Beyond Rural Walls:
A Scholars' Conversation About
Rural and Urban Spaces

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Acknowledgments

*I*n November 2015, the Foundation for Rural Service and Smart Rural Community, an initiative of NTCA–

The Rural Broadband Association, hosted *"Beyond Rural Walls: Identifying Impacts and Interdependencies*

Among Rural and Urban Spaces" in Washington, DC. A white paper of the same title exploring rural and

urban relationships was presented by Joshua Seidemann, NTCA Vice President of Policy, and was followed

by a panel discussion among Charles Fluharty, Ph.D., founder, President and CEO of the Rural Policy Research

Institute; Norman Jacknis, Ph.D., Senior Fellow at the Intelligent Community Forum; and Sharon Strover, Ph.D.,

Philip G. Warner Regents Professor in Communication and former Chair of the Radio-TV-Film Department

at the University of Texas. The panelists were asked five questions: (1) Does broadband enable economic

and other benefits? (2) As rural and urban relationships are explored, how is "rural" defined? (3) What are the

interdependencies between rural and urban spaces? (4) What challenges do rural areas face? (5) How does rural

broadband deployment enable benefits that accrue to both rural and urban areas?

This report provides excerpts from the panel discussion.

NORMAN JACKNIS: The impact of broadband, when used intelligently, is dramatically greater in rural areas. Broadband and globalization, which we are all facing, is making the dividing lines between rural and urban really get a lot fuzzier. Even the definition of "suburban"—I live in a suburban area in theory, but I am a five minute drive from three active farms.

SHARON STROVER: The availability of infrastructures is a necessary first step, but there are some necessary second and third steps, as well. A lot of what national statistics say about people in metropolitan areas holds true for people in rural areas, as well, with respect to the reasons that people do not use the Internet or do not avail themselves of broadband subscriptions, even when they are available, and that has a lot to do with affordability.

Secondly, it has to do with what people often frame as lack of interest, but what I frame as not really understanding what's available and what one can do with connectivity. So, it is kind of an education and training issue that is afoot.

I would also like to highlight and hope we get a chance to talk about another critical institution, and that is libraries. Libraries, in many states, are housed within systems that can neatly address both urban and rural areas, and I think it's been an under-tapped, under-utilized resource that hopefully we can talk about some more.

CHARLES FLUHARTY: What is rural, and how does it relate to urban?

Those questions will not be solved today, but I thought I would just share a couple thoughts to frame some things that you may not be thinking about in the usual course of events, to maybe add a little value to the discussion.

Half the rural people in the United States live in urban areas. The interdependency simply exists. I think we should stop talking about rural and urban, and start talking about regional innovation. And your [telecom] sector is the one that brings that to us.

I just think it is really surreal that we still have this challenge validating a rationale for rural equity in this sector and understanding our nation's stake in rural connectivity. It is absurd that we are having this discussion in a domestic-policy framework, when most of the world has solved it.

The OECD [Organization for Economic Cooperation and Development] report, "Growth in All Nations," is the deepest look at developed economies and the relationship between global city hegemony and outlying rural impact upon GDP. And it finds that global city metropolitan areas contribute 32 percent of all GDP growth in all developed nations, and all the rest of that long tail—the rural regions of our nation—contribute 68 percent of our GDP growth. This is a national issue; it is not a state issue or a rural issue.

Secondly, over the past three or four weeks, just in my journey around talking about rural policy, I learned something amazing: Governor Hutchinson in Arkansas has created a major commitment to create computer science as a core curriculum in every school. Every school in Arkansas, in five years, will have a core curriculum in coding.

The question I ask is, is that not, perhaps, the best and brightest extraction strategy on Earth if the regions in Arkansas where those kids come from do not have good broadband connectivity?

We have the same number of Boomers as we have Millennials in this country, and there is an emerging trend that is saying they are coming together and they want to go to rural places. But those Millennials are not going to come there if we don't have broadband.

Finally, just a quick thought on our culture of health with telehealth: that is really the most important thing in rural America, and it goes beyond data and metrics. It goes to building a culture of a sustaining people and place in rural America, and if we do not have broadband, we simply do not do that.

Rural America has three major concerns we are not thinking about, and much like Eisenhower thought about defense and gave us our road system, we need to think about broadband in three areas that we are not talking enough about at a macro domestic policy issue.

