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RURAL BROADBAND DEPLOYMENT

Improved Consistency with Leading Practices Could Enhance Management of Loan and Grant Programs

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Why GAO Did This Study

RUS provides loans and grants to help finance the construction of broadband infrastructure in rural America. GAO was asked to review RUS's management of its programs to fund broadband deployment, including consistency with leading practices for federal funding, program management, and broadband deployment.

This report examines the extent to which RUS's procedures and activities are consistent with leading practices and how, if at all, its management practices could be improved. GAO synthesized, from federal guidance and relevant literature, a set of 10 leading practices that would be appropriate for the management of broadband loan and grant programs. GAO validated its set of practices with states that have programs similar to the RUS programs. GAO then reviewed RUS documentation and interviewed RUS officials and six program recipients, selected for having geographically dispersed projects currently under construction. Based on this information, GAO determined whether RUS's procedures and activities were consistent, partially consistent, or not consistent with each leading practice.

What GAO Recommends

GAO recommends that RUS develop program performance goals and measures, conduct program risk assessments, evaluate completed grant projects, establish a timeline for implementing a centralized internal data system, and update written policies and procedures for RUS staff. USDA agreed with the recommendations.

View GAO-17-301. For more information, contact Mark Goldstein at (202) 512-2834 or goldsteinm@gao.gov.

What GAO Found

The Rural Utilities Service (RUS), an agency within the United States Department of Agriculture (USDA), has procedures and activities that are consistent with four leading practices and partially consistent with six leading practices in managing two loan programs and one grant program aimed at funding broadband infrastructure projects in rural communities.

- *Consistent with Leading Practices:* With regard to reviewing applications, RUS has procedures for training reviewers, guarding against conflicts of interest, and conducting multiple levels of review. For external training and external communication, RUS holds workshops and seminars to inform rural communities and applicants about its programs. RUS's website contains program information, including eligibility criteria, time frames, and frequently asked questions. Applicants can also seek assistance from the RUS general field representative (GFR) assigned to their area. Program recipients whom GAO interviewed often spoke positively of the help provided by GFRs. As to coordination mechanisms, RUS has worked with other federal agencies on rural broadband-deployment efforts, including having a memorandum of understanding with the Federal Communications Commission.

- *Partially Consistent with Leading Practices:* While USDA has a high-level goal and a performance metric for measuring the benefits to rural communities of the broadband loans and grants, RUS has not developed specific program-level goals or performance measures for its individual programs. Without specific measureable goals for each loan and grant program, RUS will have difficulty determining how well the programs are performing. Regarding risk assessment, RUS conducts a variety of risk assessment activities at the loan and grant application and project level, but has not conducted a risk assessment at the program level. A higher-level, programmatic risk assessment would provide a holistic look at the programs' core processes and internal controls. For broadband programs, another leading practice is establishing mapping systems that can provide program data and reveal areas that lack service. RUS has mapping tools and systems in place, but does not have complete mapping information. RUS has efforts under way to improve its mapping data going forward. These efforts should increase RUS's understanding of broadband coverage and help RUS begin to identify possible unserved areas for outreach. For project monitoring, RUS currently oversees loan and grant recipients' projects through GFR site visits, progress reports, and audits. However, RUS does not evaluate its grant projects post-completion and is therefore missing information that could be used to improve the selection of grant recipients or the results of grant awards. RUS has established an organizational structure that supports internal communication, but does not have a centralized system to monitor loan and grant data. RUS officials said USDA is working toward such a system, but they did not have established deliverables or time frames. RUS generally has external written documentation for recipients, but internal written documentation is often outdated, affecting RUS's ability to share knowledge among its staff and retain institutional knowledge.

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Abbreviations:

BIP	Broadband Initiatives Program
Broadband Program	Rural Broadband Access Loan and Loan Guarantee Program
Community Connect	Community Connect Grant Program
EPA	Environmental Protection Agency
FCC	Federal Communications Commission
FTE	full-time equivalent
FY	fiscal year
Green Book	*Standards for Internal Control in the Federal Government*
GFR	general field representative
GPRA	Government Performance and Results Act
Infrastructure Program	Telecommunications Infrastructure Loan and Loan Guarantee Program
LOAD	Loan Origination and Approval Division
MOU	memorandum of understanding
NTIA	National Telecommunications and Information Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
PMRA	Portfolio Management and Risk Assessment
RUS	Rural Utilities Service
TIER	times interest earned ratio
USDA	U.S. Department of Agriculture

April 13, 2017

The Honorable Frank Pallone, Jr.
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Anna Eshoo
House of Representatives

The Honorable Dave Loebsack
House of Representatives

The Honorable Ben Ray Luján
House of Representatives

The Honorable Jerry McNerney
House of Representatives

The Honorable Peter Welch
House of Representatives

Access to affordable broadband telecommunications is vital to economic growth and improved quality of life across the country. In rural areas in particular, broadband can serve to reduce the isolation of remote communities and individuals. The provision of broadband Internet infrastructure and services in the United States is generally privately financed. However, rural areas can have attributes that increase the cost of broadband deployment, such as remote areas with challenging terrain, or make it difficult to recoup deployment costs, such as relatively low population densities or incomes. These attributes can decrease the likelihood that a broadband service provider will build out or maintain a network in a rural area. For these reasons, some rural areas lag behind urban and suburban areas in broadband deployment or service speed.

To improve access to broadband in rural America, the U.S. Department of Agriculture's (USDA) Rural Utilities Service (RUS) provides loans and grants to finance the construction of broadband infrastructure through three programs: the Telecommunications Infrastructure Loan and Loan Guarantee Program, the Broadband Access Loan and Loan Guarantee

Program, and the Community Connect Grant Program.[1] According to RUS data, since fiscal year 2004, RUS has approved 704 broadband projects totaling almost $8.6 billion in loans and $144.8 million in grants to deploy telecommunications or broadband infrastructure networks in rural areas.

You asked that we review RUS's management of its broadband deployment funding programs, including RUS's incorporation of leading practices regarding federal funding, program management, and broadband deployment. This report examines the extent to which RUS has established procedures and activities that are consistent with leading practices in the management of its broadband infrastructure loan and grant programs and how, if at all, its management practices could be improved.

To determine the extent to which RUS has procedures and activities consistent with leading practices, we identified leading practices that would be appropriate for the management of broadband loan and grant programs. To do this, we synthesized leading practices from the *Standards for Internal Control in the Federal Government* (commonly referred to as the *"Green Book"*),[2] the Office of Management and Budget's (OMB) *Circular A-129*,[3] a National Governors Association's *Center for Best Practices Issue Brief,*[4] and past GAO reports on leading practices. We also reviewed reports pertaining to broadband deployment by USDA, the Federal Communications Commission (FCC), and the Department of Commerce's National Telecommunications and Information Administration (NTIA), as well as research and academic papers on broadband deployment in rural areas. We conducted interviews with representatives of USDA, USDA's Office of Inspector General, FCC, NTIA, the National Governors Association, and NTCA–

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[1]The Community Connect Grant Program started as a pilot in fiscal year 2002. RUS noted in a 2004 rulemaking that, due to the positive response RUS received to the pilot, Congress began funding the program in 2004. It was first funded in the Consolidated Appropriations Act of 2004, Pub. L. No. 108-199, Title III, 118 Stat. 3, 25 (2004).

[2]*Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 2014).

[3]OMB, *Circular No. A-129, Policies for Federal Credit Programs and Non-Tax Receivables* (Washington, D.C.: Jan. 2013).

[4]National Governors Association, *Center for Best Practices Issue Brief, State Efforts to Expand Broadband Access* (Washington, D.C.: May 20, 2008).

The Rural Broadband Association. Based on our research and interviews, we identified a set of 10 leading practices, and key activities associated with each, that are reasonable, sufficient, and appropriate to the management of loan and grant programs involving broadband deployment. In making this determination we considered whether the criteria related directly to and covered all elements of our researchable question, represented a balanced set of criteria, and were from sources that were professionally recognized and respected. This process resulted in the following leading practices: (1) program performance measurement, (2) risk assessment, (3) application review procedures, (4) mapping, (5) external training, (6) project monitoring, (7) external communication, (8) internal communication, (9) written documentation, and (10) coordination mechanisms. To validate our list of leading practices and the key activities associated with each, we identified, through searches of state websites and our interviews, states that have broadband deployment programs at the state level that are similar to RUS's programs. We then discussed our set of leading practices with broadband program officials from the states of California, New York, Oklahoma, and Wisconsin to obtain their opinions on the validity of our leading practices and key activities as applied to the management of similar broadband deployment programs.[5] We selected these states because they had active state broadband programs and were geographically diverse. Based on our discussions with the state officials, we made slight modifications to our leading practices and key activities and then shared them with RUS officials to obtain the agency's input on the leading practices. RUS officials agreed that our leading practices and key activities were applicable to the agency's management of its programs for broadband infrastructure grants and loans.

