Fiber Dominates First Batch of ReConnect Awards

The Rural Utilities Service made good on its promise of world-class service. The first ReConnect grants and loans offer convincing proof that private investment could work in unserved and underserved areas, even though Wall Street shuns them.

By Steven S. Ross / *Broadband Communities*

If you are looking for money from the U.S. Department of Agriculture's ReConnect program for rural broadband, our advice is clear: Your network diet should include a lot of fiber. In fact, ideally it should be all fiber.

Keynoting the **Broadband Communities** Summit in April 2019, new Rural Utilities Service (RUS) administrator Chad Rupe made clear that building barely adequate broadband networks in rural areas made no sense and that his agency would not waste funds on networks that would soon be inadequate. My analysis of the first 54 ReConnect awards – 30 grants, 19 grant-loan combinations and five loans totaling more than $550 million – showed that he was serious. Fifty of the funded networks are to be pure fiber to the premises. The other four all use fiber in various combinations with hybrid fiber coax, cellular or point-to-point wireless.

Notably absent were patchwork solutions such as satellite, pure wireless or TV white space. They all have their place, especially for those looking for money from the Rural Digital Opportunity Fund at the Federal Communications Commission (FCC). But RUS has other ideas.

SURPRISINGLY AFFORDABLE

Perhaps the biggest eye-opener was that the average cost of going first-class is surprisingly affordable – $4,712 for each of 116,200 households and more than 500 other premises, scattered across 17,000 square miles, an area bigger than Massachusetts, Connecticut and Rhode Island combined. The range of project sizes and population densities was also remarkable, as seen in Table 1. As you look at the table and project details, remember that these networks are being built in areas with population densities so low that, at most, just 10 percent of the households have telecommunications services of any kind now.

The median cost to pass a premises was $5,312. A commercial build, with no government help, would have to include $35 per month in the customer bill to pay off the construction debt in 20 years at 5 percent interest. Overheads and costs of services would raise that monthly bill to about $100 for pure broadband (no video or other services). If only 70 percent of the homes passed actually bought the service, the bill would rise to about $115.

That's not cheap, but it is not ridiculously expensive either. Indeed, three organizations that won both loans (at 2 percent interest) and grants took only the grants. They used a mixture of their own free cash and other resources – including commercial loans – instead. Having gone through the process, they returned $36 million to RUS. That money was quickly recycled to new grantees. The awards accepted by the three award winners that turned down the RUS offer of 2 percent money are highlighted in the grant-loan recipients table in the online version of this article. In the

	AREA (SQUARE MILES)	HOUSEHOLDS	OTHER PREMISES	PREMISES PER SQUARE MILE	AWARD	COST PER PREMISES PASSED
Maximum	1,870	22,604	64.00	81.04	$48,000,000	$68,686
Minimum	1.6	40.0	–	0.55	$397,749	$1,089
Average	315	2,152	9.37	15.68	$9,499,847	$4,712
Median	150	816	3.50	9.51	$5,347,928	$5,312

Table 1: In Broadband Communities' analysis of the first 54 ReConnect awards, the median cost to pass a premises was $5,312. Note: In this table, each column is independent; no one project actually hits all the minimums or maximums.

tables, the cost to pass a premises was adjusted to reflect the actual cost, not the award amount.

Some award winners did have a head start – they typically were already serving nearby areas and often had facilities – even existing trunks – but were offering few or no services in the areas in which RUS funded builds. We know this because many awardees and their consultants used **Broadband Communities'** financial models and called me for free, confidential help. States also have started aiding broadband deployers in more robust ways. The result is that these new service areas are often divided precisely and oddly – some get RUS money, some get help from a state or the FCC.

The decision to ask for a loan, a grant or a combination was not entirely based on a project's overall cost or per-premises served cost (see Table 2).

GRANTS BIG AND SMALL

The largest project award was $48 million. The smallest award was $397,749. The smallest project (an island in Maine) has 40 customers. The largest has almost 23,000 across a land area one and a half times the size of Rhode Island. The most dense project had 81 premises per square mile, and the least dense had just one premises per 2 square miles. All the details are in the three tables.

Overall, premises density is not as important as premises passed per road mile. As I put this analysis together, I had full data on only a few deployers – the exact boundaries of their service areas and their own premises count. But I had enough details to match their projects with U.S. Geological Survey

	AREA (SQUARE MILES)	HOUSEHOLDS	OTHER PREMISES	PREMISES PER SQUARE MILE	AWARD	COST TO RUS/ PREMISES PASSED
GRANT						
Maximum	1,003	8,749	44	81	$23,726,478	$ 68,686
Minimum	1.6	40	0	0.6	$397,749	$ 1,089
Average	197	1,348	6	17	$6,317,554	$ 2,647
Median	104	537	3	10	$4,263,837	$ 5,361
LOAN+GRANT						
Maximum	1,870	8,683	64	53	$40,261,318	$ 17,688
Minimum	16.0	237	0	1.2	$1,150,000	$ 1,503
Average	413	2,225	15	13	$12,352,148	$ 5,512
Median	61	546	2	9	$7,934,762	$ 6,306
LOAN						
Maximum	1,847	22,604	28	49	$48,000,000	$ 5,282
Minimum	34	566	1.0	3.9	$1,999,439	$ 1,089
Average	648	6,698	10	16	$17,754,856	$ 2,647
Median	158	1,676	6	8	$3,793,234	$ 5,099

Table 2: The biggest awards were in all-loan or loan-plus-grant combinations. Except for a few outliers, the range of builds and the typical build sizes and costs were not that different from all-grant packages.

AWARD WINNERS	
For-profit local exchange carrier	21
Telephone co-op	17
Public (municipal, local or regional agency)	8
Electric co-op	6
Other ISP, tribal	2
Total	54

Table 3: Co-ops and local exchange carriers dominated the grantee list.

maps only because they had discussed the projects with me on a confidential basis. Suffice it to say that some population distributions were far from uniform across vast land areas.

Since 2004, this magazine has championed the idea that any responsible party should be able to build a good broadband network if it wants to. RUS cast a wide net and captured a wide variety of deployers (see Table 3).

The USDA recently added 16 more projects to the 54 we have analyzed in detail. A few more are pending. The awards now total $621,135,838 in grant and loan funding; about $15 million is left to award in the first ReConnect round. The service areas funded now cover 157,562 households. As of press time, I was not able to conduct a detailed analysis of the 16 new project awards.

The USDA received 146 applications between May 31, 2019, and July 12, 2019, requesting $1.4 billion in loans and grants. Many of the network operators that were not funded in the first round tell us they are applying again. The deadline for the second-round applications, another $600 million, has been extended to April 15, 2020. ❖

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Three tables describing the first 54 ReConnect awards are available in the digital edition of this article at **www.bbcmag.com**.