We have 650 micropolitan regions in the United States, urban areas of 10,000 to 50,000 people. There is hope in a hub and spoke for a massive rural region. Those 650 areas are really the micro anchor institutes for a whole new way to think about domestic policy. Three issues: disaster resilience (sixty percent of our population lives within a county of a coast); security—we need better communications across our country, period; and, pandemic and climate change. We need a domestic policy that coordinates every countryside.

"We need a domestic policy that coordinates every countryside."

MODERATOR: *Let's talk about definitions of rural and urban. Traditionally, they have really relied upon how many people are in a particular space. Are these categories useful? Are they relevant? Is there an alternative?*

NORMAN JACKNIS: Well, there is obviously still some political relevance in financial and government programs. But they've always been sort of fuzzy, and it's gotten worse.

I think the issue here, though, is that broadband communications is a way of diminishing distance. And what does that mean? It means, virtually, you can have people living in rural areas who together can be a metropolis, a virtual metropolis, or can be participants in a physical metropolis that is hundreds of miles away. What is the dividing line, then? If so much economic activity is happening online, do the number of physical neighbors matter?

SHARON STROVER: I would certainly agree, and I think the utility of these definitions has shrunk over time. The definitions are tied to particular programs that needed to measure populations for specific reasons, and as many of us realize, there are all kinds of other services that have very different definitions that overlap or slip through.

NORMAN JACKNIS: We all think about these as definitions as if people are sitting in the same place. There is a phenomenon, certainly it is true in New York, California, Washington, Canada, where people spend three or four days in a city and three or four days in what we call "the country." Are they rural residents? Are they urban residents? What are they? As long as they have connectivity, you cannot tell.

CHARLES FLUHARTY: Those definitions are either project or funding definitions, and the challenge that presents is that every one of our sectors is working together in more integrative ways about collective impact.

I would also say the political economy of this is radically changing. We are going to have to think regionally about innovation, collective impact, and we will need to think about ecosystems, including the human side of that and the natural resource side of that.

And, if we can think about that Millennial and that Boomer return to rural areas—and it is starting to happen, and it happens where broadband exists, and nowhere else, then we will see a whole new change in political economy. We will know we are there when that woman who is the mayor of a micropolitan region views herself not as the next great MSA mayor—metropolitan statistical area—but as the regional leader for a 20-county innovation system for a rural future. And that is our change.

NORMAN JACKNIS: We are so accustomed to hearing about sad stories in rural areas; and, yet, there is a positive but a problematic side effect to this.

I did some work with Rural Eastern Ontario, in Canada, and some of those areas that have broadband—they are dramatically much more successful economically, but it also means that some people who left to go to Toronto and now want to come back home, cannot; they cannot afford it anymore, because it is now so popular.

SHARON STROVER: Another interesting quality of it simply underscores the kind of temporal dimension in our understanding of rural. Things do change. Things change over time. Populations do move. Economies pick up or fall apart, as well. And that becomes an issue when we consider some of the statistics and some of the studies that have tried to capture the impact of broadband, as well.

CHARLES FLUHARTY: We are in the middle of the power initiative, the clean-coal dynamic, the climate change/carbon initiative. It is dividing our nation, our political parties and their bases.

At the same time, this massive gas and oil development that will change the economy of the United States is burgeoning. In every extraction region where we work, where there is a natural resource curse that crowds out every other sector and means kids do not need education—suddenly they mine the last ton of coal, and they look up and say, "Oh my God, no human capacity, no infrastructure—what's the future?"

Those regions are starting to think right now about that, and there are two dynamics we need think about: the creative economy and the regional and local food systems, and how that ties to changing the amenity dynamics in those mountains or plains. It is very real

where you see it, in every nation, and broadband must be there for this to happen. And where it is not, it is going to go to the other place.

NORMAN JACKNIS: Dr. Strover mentioned libraries. One of the interesting things is that the libraries that have picked up the most on 3D printing and makerspaces have been rural libraries, because there is actually a fair amount of natural, creative resources for this kind of thing in the countryside. If they have the connectivity, if they can work together and get this stuff produced, that is a tremendous boost, and it is taking advantage of things.

One other point about the rural/urban dynamic, and it is from a national perspective: this is really a national issue. The United States has the largest economy in the world, but what we do not realize is that part of that has to do with the fact that we have the third most-populous nation in the world. After China and India, there is us.