To determine the extent to which RUS's procedures and activities are consistent with the leading practices, we reviewed program documentation provided by RUS and interviewed RUS officials about their management of the loan and grant programs. We also interviewed six RUS loan and grant recipients (two recipients from each program) to obtain their perspectives on RUS's management of its programs with respect to the leading practices with which the recipients would be familiar (e.g., external communication, project monitoring). We selected the six loan and grant recipients from a list of recipients whose RUS-

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[5]We also contacted broadband officials from New Mexico and Kentucky to obtain their opinions on our leading practices but they did not respond to our outreach.

funded projects were currently in the construction phase, that each had a different RUS general field representative (GFR), and that were geographically dispersed. The views of the recipients cannot be generalized to all RUS loan and grant recipients. Based on the information we obtained about RUS's activities, we determined the extent to which RUS established procedures and conducted activities that were consistent with each leading practice. We assessed the evidence against the criteria and assigned one of three ratings for each leading practice: (1) consistent, (2) partially consistent, and (3) not consistent. A rating of "consistent" was determined when RUS had procedures addressing all of the key activities associated with the leading practice. A "partially consistent" rating was determined when RUS had procedures addressing some key activities of the leading practice, but not others. A rating of "not consistent" was determined when RUS did not have procedures addressing any of the key activities associated with the leading practice. See appendix I for a summary of each leading practice, the key activities associated with each, and our assessment of how consistent RUS's procedures and activities are with each leading practice.

We conducted this performance audit from March 2016 to April 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

RUS, an agency in USDA's Rural Development mission area, oversees three programs for deploying broadband infrastructure in rural communities.[6] The Telecommunications Infrastructure Loan and Loan Guarantee Program (Infrastructure Program) has funded traditional telephone networks but, since the mid-1990s, has been used primarily to

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[6]In addition to these three programs, RUS oversees the Distance Learning and Telemedicine Grant Program that supports broadband-based applications. We excluded this program from our review because it is not an infrastructure program. We also excluded the Broadband Initiatives Program (BIP) authorized as part of the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, 118-119 (2009), because the award period for that program ended in 2010. GAO has examined the BIP grants and last reported on that program in 2014 (see GAO, *Recovery Act: USDA Should Include Broadband Program's Impact in Annual Performance Reports*, GAO-14-511 (Washington, D.C.: June 17, 2014)).

fund broadband network infrastructure that can provide both voice and data services. The Rural Broadband Access Loan and Loan Guarantee program (Broadband Program) and the Community Connect Grant Program (Community Connect) are assistance programs that are specifically dedicated to financing broadband deployment.

Differences among these programs include their definitions of rural areas and their eligibility rules for recipients and services.

- *Infrastructure Program:* The largest and oldest of the three programs, the Infrastructure Program was created as part of the Rural Electrification Act of 1936, as amended.[7] The program provides loans and loan guarantees for the deployment of telecommunications systems, including broadband systems, to rural areas.[8] The program is generally not available to any city, village, or borough having a population exceeding 5,000. Since fiscal year 2008, the authorized principal amount for the loans and loan guarantees ("lending authority") has been $690 million. According to RUS, since 2004, individual loans have ranged from $81,600 to $90 million, depending on the size of the project. A loan recipient has 5 years to complete its infrastructure project. According to RUS, the terms of Infrastructure Program loans are typically around 20 years, depending on the nature of the facilities to be financed.[9] This program often sees repeat borrowers as borrowers use the funds to either upgrade existing services in rural areas or expand their rural service area.

- *Broadband Program:* Authorized in 2002, this program provides loans and loan guarantees for the construction, improvement, and acquisition of facilities and equipment for broadband service in eligible

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[7]Pub. L. No. 74-605, 49 Stat. 1363 (1936), as amended by Pub. L. No. 81-423, Ch. 776 § 5, 63 Stat. 948-949 (1949), codified at 7 U.S.C. §§ 901-914. The program dates back to 1949 as a rural loan program that historically supported infrastructure for telephone voice service.

[8]For this program, "rural area" means any area of the United States, its territories, and insular possessions (including any area within the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau) not included within the boundaries of any incorporated or unincorporated city, village, or borough having a population exceeding 5,000 inhabitants. For purposes of the rural area definition, the character of an area is determined as of the time of the initial loan for the system. See 7 C.F.R. § 1735.2.

[9]The term of the loan repayment should equal the "expected composite economic life" of the facilities to be financed. "Expected composite economic life" means the depreciated life plus 3 years. See 7 C.F.R. § 1735.43(a).

rural communities.[10] Recent amendments have revised the program including the definition of rural area, among others.[11] The lending authority for this program has decreased from $602 million in fiscal year 2004 to $20.6 million in fiscal year 2016.[12] According to RUS, the terms of the Broadband Program's loans depend on the type of broadband system being deployed: generally around 20 years for fiber systems and around 12 years for wireless systems. According to RUS, since 2004, individual loans have ranged from $24,000 to $244 million, depending on the size of the project.[13]

- *Community Connect:* This program started as a pilot program in fiscal year 2002, with $20 million in competitive grants. Noting the positive response it received, RUS made the Community Connect program an annual competitive grant program in fiscal year 2004.[14] Annual appropriations for the program have ranged from $9 million to $18 million. As of December 2016, Community Connect grants have funded approximately 138 projects across the nation intended to improve broadband service. In the past few years, grant awards could not be greater than $3 million per project, with a 15-percent matching-fund requirement placed on the recipient. Further, projects must be in rural areas, as confirmed by the most recent decennial Census.[15] A recipient has 3 years to complete construction of its broadband infrastructure project.

Tables 1 and 2 show the annual lending authority for the loan programs and the annual appropriations for the grant program, respectively.

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[10]Pub. L. No. 107-171, § 6103, 116 Stat. 134, (2002), codified at 7 U.S.C. § 950bb.

[11]Pub. L. No. 113-79 § 6104(a), 128 Stat. 649, 851 (2014) and Pub. L. No. 110-246 § 6110, 122 Stat. 1651, 1660 (2008), codified at 7 U.S.C. § 950bb. A rural area is defined as any area other than (1) a city or town that has a population greater than 20,000 and (2) an urbanized area contiguous and adjacent to a city or town with a population greater than 50,000.

[12]According to RUS officials, the reduction in lending authority for the Broadband Program might be due, in part, to alternative funding that was available for broadband projects through the BIP grants.

[13]Not included in this range was a Broadband Program loan for $268 million that RUS awarded in fiscal year 2008. According to RUS officials, $78 million of the loan had been disbursed when the loan recipient defaulted on the project.

[14]Pub. L. No. 108-199, Title III, 118 Stat. 3, 25 (2004).

[15]Specifically, "rural area" means any area not located within a city, town, or incorporated area with a population greater than 20,000 inhabitants, or an urbanized area contiguous and adjacent to a city or town with a population greater than 50,000. 7 C.F. R. § 1739.3.

Table 1: Lending Authority for the Rural Broadband Access and Telecommunications Infrastructure Loan and Loan Guarantee Programs, Fiscal Years (FY) 2006–2016 (in Millions)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Rural Broadband Access	$602	550	500	500	300	400.5	400	400	212	42.2	34.5	24.1	20.6
Telecommunications Infrastructure	$515	520	694	694	690	690	690	690	690	690	690	690	690

Source: GAO Analysis of Appropriations Acts, Fiscal Years 2006–2016. | GAO-17-301

Note: Actual loan levels for a fiscal year can vary from what is authorized in the annual appropriations acts.

Table 2: Community Connect Broadband Grant Program Appropriations, Fiscal Years 2004-2017 (in Millions)

Fiscal Year (FY)	Appropriations
FY2004	$10
FY2005	$9
FY2006	$9
FY2007	$9
FY2008	$13.5
FY2009	$13.4
FY2010	$18
FY2011	$13.4
FY2012	$10.4
FY2013	$10.4
FY2014	$10.4
FY2015	$10.4
FY2016	$10.4

Source: GAO Analysis of Appropriation Acts, Fiscal Years 2004–2016. | GAO-17-301

As shown in figure 1, the dollar amount of loans approved by RUS varies by state, with Colorado, Kansas, and North Dakota receiving the largest loan amounts—each receiving over $500 million in loans from fiscal years 2004 through 2016. Conversely, Vermont, Maine, and New Hampshire received the lowest loan amounts—each receiving around $6 million or less during this time. While most states have obtained the majority of their funding from the Infrastructure Program, Colorado and Hawaii used mainly the Broadband Program.

