Key Contacts

Assistant Administrator

Chad Parker, Assistant Administrator, RUS Telecommunications  
[chad.parker@usda.gov](mailto:chad.parker@usda.gov) / 202.720.7287

Deputy Assistant Administrators

Laurel Leverrier, Deputy Assistant Administrator, RUS Telecommunications  
[laurel.leverrier@usda.gov](mailto:laurel.leverrier@usda.gov) / 202.720.3416

Peter Aimable, Office of Portfolio Management & Risk Assessment  
[peter.aimable@usda.gov](mailto:peter.aimable@usda.gov) / 202.720.1025

Shawn Arner, Office of Loan (& Grant) Origination & Approval  
[shawn.arners@usda.gov](mailto:shawn.arners@usda.gov) / 202.720.0800

Kenneth Kuchno, Office of Policy & Outreach  
[kenneth.kuchno@usda.gov](mailto:kenneth.kuchno@usda.gov) / 202.720.9424



United States  
Department of  
Agriculture

## Rural Development



Ryeon Corsi | Management & Program Analyst  
[Ryeon.Corsi@usda.gov](mailto:Ryeon.Corsi@usda.gov) | Office: 202.401.0090

Rural Development | Telecommunications Program  
Rural Utilities Service | U.S. Department of Agriculture  
1400 Independence Ave., S.W. | Washington, D.C. 20250  
[www.rd.usda.gov](http://www.rd.usda.gov)

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