It used to be that China and India could have been viewed as asleep at the wheel when it came to economic matters. That is no longer the case. In the global economic competition, we really need to make sure that we play with our full team, and that means making sure that these folks who go into those libraries in rural areas can actually participate in the global economy. And the only way they will able to do that is if they have broadband access.

> **"In the global economic competition, we really need to make sure that we play with our full team . . . . And the only way they will able to do that is if they have broadband access."**

SHARON STROVER: When you go to small, rural towns, there are really only about two [of] what I would call anchor institutions: the school, and the library. A few might have a clinic or something like that, but the library is there, and it is used extensively, and in many cases fulfills so many functions for those regions that they have to be part of our planning.

CHARLES FLUHARTY: If you take away one thing, go to your computer later and Google "KVEC"—Kentucky Valley Educational Consortium. Nineteen counties in the mountains—poorest area of our country—received a Race to the Top district grant—19 county school superintendents working together. They are building wraparound school services in aging in place, behavior modification in health care, health services, food nutrition and early child care.

That young woman in the mountains can drop her kids off at that school, and the elders that bring the wisdom and place narrative can watch them in a daycare facility. They can then go to an aging-in-place facility, where that school has been repurposed, and that region is going to be wired like you will not believe it for 21st-century workforce.

It is just exciting to look at. And it is the teachers and the superintendents in a coal region who are doing that.

MODERATOR: *Two questions: Dr. Fluharty, you referred to viewing assets and needs in terms of how Eisenhower saw a need for national defense, and designed the Interstate system. In what other examples from U.S. history have policy makers have really taken an active interest in getting these types of jobs done, and how are they done? And, how do we take the need for a micropolitan policy, and merge those sorts of philosophies and get the results we need?*

CHARLES FLUHARTY: The spatial distribution in domestic policy has always been a challenge for rural people, because we never had enough votes.

Two points: One-to-three percent of national philanthropy ends up in a rural place—one-to-three percent.

Secondly, domestic spending is three to 500 dollars less per capita every year for community and economic functions of the Federal Government in rural versus urban. That is 26 billion dollars less, on average, every year. The main reason for that is Community Development Block Grant. If you are an MSA of 50,000, you're going to get multi-year planning money every year. It is the most fungible federal money. It builds our urban centers. And, if you are in a rural place, you get to go to the governor.

The first thing we could do is convince governors that the non-place-entitlement CDBG money—some percentage of that should go to building regional innovation around the regions of our 650 anchor tenants for all the major institutions in the whole region. That is one thing we could do right away.

SHARON STROVER: I'm not sure the American Reinvestment Recovery Act worked out the way we thought when it comes to telecommunications infrastructure. I am glad the infrastructure is there, but I still think we have a long way to go to put the other pieces into the puzzle to make sure that infrastructure is used appropriately, and that it can molded into the kinds of programs about which Dr. Fluharty is speaking. And, that takes a whole different mentality. It takes a different programmatic impulse, as well, and it gets into the messy field of using human capital.

Building a network is expensive, but we know how to do it. But managing human capital, much less grappling with outcomes and trying to figure out whether we are we really getting what we thought, and if not, what can we recalibrate in order to make this program work? That is a lot tougher.

NORMAN JACKNIS: I guess I heard a different question. Have we as a country so lost our way that we have forgotten how we got started? Because if you think about it, for this big country—and it was big by European standards—a major challenge for our founding leaders was how to bring it all together.

So, communications of various kinds was very much a part of the agenda [and] the Constitution. Congress was given the right to build postal roads. You have the Erie Canal. You had the land-grant colleges. Even the Agriculture Extension Service, which was a great organization for the diffusion of innovations.

And, we have forgotten about all that for some reason. A lot of that actually helped develop the rural areas. It helped make us the world's great agricultural power, and now we sort of say, "Okay, let's move on." You cannot just move on. As new technology comes along, we must continue to play that role of using communications to bring the country together.

CHARLES FLUHARTY: I think we are on a pressing tipping point at which if we can make the economies work, young people are going to vote with their feet—"If we can build a life in a smaller, urban place that is connected to the world, it might be the way we want to live with our children." And I think when Millennials are 35 and starting to have kids, if we have built the seedbed, we are going to have a very fruitful future there.