GAO-17-301 Management of Rural Broadband Loans and Grants

Figure 1: Rural Utilities Service's (RUS) Infrastructure Loan and Broadband Loan Amounts by State and U.S. Territory, Fiscal Years 2004–2016
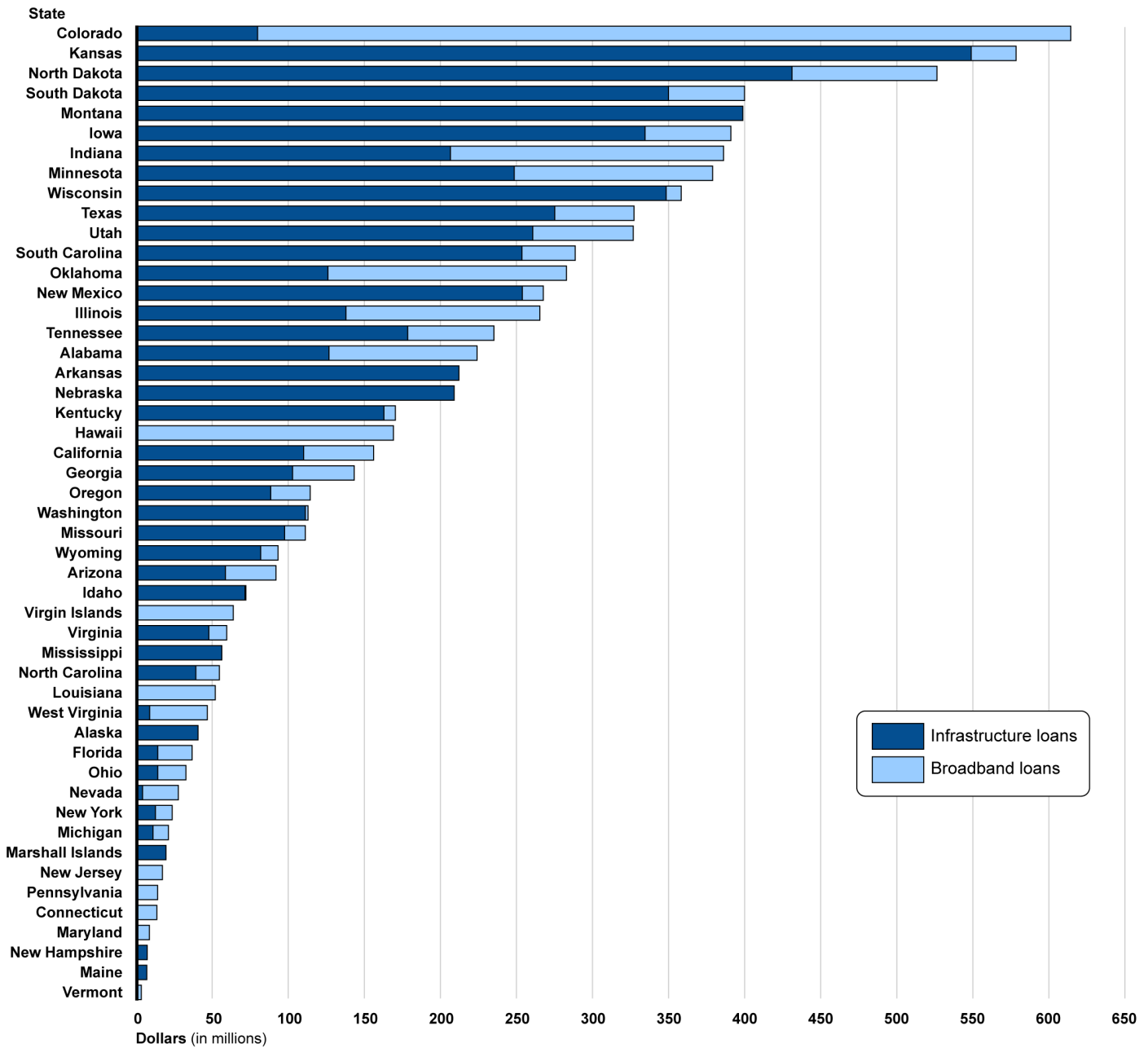
Dollars (in millions)

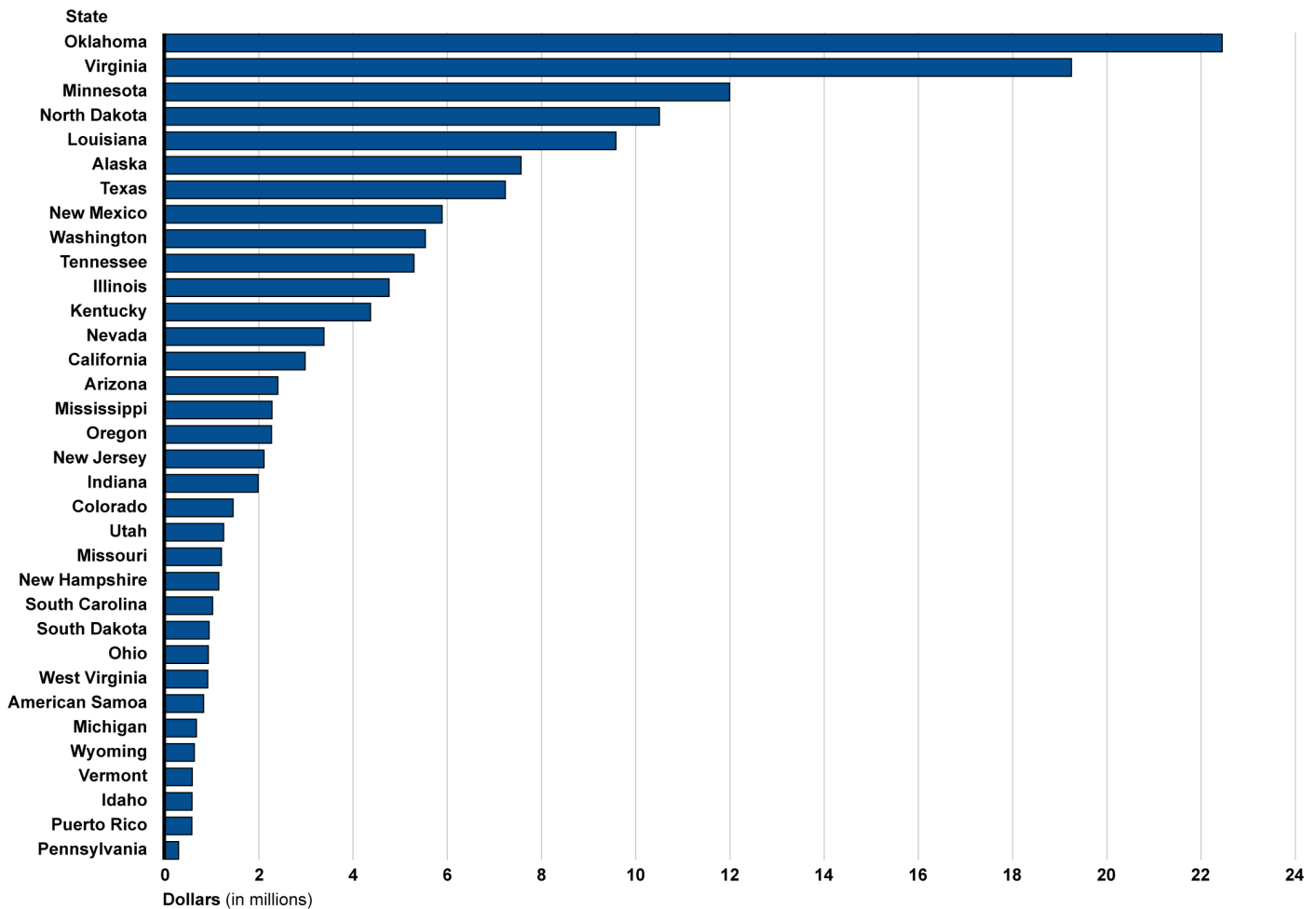Legend:
- Infrastructure loans
- Broadband loans

Source: GAO analysis of Rural Utilities Service data. | GAO-17-301

Note: Amounts shown are the total amounts approved by RUS. The actual amounts disbursed by RUS can be lower since some loans defaulted or were rescinded or reduced before all funds were

paid out. According to RUS officials, differences in the amounts received by states are a function of the level of participation in the program by eligible entities within each state.

As shown in figure 2, the dollar amounts of Community Connect grants approved by RUS from fiscal years 2004 through 2016 varied, with Oklahoma receiving the largest amount of grant funds (about $22.5 million) and Pennsylvania receiving the lowest amount (around $290,000).

Figure 2: Rural Utilities Service's (RUS) Community Connect Grants by State and U.S. Territories, Fiscal Years 2004–2016

Source: GAO analysis of Rural Utilities Service data. | GAO-17-301

Note: Amounts shown are the total amounts approved by RUS. The actual amounts disbursed by RUS can be lower since some grants were rescinded or reduced before all funds were paid out. According to RUS officials, differences in the amounts received by states are a function of the level of participation in the program by eligible entities within each state.

RUS's Management Procedures and Activities for Broadband Loan and Grant Programs Are Consistent or Partially Consistent with Leading Practices, and Could Improve in Some Areas

Overall, RUS has procedures and activities addressing the leading practices we identified, including the key activities associated with these practices, as part of its management of the rural broadband programs. We found that RUS has procedures and activities consistent with the leading practices for reviewing applications, conducting external training, communicating with applicants and recipients, and coordinating with other federal agencies. RUS has procedures and activities that are partially consistent with leading practices for conducting program performance measurement, conducting risk assessments, mapping, monitoring loan and grant infrastructure projects, communicating internally, and providing written program documentation.

Program Performance Measurement

Leading Practice: Program Performance Measurement

Consistent ⬭
Partially consistent 🔵
Not consistent ⬭

Key activities:
- Establish a process that ensures program goals are identified, tracked, and fulfilled.
- Develop performance measures that link directly to stated program goals
- Evaluate and document the results of program measurement activities, including plans for corrective actions.

Sources: GAO analysis. | GAO-17-301

RUS has procedures and activities that are partially consistent with the leading practice of program performance measurement because USDA has identified a goal and a performance measure at a high level. However, at the individual program level, RUS has not established a process that ensures program goals are identified, tracked, and fulfilled; has not developed performance measures linked to goals; and does not evaluate or document the results of program measurement activities. First, we have previously found that results-oriented organizations implement two key practices to lay a strong foundation for successful program management—setting performance goals to clearly define desired program outcomes and developing performance measures that are clearly linked to the performance goals.[16] Through our review of USDA and RUS documentation, we identified a goal set by USDA at the Rural Development mission area level. Specifically, USDA's *Fiscal Year 2015 Annual Performance Report and Fiscal Year 2017 Annual Performance Plan* describes the year-end progress of USDA toward achieving the department's strategic goals, objectives, and performance measures. USDA sets forth a strategic goal "to assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving." Under this strategic goal, the annual performance

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[16]GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, GAO/GGD-96-118 (Washington, D.C.: June 1996).

report contains a performance measure for RUS: the annual number of borrowers or subscribers receiving new or improved telecommunications services. According to the report, the performance target for 2016 was 120,000 borrowers or subscribers receiving new or improved telecommunications services; the 2017 target is 100,000. Outside of this one high-level strategic goal and performance measure, RUS officials told us they do not have formal documented program performance goals and measures for the individual loan and grant programs. RUS officials told us that they believe their goals for each of the three programs are to ensure that facilities are constructed properly and that the service is actually provided. However, these goals are not documented, and there are no specific performance measures that link to these goals.

Federal agencies can use the information gained from performance measurement to make various types of management decisions to improve programs and results.[17] Both the Government Performance and Results Act (GPRA)[18] and OMB's *Circular A-129*[19] highlight the use of performance measures and goals as a means to evaluate program performance. For example, GPRA requires agencies to develop a performance plan covering each program activity set forth in the budget, including program goals that are objective, quantifiable, and measurable.[20] Although such practices are only required at the federal department or agency level under GPRA, they can serve as leading practices for planning at lower levels within federal agencies, such as at an individual program or initiative level. In addition, OMB's *Circular A-129* stipulates that for credit programs, agencies shall periodically evaluate

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[17]GAO, *Managing for Results: Enhancing Agency Use of Performance Information for Management Decision Making,* GAO-05-927 (Washington, D.C.: Sept. 9, 2005).

[18]Pub. L. No. 103-62, 107 Stat. 285 (1993), as modified by Pub. L. No. 111-352, 124 Stat. 3866 (2011). Since 1993, Congress has required federal agencies through GPRA to develop strategic plans with long-term, outcome-oriented goals and objectives, annual goals linked to achieving the long-term goals, and annual reports on the results achieved. GAO, *Results-Oriented Government: GPRA Has Established a Solid Foundation for Achieving Greater Results* GAO-04-38 (Washington, D.C.: Mar. 10, 2004). The GPRA Modernization Act of 2010 modified GPRA to, among other things, create a government-wide planning and reporting framework, including federal government priority goals, performance plans, quarterly priority progress reviews, and a government-wide performance website. GAO, *Managing for Results: Opportunities for Congress to Address Government Performance Issues*, GAO-12-215R (Washington, D.C.: Dec. 9, 2011).

[19]OMB, *Policies for Federal Credit Programs and Non-Tax Receivables*, *Circular A-129* (Washington, D.C.: January 2013).

[20]31 U.S.C. § 1115(b).

programs in terms of the policy goals of the program and the program's effectiveness towards addressing those goals. Without specific, documented goals for each loan and grant program—and specific performance measures that are crafted around those goals—it is difficult to determine in an objective, quantifiable way if these programs are fulfilling USDA's strategic goal of assisting rural communities, and it could be more difficult for RUS to manage the programs in a proactive, results-oriented manner.

Risk Assessment

Leading Practice: Risk Assessment

Consistent	◯
Partially consistent	🔵
Not consistent	◯

Key activities:
- Define program objectives.
- Define the program's risk tolerances.
- Establish a process to conduct risk assessments to identify and analyze risks to achieving program objectives.
- Conduct risk assessments to identify and analyze risks for credit programs.
- Determine the program's fraud risk factors and the types of fraud for which the program is most at risk.
- Determine and conduct the appropriate responses to identified risks.

Sources: GAO analysis. | GAO-17-301

RUS has procedures and activities that are partially consistent with the leading practice of risk assessment because RUS conducts a variety of risk assessment activities at the application and the individual project level, as well as having procedures to guard against fraud; however, RUS has not established procedures to conduct risk assessment activities at the program level. The *Green Book* defines the standards for internal control in the federal government, noting that management should:

- define objectives clearly to enable the identification of risks and define risk tolerances;

- identify, analyze, and respond to risks related to achieving the defined objectives;

- consider the potential for fraud when identifying, analyzing, and responding to risks; and

- identify, analyze, and respond to significant changes that could impact internal controls.

OMB's *Circular A-129* provides that, for credit programs, agencies must

- have robust management and oversight frameworks for credit programs to monitor the program's progress towards achieving policy goals within acceptable risk thresholds,

- reinforce these frameworks with appropriate internal controls, and

- take action where appropriate to increase efficiency and effectiveness.

RUS's risk assessment efforts have focused on the proposed and funded broadband projects and their financial risks, particularly for the loan programs, which have greater inherent risk to the federal government because borrowers are expected to repay loans with interest. The application review process for both of the loan programs includes a financial risk review to determine whether the borrower has a sufficient

forward-looking return on investment. Borrowers are required to maintain a times interest earned ratio (TIER) between 1.0 and 1.5, based on the projected TIER determined by a feasibility study prepared for each loan.[21] According to RUS, all borrowers receive the same treatment once their loans are approved, irrespective of the risk involved with the project. In other words, RUS does not vary interest rates based on risk or set a higher TIER requirement for riskier borrowers. However, because the loan programs target rural areas that, as previously mentioned, may not appeal to private broadband providers, the programs tend to attract some applicants that may present higher financial risks. Since 2004, the Broadband Program's loans have had defaults on 22 of 108 loans. In analyzing the risk factors behind these defaults, RUS determined that the majority of the defaulting companies were startup firms. In response, RUS has put in place new financial requirements on startup firms to better ensure that such borrowers are financially sound and less likely to default. For 2017 Broadband applicants, RUS has a Calculation of Additional Cash Requirement for startup operations or firms that have not demonstrated a positive cash flow from operations for the 2 years prior to the application date. This stipulation is in addition to the audited financial statements, tax returns, methodology, and assumptions that must be part of the application package. According to RUS officials, these requirements will enable RUS to place greater emphasis on evaluating these applicants' subscriber and revenue projections to help address default risks.

With regard to fraud risks, there are procedures to help limit fraud incidents. For instance, the grant agreements that Community Connect recipients are required to sign stipulate that invoices are to be submitted with requests for advance or with reimbursement forms before grant funds are disbursed. Recipients, depending on entity type, are to provide RUS with an audit for each year in which grant funds are expended and an annual project performance activity report. Loan agreements lay out specific conditions that loan recipients are required to follow for loan advances. Loan recipients are required by their loan agreements to have fidelity bond or theft insurance coverage and maintain all documentation, such as invoices, receipts, and annual financial reports, available for federal inspection, if requested. Loan recipients are required to provide RUS with annual audited financial statements until the loans are paid off.

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[21]TIER is the total net income or margins plus the total fixed charges divided by total fixed charges, after taxes paid. TIER is a measure of a borrower's ability to service its debts.

RUS performs compliance audits for all grant and loan projects on a 2-5 year cycle (depending on the amount of unaudited advances) until all funds are disbursed. Furthermore, USDA requires GFRs to submit reports on construction status based on regular site visits. These site visits also allow GFRs an opportunity to examine the projects for any misuse of funds. If a discrepancy is found, RUS officials told us that they will immediately disallow funding. If fraud involving a grant project is suspected, RUS officials said they would turn the information over to USDA's Office of Inspector General (OIG) for investigation. Investigations can also be turned over to the Department of Justice for further action, such as a criminal indictment or an action to recover funds. According to RUS officials, fraud cases have been rare and have involved fake invoices and employee theft.

While RUS has risk assessment activities at the application and individual project level and procedures related to fraud risks, RUS has no risk assessment activities at the overall program level. As set forth in the *Green Book,* a precondition to risk assessment is the establishment of clear, consistent program objectives. When clear program objectives are established up front, then internal controls can be designed around the fundamental risk that program objectives will not be met. As previously discussed, RUS does not have clear goals and performance measures in place for its loan and grant programs. RUS officials acknowledged that they have not conducted a formal risk assessment of the broadband loan and grant programs because to date, as noted, they have focused on risk assessment at the application and project level. But a higher-level, programmatic risk assessment would provide a holistic look at the programs' core processes and practices and assess internal controls over each program. Such a programmatic risk assessment could include an examination of risks at the portfolio level for both the portfolio of loans and the portfolio of grants.[22] RUS officials told us that they recognize the need for portfolio risk assessments and would like to put procedures in place in the future to assess the loan and grant portfolios. In late 2016, USDA hired a Chief Risk Officer for the Rural Development mission level. While RUS's efforts to address risks in applications and funded projects and its

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[22]A risk assessment at the portfolio level would seek to identify and examine common risks across all of the loans or grants within a program, as compared to a risk assessment at the project level which focuses on the risks inherent within a single application or project. A programmatic risk assessment, which could include information gained from a portfolio risk assessment, is at a higher level, seeking to identify and examine risks to achieving program objectives, as discussed in the *Green Book*.

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recent creation of the Chief Risk Officer position are positive steps, these efforts are not fully consistent with the level of risk assessment that is intended under the *Green Book.* Those standards call for first establishing clear objectives for each program and then for comprehensively identifying risks to meeting those objectives. Without doing so, RUS is missing information crucial to the thoughtful design of an internal control structure that appropriately considers program risks for each of the three programs.