MODERATOR: *If you were asked, is broadband connectivity and usage more important in rural areas, more important in urban areas, equally important—how do we rank that? Can it be ranked?*

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NORMAN JACKNIS: To your point about the rural versus urban, there was a study that came from Queen's University, in Kingston, Ontario, in Canada, where they actually studied this, the urban versus rural.

And they found—and it is a little bit surprising—was that there was a dramatic impact of broadband in rural areas, not so much in urban. And to some extent, they got some pushback from some of the cities. But the reality is, the biggest impact, measurable impact, on the economy was actually in the rural areas.

And it is not surprising—the urban areas already put people in the physical proximity to each other—

SHARON STROVER: Exactly.

NORMAN JACKNIS:—to be able to sort of develop the economy—

CHARLES FLUHARTY: Absolutely.

NORMAN JACKNIS: So, when you can now do the same thing virtually for people who live in rural areas, then they, too, will be able to get the benefit of that economic growth.

SHARON STROVER: I think the two are connected, and one would be worthless without the other, to a certain extent. So, I think it would be hard to say that one is more important than the other.

And going back to a concept that Dr. Jacknis raised, the idea of the networks and their utility—and I'm not talking about the physical networks, I'm talking about the social networks that are created when people have broadband. That is one of those hard-to-quantify aspects that must figure into what we look at in terms of outcomes and long-term impact, as well.

As people have broader social networks, which we know are abetted by things like Internet connectivity, broadband connectivity, their ability to seek information, their ability to make smart choices expands; it grows. So, those social networks—which we don't usually measure when we are talking about economic outcomes—are an amazingly significant input in the entire equation, that's something that broadband and that connectivity allows us to have.

CHARLES FLUHARTY: I believe it is more critical in rural, because lag theory indicates it is going to go quicker, because you are starting from a lower place. That is why the GDP studies and the OECD are really important. But again, from a domestic-policy standpoint, thinking about the nation, we must think about air and water, food, natural resources, and energy, and if

we do not have good digital stewardship/leadership all over our nation, then rural areas are not only going to lose; urban areas will, as well.

And the last thing is, great regions are built from great communities, and every community of 2,000 needs an anchor tenant like a micropolitan region, and that is where all your anchor institutions are. And I just think it is very smart domestic policy to start thinking about that space.

MODERATOR: *Dr. Fluharty, you have said, "We measure what we value." Can we measure these impacts?*

CHARLES FLUHARTY: We have an organization in town called the National Association of Counties. The majority of NACO's members are rural, and the majority of their money comes from large, urban caucuses.

> **" . . . great regions are built from great communities . . ."**

We have the NCSL [National Council of State Legislatures] and the NGA [National Governors Association] that continue to exist and set policy. We have a White House Rural Council that links all agencies. I am hoping that council continues into the next presidency and that we begin to think about jurisdictional leaders beyond this sector, or health, or food, thinking about wiser jurisdictional policy to build what you need built, because it is a domestic policy failure right now for the United States of America, and those jurisdictional leaders need to own that a bit, frankly, and assure that the leadership in this Congress sufficiently get with that program. I believe it is a national security question, I truly do.

SHARON STROVER: It might be the case that by framing it as national security, it gets a little more traction than has been the case.

I think measurement is a real problem.

As we have already said, rural regions especially pose real measurement problems because they are extremely, internally heterogeneous. There is this little, prosperous town here, but 20 miles away is an extraordinarily depressed area. You know, there are ups and downs within counties and it becomes a real problem with measurement when it comes to broadband issues. An economist friend of mine said, "We have much better ways to measure the economic impact of a tractor than we do to measure the economic impact of the Internet."

There's a career there for a lot of people, trying to figure that out, but it is also a quandary for those of us who are trying to say, "Look, this is important, and this does have some measurable outcomes."

I think there are some outcomes we can identify and measure, and even some of the things that you might think of as being intangible, I think there are ways to creatively measure them, and we should probably be doing that, as well. But, too often, measurement at this point is just a hodgepodge of estimates and trying to find out what is actually going on.