Application Review Procedures

Leading Practice: Application Review Procedures

Consistent	🔵
Partially consistent	⚪
Not consistent	⚪

Key activities:

- Develop procedures for the review of grant and loan applications that describes the process (describing, for example, the number of panels or reviewers, the methods for assigning applications to panels or reviewers, how the results of the review are recorded, how scoring variances across panels or reviewers are resolved, how panels or reviewers ensure consistent reviews, etc.).

- Use a panel or reviewers who hold relevant expertise, do not have conflicts of interest, apply the appropriate criteria, and are trained.
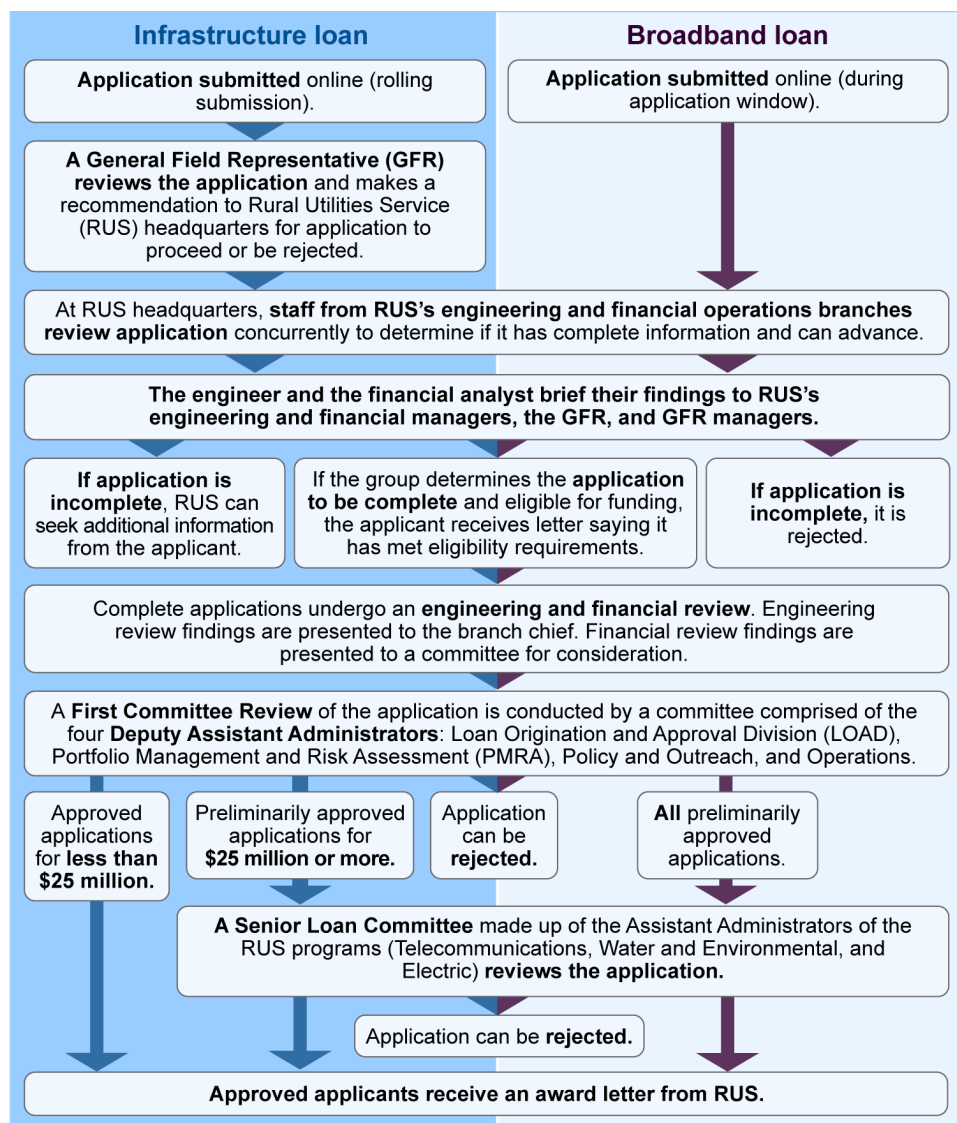
Sources: GAO analysis. | GAO-17-301

RUS has procedures and activities consistent with the leading practice for application review, such as procedures for assigning applications to reviewers, reviewing and scoring applications, recording the results of application reviews, resolving scoring variances, and ensuring consistent reviews across reviewers. We found some differences among the individual loan- and grant-application review processes as a result of the nature of their individual funding mechanisms. For example, the Infrastructure loan application process is not competitive and uses a first-come, first-served procedure as long as the applications meet eligibility requirements. The Broadband Program is a competitive program that currently requires two application windows per year. Priority is given to those applications with the highest percentage of unserved areas. The grant program is also competitive but selects applications based on a scoring process. In addition, RUS has procedures for training reviewers, ensuring relevant expertise and the appropriate application of criteria, and guarding against conflicts of interest. For example, RUS uses a combination of guidance documents and on-the-job training to train reviewers, and helps ensure relevant expertise by hiring staff in particular job classifications for particular types of reviews (e.g., only engineers in the engineering job series conduct the engineering reviews of proposed projects).

With regard to loans, the application review procedures for the Infrastructure Program start in the field, where the GFR conducts the first level of review (see fig. 3, which illustrates the loan review and approval process). For both loan programs, once an application is at RUS headquarters, staff from RUS's engineering and financial-operations branches review the application for completeness. If complete, RUS's financial and engineering analysts, managers, GFR, and GFR managers discuss the eligibility of the applicant. Once a loan application package is determined complete and eligible, it undergoes an engineering and financial review, followed by multi-level reviews and approvals by a number of committees and divisions. RUS officials noted a difference

between the two loan programs in that the Infrastructure Program has a rolling application process while the Broadband Program holds two application submission periods each year.

Figure 3: Rural Utilities Service's Review Process for Its Infrastructure Loan Program and Broadband Loan Program, as of January 1, 2017

Infrastructure loan	Broadband loan
Application submitted online (rolling submission).	**Application submitted** online (during application window).
A General Field Representative (GFR) reviews the application and makes a recommendation to Rural Utilities Service (RUS) headquarters for application to proceed or be rejected.	

At RUS headquarters, **staff from RUS's engineering and financial operations branches review application** concurrently to determine if it has complete information and can advance.

The engineer and the financial analyst brief their findings to RUS's engineering and financial managers, the GFR, and GFR managers.

If application is incomplete, RUS can seek additional information from the applicant.	If the group determines the **application to be complete** and eligible for funding, the applicant receives letter saying it has met eligibility requirements.	**If application is incomplete,** it is rejected.

Complete applications undergo an **engineering and financial review**. Engineering review findings are presented to the branch chief. Financial review findings are presented to a committee for consideration.

A **First Committee Review** of the application is conducted by a committee comprised of the four **Deputy Assistant Administrators**: Loan Origination and Approval Division (LOAD), Portfolio Management and Risk Assessment (PMRA), Policy and Outreach, and Operations.

Approved applications for **less than $25 million.**	Preliminarily approved applications for **$25 million or more.**	Application can be **rejected.**	**All** preliminarily approved applications.

A Senior Loan Committee made up of the Assistant Administrators of the RUS programs (Telecommunications, Water and Environmental, and Electric) **reviews the application.**

Application can be **rejected.**

Approved applicants receive an award letter from RUS.

Source: GAO presentation of RUS information. | GAO-17-301

Like the loan applications, Community Connect grant applications go through a multilevel review process (see fig. 4). To confirm that the area

in question is truly unserved, a GFR physically goes to the area of the proposed broadband project to test that existing broadband services are not present. After the engineering and financial review, the application is scored independently by two GFRs who do not oversee the applicant's area, to avoid any conflict of interest. Each application is scored according to the criteria outlined in the Notice of Funding Availability or Notice of Solicitation of Applications. RUS has guidelines on how to score applications and how many points each criterion is worth. While the expectation is for the two scores to be similar, RUS officials said that occasionally there can be substantial differences. If such variance occurs, the officials review the application again and hold discussions with the Deputy Assistant Administrator and their branch chiefs to determine whether to move the application forward. All awards in the grant program must have been approved by the Administrator.

Figure 4: Rural Utilities Service's Review Process for Its Community Connect Grant Program, as of January 1, 2017
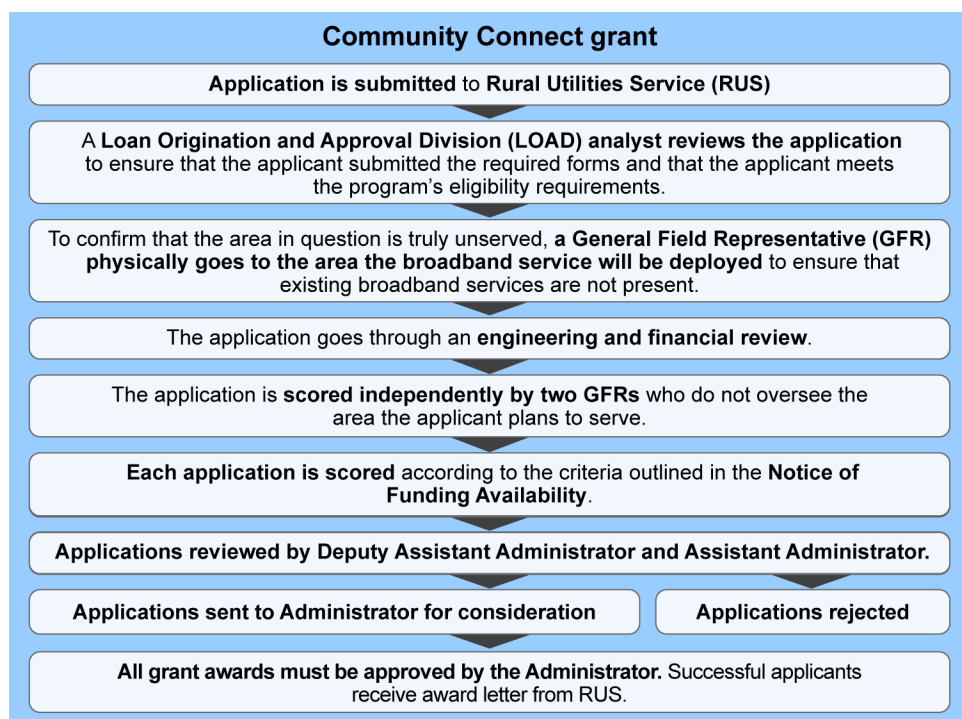
Source: GAO presentation of RUS information. | GAO-17-301

Mapping

Leading Practice: Mapping	
Consistent	◯
Partially consistent	🔵
Not consistent	◯

Key activities:
- Map broadband availability to help both policymakers and service providers determine where to focus their efforts, and to reveal gaps in service to providers that might wish to expand their offerings.
- Establish mapping systems that identify the necessary information requirements, obtain relevant data from reliable sources, and process mapping data into quality information.

Sources: GAO analysis. | GAO-17-301

Currently, RUS's procedures and activities are partially consistent with the leading practice of mapping because RUS has two mapping systems in place, but its mapping information is not complete and the agency has efforts under way to improve its mapping activities. RUS officials told us that they currently use mapping data to determine if the service proposed by an applicant overlaps the service of an existing provider in the same area, and to determine and prioritize grant applications that propose to serve areas with the greatest need. Applicants requesting funding under the Infrastructure Program and Broadband Program for loans and the Community Connect grant program are required to submit maps of their service area and proposed service area. RUS uses a number of sources to collect mapping data, but has two distinct mapping tools. First, applicants upload digital maps of their proposed service areas in RDApply as they submit their applications.[23] Second, applicants can also use the RUS mapping tool, which predates the RDApply mapping system. According to RUS, the mapping tool serves three purposes. First, it can be used by existing borrowers or those interested in applying for loan or grant funding to draw their existing or proposed service-area maps. Second, it can be used by RUS to post Public Notices of applicants' proposed service areas or be used by existing providers to submit information regarding their service offerings. Third, it can be used by any state, local, or other entity that wishes to upload an authenticated map of existing broadband services.

According to RUS officials, they intend that the RDApply system will eventually incorporate the mapping tool information and they will no longer use the mapping tool, but will instead rely on one system. They explained that they are building a mapping system based on recent and current application information because they did not previously require all applicants to submit mapping data. They began requiring submission of geospatial mapping data for the Broadband Program in 2009, for Community Connect in 2012, and for the Infrastructure Program in 2015. According to RUS officials, USDA's Office of General Counsel ruled that they do not have the authority to require past recipients to provide them with mapping data, so they are unable to completely fill in historical mapping information for past projects.

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[23]RDApply is an RUS application system that allows applicants applying for RUS broadband loans and grants to create an application, upload attachments, sign certifications, and draw service areas, among other things.

Presently, RUS has service-area and proposed service-area data for the loan and grant recipients in the RUS mapping tool, which it then overlays with decennial Census data. RUS also incorporates data from federal and state sources, including FCC's National Broadband Map, into the RUS mapping tool.[24] Currently, RUS uses information from the National Broadband Map as part of its review of an applicant's proposed coverage area. However, according to RUS, it has found the National Broadband Map to have accuracy limitations. We testified before Congress in April 2016 that when a service provider reports any availability of high-speed Internet in a Census block, the entire block was counted as served in FCC's National Broadband Map.[25] As we testified, this reporting could overstate service in rural areas, which generally constitute large Census blocks.[26] RUS officials told us that they do not have a mapping system that houses extensive broadband service-area data. RUS officials told us that they are in the process of improving the data and their broadband-mapping capabilities as they move to improve their RDApply mapping information and move to having one mapping system. If successful, this effort should lead to improved information about the location of rural broadband services. Going forward, improved mapping information can help RUS begin to use its mapping information to determine if there are unserved rural areas where it should consider additional outreach.

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[24]The National Broadband Map was originally created by NTIA in collaboration with FCC, using data that each state, territory, and the District of Columbia collected from broadband providers or other sources. It was first published in February 2011 and updated every six months through April 2015 with data from the State Broadband Initiative. Data displayed on the National Broadband Map site are as of June 30, 2014, and have not been updated since. In May 2015, NTIA transferred the map to FCC. FCC now collects broadband deployment data twice a year from service providers through the Form 477 data collection, beginning with data as of December 2014 (available at https://www.fcc.gov/general/form-477-resources-filers). FCC is actively reviewing how best to update the data in the National Broadband Map.

[25]Census blocks are the basis for all geographic boundaries for which the Census Bureau tabulates data. Census blocks are statistical areas bounded by visible features such as roads, streams, and railroad tracks, and by nonvisible boundaries such as property lines, city, township, school district, county limits, and short line-of-sight extensions of roads.

[26]GAO, *Tribal Internet Access: Increased Federal Coordination and Performance Measurement Needed*, GAO-16-504T (Washington, D.C.: Apr. 27, 2016).

External Training

Leading Practice: External Training	
Consistent	●
Partially consistent	○
Not consistent	○

Key activities:

- Identify external training needs.
- Develop a mechanism that allows grant and loan applicants and recipients to establish and maintain a level of subject-matter expertise and competence so that they can fulfill their responsibilities.
- Develop training that helps grant and loan recipients obtain sufficient understanding of regulations, policies, and procedures governing their grants or loans.

Sources: GAO analysis. | GAO-17-301

RUS has procedures and activities that are consistent with the leading practice of providing external training to prospective applicants, applicants, and recipients of its loan and grant programs. For example, we found that, over the past 5 years, RUS has held a number of external training and outreach events, such as workshops and seminars, to provide a range of information about its broadband loan and grant programs to rural communities and prospective applicants. For example, RUS has hosted multi-day construction and engineering workshops on broadband engineering and construction issues. RUS also hosted workshops on contract administration issues, such as the financial, accounting, and audit processes and requirements for the programs. RUS has also provided technical training on system installation. In addition, RUS representatives have participated in conferences held by broadband trade associations and other groups, setting up information booths or holding information sessions on the RUS programs. For applicants, RUS has held webinars on the loan- and grant-application processes. While RUS does not have a formal process for identifying external training needs, the agency assesses and makes training decisions at the beginning of each fiscal year or when there are available funds. According to an RUS official, decisions are made after consulting with the GFRs, state officials, and RUS loan and grant recipients.

Officials representing all six loan and grant recipients we spoke with had participated in external training provided by RUS. Project recipients participated in at least one training course and felt that the RUS training was helpful. Moreover, all six recipients said that their GFR was critical to obtaining necessary program information by providing ongoing support and assistance, such as assisting applicants in filling out the forms for the loan programs and helping explain program policies or procedures.

Project Monitoring

Leading Practice: Project Monitoring	
Consistent	◯
Partially consistent	🔵
Not consistent	◯

Key activities:

- Establish baselines, goals, and performance measures for projects.
- Establish a system of internal control for monitoring projects.
- Identify problematic issues and design and take corrective actions.
- Require periodic reviews, including progress reports.
- Establish corrective actions, including penalties, for serious and frequent offenses of program requirements.
- Evaluate project results.

Sources: GAO analysis. | GAO-17-301

RUS's procedures and activities are partially consistent with the leading practice of project monitoring because RUS has in place a number of monitoring and oversight activities of program recipients, but RUS does not currently evaluate Community Connect project results. According to the *Green Book,* effective project monitoring incorporates a process that helps ensure that project goals are identified, tracked, and met. Project monitoring should include corrective actions to address identified internal-control issues and penalties for serious and frequent offenses of program requirements. Project activities are to be evaluated and reported on a regular basis to help determine whether changes are needed to better meet project goals and detect fraud and abuse.

A July 2014 RUS reorganization resulted in separate divisions for overseeing the different phases of RUS projects. Prior to the reorganization, analysts were responsible for overseeing each loan and grant project from beginning to end. The reorganization split the responsibilities by divisions—Loan Origination and Approval Division (LOAD) oversees all project applications and approvals, while Portfolio Management and Risk Assessment (PMRA) is responsible for monitoring all broadband loans and grants and has procedures for tracking performance and monitoring projects. While there are some differences in the monitoring requirements for the three programs, PMRA tracks the following for all projects:

- *Subscriber number and service area:* Applicants are required to provide details on the service area and the number of subscribers intended to be served. The GFR is responsible for visiting the designated service area to ensure that these goals are met.

- *Deliverables and time frames:* PMRA reviews recipients' contracts with construction firms and the related invoices to evaluate recipients' progress toward established deliverables and project milestones.

- *Progress reports:* Project recipients are required to submit progress reports to RUS. According to RUS officials, Community Connect grant recipients submit annual progress reports to their GFRs while Infrastructure Program and Broadband Program loan recipients are required to submit quarterly progress reports as well as an annual report. Progress report data are tracked in RUS's Broadband Collection Analysis System and Data Collection System.