And then, there's the temporal issue that I mentioned before. A lot of those statistics and a lot of the studies we rely on to say, "Oh, this causes growth and so forth." Well, in early stage broadband deployment, the most prosperous communities were the first to jump on broadband and the first to ask for it and among the first to get it. We are at the point now where the regions that lack broadband have kind of tougher challenges in general than that first tier of communities on which many of our studies are based.

CHARLES FLUHARTY: We are in this big data age; everybody's asking for data to justify investments and all that. That is actually one of the nice things about calling this a national security issue, because nobody ever asks for numbers there.

NORMAN JACKNIS: But what Dr. Strover said is not an evasion. I think this is important to understand. The Industrial Revolution started in this country somewhere in the early part of the 19th century, and it was only in the 1930s that we actually started to collect data about the economy.

During the Depression, the Federal Government said, "We need to figure out whether or not what we're doing has an impact." So, that's a hundred years after this phenomenon started that people said, "Oh, hum, maybe we should measure it."

We are in the same situation now. Those old industrial measures are not measuring the impact of the digital economy, which means they are not measuring the value of that digital economy in rural areas—or anywhere, for that matter.

And I will give you one simple example just to drive this home: when I was a kid, there was this thing called the Encyclopedia Britannica, and its sales of, I do not know, a couple of billion a year, were part of the Gross National Product, as it was called back then.

They are gone, effectively, and they've been replaced by something called Wikipedia, which is used by a dramatically much larger number of people, more often, and is much more valuable to those people. But the only economic value, according to the measurements, is the couple of million dollars a year in nonprofit funding that they get for their staff in Florida.

So, it looks like the economy shrunk. And, yet, we all know, intuitively, that the value has vastly increased. So, we are not measuring the right stuff.

You mentioned the social value. I mean, that has an impact on people. I have seen the Vermont Telecare Project from a few years ago measure the increase in longevity for seniors who were put together in virtual Tai Chi classes. It is that social value that adds longevity. We do not measure that, either.

So, there are a lot of things that we need to start measuring, and which are a much larger issue than just rural areas. But, it makes it difficult for people to answer the question, when you're pressed, "Oh, show me why this is so great."

CHARLES FLUHARTY: Let me turn it on its head a little. The two sectors in our nation—one very federally driven, one very state driven—health care and education, both committed very early to have complete spatial equity where it could be done. And the health care sector is very much private-sector reform based, but early on in that sector, it made a commitment to the rural dimension of health care. Each of those sectors cannot fully be equitable unless we have really strong connectivity in both, and to me, that is really the nut of most sectors in rural America: we need connectivity.

How do we explain rural to urban people, urban legislators, how wonderful rural America is? How do we look for a bridge between urban and rural?

SHARON STROVER: I don't have an answer, either, but I think you have pinpointed something that needs to be addressed in some way, shape, or form. I have met a lot of rural leaders. My sense is that they are so busy making their living, and often engaging in some kind of public service that defines their leadership, that they do not have a whole lot of time to deal with the politics, in all candor. So, maybe that is something that needs to be put on the agenda.

NORMAN JACKNIS: Well, when you get to national policy, I think it is the issue, right? The local leaders, by and large, understand what is going on.

Some policymakers do not understand how their constituents are living. I think you need to bring them to the more interesting places within rural areas that have adopted

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broadband and open their eyes—this is not the countryside that they left and have long since forgotten about because they are living in suburban Washington now.

SHARON STROVER: I think bringing them is important, but also getting the rural leaders out.

CHARLES FLUHARTY: Two or three things: Every sector does not connect well across space to know what one another actually are doing. But I will offer just two anecdotes: We used to have something in town called the National Rural Network. It was major membership organization with a national and state structure coming together to talk about their problems. I think that should be much stronger.

The second thing is, in a lot of sectors, we are seeing a lot of exchanges where community leaders are starting to talk to one another. If American philanthropy would put a little bit of that public trust money they are not giving to rural areas to some groups like yours, to start to spread some exchanges, I think that would help a lot. It would not solve it, but we have got to start to talk at the local level about what is uniting this, not dividing this.

Addendum

In April 2016, the Hudson Institute released a report that addressed the economic impact of rural broadband providers. *The Economic Impact of Rural Broadband*, commissioned by the Foundation for Rural Service, found that rural broadband providers generated $24.1 billion in U.S. economic activity in 2015. Sixty-six percent of that activity, or $15.9 billion, accrued to urban areas, while 34 percent, or $8.2 billion, was attributable to rural areas. The rural broadband sector also supported 69,595 jobs in 2015; 46 percent of those jobs were in rural areas, and 54 percent were in urban areas. These data support the propositions illustrated in the conversation reflected above, specifically, that in addition to the social and other policy implications, rural broadband can also be quantified as a national, rather than a solely rural, economic issue.