- *Financial information for loans:* The financial information required in the progress reports includes balance sheets, income, debt service ratios, cash flow, and long-term debt. PMRA analysts evaluate the

financial data against broadband miles constructed and the number of subscribers to ensure compliance with the project goals and flag any potential issues.

- *Monitoring duration:* Community Connect grants are monitored for the duration of the grant project, typically up to the 3 years the program allows for construction and implementation; all recipients are required to submit a project performance-activity report and audit report annually. Infrastructure Program and Broadband Program loans are monitored for the life of the loans and audited for compliance every 2-5 years until all funds are disbursed . A final audit is conducted after all funds are disbursed. Annual audited financial statements are reviewed annually until the loans are paid in full.

The two grant and four loan recipients we spoke with confirmed that their GFRs make site visits to ensure the eligibility of the area to receive service. While the number of visits may vary, the recipients said that work by their GFRs ranged from evaluating construction progress and ensuring compliance with contract goals and deliverables to validating billing statements. They also stated that actions that RUS can take for non-compliance are laid out in their loan or grant agreements.

While RUS established many project-monitoring activities, with regard to the key activity of evaluating project results, we found that RUS evaluates loan performance but does not review post-award grant program performance. For loans, RUS necessarily follows loan projects through the repayment process—which is often 20 years or more—and evaluates what happened when a loan recipient defaults. However, for grants, once a Community Connect grant is fully disbursed, RUS does not conduct any evaluation of whether the grant recipient is still providing broadband service at a later date or measure the effectiveness of the project in meeting its goals. RUS officials told us that they would like to go back and evaluate grant projects, but that staffing resource constraints have prevented them from doing so. However, not periodically evaluating grant project results affects RUS's ability to measure the outcomes and success of its grant program. Without analysis of post-award project successes or failures, Community Connect program managers are missing information that could be used to determine if programmatic changes might improve the selection of grant recipients or the results of grant awards.

External Communication

RUS's procedures and activities related to its communications with program applicants and recipients are consistent with the leading practice of external communication. RUS provides outreach efforts to publicize its broadband loan and grant programs through workshops and seminars located around the country, and to provide information on program requirements, key dates, funding availability, and the review processes, including how applications are scored. Both RUS headquarters employees and GFRs in the field conduct outreach efforts. According to an RUS official, it is not cost-effective to visit very remote areas to disseminate information about their programs, but they do try to hold their workshops in areas where there may be an interest in the programs. For example, the workshops that RUS has held in recent years included a 2014 Telecommunications Workshop held in Clanton, Alabama, which has a population under 9,000, and a 2-day workshop in 2015 held in the Washington State Rural Development Office in Olympia, Washington, that covered broadband access and deployment. To reach out to others, RUS's website contains information on its programs, including information about eligibility criteria, corresponding regulations, time frames, and frequently asked questions.

Applicants can get pre-application assistance from their GFRs and RUS headquarters staff. Applicants can also obtain program application guidance on the RUS website, including fact sheets, process information, and application instructions. We reviewed documentation and interviewed officials and found that RUS sent eligibility, acceptance, and rejection letters that explain how decisions were reached. RUS also publicizes information on loan and grant awards through press releases and announcements on its website.

All six recipients we spoke with said that their GFR was their primary communication link, followed by someone in the RUS headquarters office. The recipients' views about RUS's external communication ranged from "adequate" to "excellent." Typically, the recipients would first reach out to their GFRs and then to RUS headquarters if a GFR could not answer the question. Recipients also said that they would try to get information and answers on the RUS website; however, as one recipient noted, it is easier to ask the GFR. Overall, the recipients said that RUS's external communication efforts kept them informed. Specifically, recipients praised their GFRs' efforts to inform them about relevant events, such as available funding, upcoming application periods, and deadlines.

Internal Communication

Leading Practice: Internal Communication	
Consistent	⬭
Partially consistent	🔵
Not consistent	⬭

Key activities:

- Establish an organizational structure, including well-defined reporting lines, to permit the flow of quality information and to assist agency staff and recipients in fulfilling their responsibilities.
- Establish mechanisms to facilitate communication throughout the organization.
- Establish mechanisms to obtain relevant data in a timely manner based on identified project information requirements.
- Use a centralized system to monitor grant and loan awards, including correspondence and deliverables.

Sources: GAO analysis. | GAO-17-301

RUS's procedures and activities are partially consistent with the leading practice of internal communication as it has established an organizational structure to permit the flow of information to assist agency staff and recipients, appropriate methods of communication throughout the organization, and mechanisms to obtain relevant data based on identified project information requirements. However, RUS falls short of this leading practice in that it does not have a centralized system to obtain relevant data to monitor grant awards and loans, including correspondence and deliverables.

As noted above, RUS established a new organizational structure in 2014 to consolidate expertise and assist agency staff in fulfilling their responsibilities. For example, the new organizational structure has clearly defined reporting lines that include four divisions with respective Deputy Assistant Administrators. These divisions oversee operations, loan origination and approval, portfolio management and risk assessment, and policy and outreach. With regard to communication methods, internal meetings are held on an ad-hoc basis throughout the year, and at the Rural Development mission area level, regular announcements and notices are sent to the various offices. As discussed earlier, RUS's application review process includes numerous meetings and distribution of pertinent information throughout the process among field and headquarters staff.

RUS has multiple software systems to monitor loan and grant data, and both division and field staff are responsible for collecting and monitoring data. However, the current loan and grant data are not aggregated or housed in a centralized database. According to RUS officials, RUS has updated the application system with RDApply, but in addition to that, uses a number of different databases that are mostly legacy systems and antiquated. RUS headquarters and field staff can access pertinent data from the various software systems. However, RUS officials told us they cannot conduct complex analyses, but can produce data such as, for example, spreadsheets on how many obligations have been made since a particular year. RUS officials told us that they want to move to a modern, single, centralized database that would enable them to conduct analyses of all loan and grant applications. RUS officials said that USDA's information technology department is working on a new software system, but RUS was not able to provide us with a plan or implementation timelines for when the system would become operational. Moving toward a centralized system would allow RUS to more effectively monitor loans and grants and more fully analyze program performance.

Written Documentation

RUS's procedures and activities are partially consistent with the written documentation leading practice. According to the *Green Book,* an effective management framework for grants and loans includes developing and maintaining written documentation as a means to obtain and retain organizational knowledge and to ensure accountability for achieving agreed-upon results. Although RUS has effectively developed written documentation to communicate to program applicants and recipients, we found that RUS has not consistently updated its written policies and procedures to retain organizational knowledge and to communicate loan- and grant-management knowledge internally among its staff.

For each of the three programs, RUS has updated application guides to assist applicants in the application process. For Community Connect, RUS created an application guide for fiscal year 2016. The current application guides for both the Broadband Program and the Infrastructure Program incorporate updates regarding the eligibility of equipment and facilities for funding. For the benefit of applicants and recipients, we found that RUS has periodically issued announcements and letters pertaining to the programs, frequently asked questions, and fact sheets. Furthermore, information about the three programs and their application documents are online.

According to RUS officials, RUS documents its award decisions. RUS conducts an initial assessment of applications to determine whether an application meets eligibility requirements, is complete, or needs clarification. For those not complete, RUS would send the applicant a letter stating the deficiencies or with questions. The applicant would have 30 days to address the concerns of the letter and amend the application in order for it to continue through the decision making process. Once final application decisions are made, RUS notifies the applicants of the decisions and reasons for denial of loan or grant. Recipients are required to sign agreements which lay out their expectations during the course of the awards.

The six loan and grant recipients we spoke with told us that the application processes are lengthy and require a great deal of information. However, two recipients for the Community Connect and Infrastructure Programs told us that they found the written documentation for the processes to be relatively clear and straightforward. RUS has provided guidance and templates that have been helpful to some of the recipients.

While written guidance to assist applicants and recipients exists, since its reorganization in 2014, RUS has not fully updated written documentation for loan and grant management policies and procedures to communicate knowledge among its staff. For the Community Connect program, RUS has updated its staff instructions, templates and worksheets for determining eligibility, conducting technical reviews, and scoring the applications. For the Infrastructure Program, RUS provided us with revised application checklists, loan checklists, and post-award project-visit checklists to be used by the GFR. For the Broadband Program, RUS provided us with the program's initial application review report. However, RUS does not have any formalized staff instructions for processing the Broadband Program's loan applications. According to one RUS official, employees use checklists and review packets similar to those for the Infrastructure Program. Moreover, the dates of other checklists and instructions RUS provided range from 1995 to 2011, and some of them make reference to agency offices that no longer exist.

RUS officials told us that they have not been able to update employee manuals on the grant and loan programs due to resource constraints. While we were told that engineers (job series 855—Professional series for engineers) and financial analysts (job series 1101—Business-Industry Analyst) review the applications, the grant- and loan-review process steps are not written down. New employees are assigned a mentor and learn their responsibilities through on-the-job training. The GFR manual is dated March 2007 and has not been updated to reflect organizational changes within RUS. According to one of the loan recipients we spoke with, new RUS employees seemed to have a difficult time ensuring that they are passing correct information to program applicants.

The Telecommunications Division responsible for overseeing the broadband grant and loan programs consists of employees located in its headquarters and GFRs located in 27 regional territories throughout the country. Since fiscal year 2000, the Telecommunications Division's approved full-time equivalents (FTE) have decreased about 25 percent, from 133 FTEs in fiscal year 2000 to 98 FTEs in fiscal year 2016. We found that much of the critical knowledge of these programs resides in one key official located at headquarters, who is close to retirement. Furthermore, several of the recipients we spoke with noted that their GFR has changed, either due to retirement or reassignment. These changes could negatively affect the agency in efficiently carrying out its tasks, unless the agency has documented detailed information on how the programs are to be managed for the next generation of RUS officials.

Coordination Mechanisms

Leading Practice: Coordination Mechanisms

Consistent	⬤
Partially consistent	◯
Not consistent	◯

Key activity:
- Collaborate and coordinate with federal agencies to minimize redundancy and remove regulatory barriers.

Sources: GAO analysis. | GAO-17-301

RUS's procedures and activities for coordinating and collaborating with other federal agencies are consistent with the leading practice of coordination mechanisms, which should help the agencies in minimizing redundancies and removing regulatory barriers, for example:

- In 2014, RUS and FCC, the other agency with primary responsibility for providing rural broadband funding, entered into a memorandum of understanding (MOU). The MOU was intended to govern the sharing of data between the agencies, thereby improving federal coordination and facilitating the agencies' efforts to carry out the responsibilities of their broadband-funding programs. For example, documentation we reviewed showed RUS and FCC staff coordinating on issues regarding carriers that use both agencies' programs, data resulting from carrier audits, and questions about program rules.

- RUS signed an interagency agreement with the Environmental Protection Agency (EPA) in September 2015 to provide technical assistance for the Cool & Connected project, which aims to support community development by leveraging investments in Internet access. The agreement states that the two agencies will provide technical assistance to the partner communities and conduct outreach for the Cool & Connected project. The technical assistance includes consultations, analysis, and workshops to help members of the partner communities develop action plans for improving broadband access and revitalizing downtowns and traditional neighborhoods in rural areas. According to the agreement, both RUS and EPA will invest financial resources into the project and both agencies will offer the services of headquarters and field staff to provide technical assistance.

In addition, the Department of Agriculture co-chairs the Broadband Opportunity Council, an effort involving 25 federal agencies and departments with missions or programs with the potential to drive broadband infrastructure investment and adoption. The Broadband Opportunity Council seeks to foster increased collaboration among agencies, to identify regulatory barriers and additional opportunities to improve broadband access, and to elevate the importance of broadband as a cross-cutting policy objective across the federal government. The Broadband Council issued a report in 2015 with dozens of action items intended to improve broadband nationwide and, in January 2017, issued a progress report stating that more than one-third of the action items had been completed by the federal agencies involved.

Conclusions

By following leading practices related to program management, federal funding, and broadband deployment, RUS can more effectively and efficiently use its resources to help promote the deployment of broadband infrastructure to rural areas that are currently unserved or underserved. RUS has established procedures and activities that are consistent with leading practices in the management of its broadband infrastructure loan and grant programs in several areas, including its application review process, its external training of and communication with program participants, and its collaboration with other federal entities on efforts related to broadband deployment. With regard to mapping, we believe that RUS's plan to obtain mapping information from recipients going forward will help RUS to better align with the leading practice in this area. In other areas, RUS is consistent with some key activities of leading practices, but further incorporation of key activities could enhance its loan- and grant-program management. Most fundamentally, RUS needs to develop clear goals and performance measures for each of its three programs. With regard to risk assessments, RUS established procedures to conduct numerous risk-assessment activities at the application and project level. However, an assessment of each program could help RUS determine whether modifications to business practices and internal controls are necessary to cost-effectively address programmatic and portfolio-level risks. Similarly, RUS established procedures to actively monitor loan and grant projects in numerous ways, but has not evaluated the outcomes of its grant awards over time. Such an evaluation could better inform RUS as to whether changes to Community Connect are warranted to help improve the outcomes for the communities served by the grant projects. Internally, RUS could improve its practices by establishing a centralized data system and improving its written documentation for the benefit of its staff. These actions to improve RUS's consistency with leading practices can help the agency build a stronger foundation for successful program management.

Recommendations for Executive Action

To improve RUS's management of the Infrastructure Program, Broadband Program, and Community Connect by more closely following leading practices for broadband loan- and grant-program management, we recommend that the Secretary of Agriculture direct RUS to take the following five actions.

- Develop and document clear goals and performance measures linked to those goals, for each program.

- Establish and implement procedures to conduct a risk assessment of each program, including an examination of risk at both the programmatic and portfolio level for each program.

- Establish and implement procedures to conduct periodic evaluations of completed grant projects to determine the outcomes associated with these projects, and analyze the information gained to assess if any programmatic changes are needed to improve the Community Connect program.

- Establish a timeline for implementing a centralized internal system for staff to obtain relevant and timely program data for use in managing and monitoring loans and grant awards.

- Develop, update, and maintain complete written policies and procedures for RUS's programs as a way to retain and communicate organizational knowledge internally among agency staff. RUS should determine the critical documentation that should be created or updated, including considering documentation such as loan-application review guidance and employee manuals for each of the three programs.

Agency Comments

We provided a draft of this report to USDA, FCC, and NTIA for review and comment. USDA agreed with our recommendations. USDA, FCC, and NTIA provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of the United States Department of Agriculture, the USDA's Under Secretary for Rural Development, the Chairman of the Federal Communications Commission, the Secretary of the Department of Commerce, and the Assistant Secretary for Communications and Information at the National Telecommunications and Information Administration. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or members of your staff have questions about this report, please contact me at (202) 512-2834 or goldsteinm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix II.

Mark L. Goldstein
Director, Physical Infrastructure

Table 3: GAO Assessment of the Extent to which the Rural Utilities Service's Procedures and Activities Are Consistent with Leading Practices in the Management of Broadband Funding Programs

Leading practice	Key activities associated with the leading practice	Assessment
Program performance measurement	• Establish a process that ensures program goals are identified, tracked, and fulfilled. • Develop performance measures that link directly to stated program goals. • Establish a process to evaluate and document the results of program measurement activities, including plans for corrective actions.	Partially consistent
Risk assessment	• Define program objectives. • Define the program's risk tolerances. • Establish a process to conduct risk assessments to identify and analyze risks to achieving program objectives. • Conduct risk assessments to identify and analyze risks for credit programs. • Determine the program's fraud risk factors and the types of fraud for which the program is most at risk. • Determine and conduct the appropriate responses to identified risks.	Partially consistent
Application review procedures	• Develop procedures for the review of grant and loan applications that describes the process (describing, for example, the number of panels or reviewers, the methods for assigning applications to panels or reviewers, how the results of the review are recorded, how scoring variances across panels or reviewers are resolved, how panels or reviewers ensure consistent reviews, etc.). • Use a panel or reviewers who hold relevant expertise, do not have conflicts of interest, apply the appropriate criteria, and are trained.	Consistent
Mapping	• Map broadband availability to help both policymakers and service providers determine where to focus their efforts, and to reveal gaps in service to providers that might wish to expand their offerings. • Establish mapping systems that identify the necessary information requirements, obtain relevant data from reliable sources, and process mapping data into quality information.	Partially consistent

Leading practice	Key activities associated with the leading practice	Assessment
External training	- Identify external training needs. - Develop a mechanism that allows grant and loan applicants and recipients to establish and maintain a level of subject-matter expertise and competence so that they can fulfill their responsibilities related to compliance with the terms and conditions of the program. - Develop training that helps grant and loan recipients obtain sufficient understanding of regulations, policies, and procedures governing their grants or loans.	Consistent
Project monitoring	- Establish baselines, goals, and performance measures for projects. - Establish a system of internal control for monitoring projects. - Identify problematic issues and design and take corrective actions. - Require periodic reviews, including progress reports. - Establish corrective actions, including penalties, for serious and frequent offenses of program requirements. - Evaluate project results.	Partially consistent
External communication	- Establish procedures for outreach efforts to potential applicants. - Provide relevant information, prior to making award decisions, on program requirements, time frames, and review processes. - Establish a process to provide pre-application assistance. - Establish a process to notify successful and unsuccessful applicants of selection decisions in writing and provide feedback on applications. - Ensure transparency by making program documents, policies, procedures, and decisions publicly available. - Publish information on the number of grants and loans awarded annually.	Consistent

Leading practice	Key activities associated with the leading practice	Assessment
Internal communication	• Establish an organizational structure, including well-defined reporting lines, to permit the flow of quality information and to assist agency staff and recipients in fulfilling their responsibilities. • Establish appropriate methods of communication throughout the organization. • Establish mechanisms to obtain relevant data in a timely manner based on identified project information requirements. • Use a centralized system to monitor grant and loan awards, including correspondence and deliverables.	Partially consistent
Written documentation	• Document the rationale for award decisions, including the reasons individual projects were selected or not selected and how changes made to requested funding amounts may affect applicants' ability to achieve project goals. • Develop and maintain written policies and procedures as a means to obtain, communicate, and retain organizational knowledge among agency staff. • Develop and maintain guidance specific to each grant and loan program, including documentation to outline recipient and agency expectations, and to ensure accountability for achieving agreed-upon results.	Partially consistent
Coordination mechanisms	• Collaborate and coordinate with federal agencies to minimize redundancy and remove regulatory barriers	Consistent

Source: GAO analysis. | GAO-17-301

Appendix II: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

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