Audience Q&A

AUDIENCE QUESTION: *We're good at building networks. I know how to build networks. We know how to operate networks. How do we get the communities to embrace what can be done with these networks?*

SHARON STROVER: A tier of both organizations and in some cases, individuals, has kind of emerged around this whole issue of broadband adoption and use. And we actually did a study—it was some time ago, now—about looking for communities, each of which had brand new broadband infrastructure.

And the one community, which was in Kentucky, that actually showed real broadband use, that really moved ahead of the other three, was a community in which the mayor came out and started talking a lot about this new infrastructure, and what was possible, and what you could do with it. And they organized, internally, a lot of demonstration projects. And for that to happen, you need to mobilize local institutions.

So, it all has to happen on that local level. It has to be visible, and people that people in the communities know have to be involved in it. Those seem to be key. And it's a matter of kind of stirring the pot and getting those ingredients that do exist, probably.

If the organization to do training and so forth does not exist there, believe me, they are willing to come there. They would be willing to help out.

NORMAN JACKNIS: That is the adoption issue. It is more than technology.

To some extent, people can use this as an excuse to re-envision their communities more broadly than just the technology. And that is an important part of this.

They just need to know what they can do.

You need small, incremental projects that people can succeed and value and celebrate, and a longer-term vision.

CHARLES FLUHARTY: I would say two other things. You need to think about your regional community foundations much, much more. A lot of those foundations are just about building their endowment rather than building a service area, but more and more of the young executive directors are starting to reach out and say, "How do we build cross-sectors in a regional imprint?" Community foundations, first of all.

Secondly, go to your state foundations who might invest in those community foundations. There is nothing more important a community foundation should do than build this sector as a base for regional innovation in the future, nothing, and they have money to do that.

There are an awful lot of tremendous organizations in the private sector that made their money in rural America. They have foundations. The agricultural community realizes the importance of this to their producing future. I think there would be ways for states and you to build a collective commitment to sharing ideas and futures, nationally, to build this out, and individual firms that are doing it could work with you on it.

SHARON STROVER: There are a lot of second- and third-tier foundations that actually do meet together, and they do talk about their priorities and ways they can work together, being strategic about what they are doing.

NORMAN JACKNIS: The big, global foundations are an issue, and it gets back to your urban/rural integration. They need to understand that in America, there is interesting stuff going on. They do have rural programs, but all their rural programs are in third-world countries. And, you know, what about the 60 million Americans who live in those areas? "Well, gee, we thought that was all gone!"

CHARLES FLUHARTY: But if 10 or 12 of you organizations in this town that are driving rural futures would come together—I mean, there is a public policy question here about why a tax advantaged foundation is only giving 2 percent of its money to a space that is 80 percent of the country and a populace that is 20. They have tax advantages to deliver public goods. I do not think we are holding their feet to the fire enough.

AUDIENCE QUESTION: *It seems to me that there's kind of a political tendency to want to just reach outside the urban areas into low-cost areas so that they get the maximum number of locations served. And I am wondering about your perspectives. Is that the right policy, or should they be building the highest cost, most rural areas, and building back towards the middle?*

SHARON STROVER: That is a tough one, what should be the strategy. I am always wary of the low-cost strategy, frankly. I think it ends up disadvantaging populations.

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PANELIST BIOGRAPHIES

Charles Fluharty, Ph.D. is the founder, President, and CEO of the Rural Policy Research Institute (RUPRI), the only U.S. national policy institute solely dedicated to assessing the rural impacts of public policies. Since RUPRI's founding in 1990, over 300 scholars representing 16 different disciplines in 100 universities, all U.S. states and 30 other nations have participated in RUPRI projects, which address the full range of policy and program dynamics affecting rural people and places. A Clinical Professor in the University of Iowa College of Public Health and a graduate of Yale Divinity School, Dr. Fluharty was also a German Marshall Fund Transatlantic Fellow from 2007 to 2011. Dr. Fluharty is the author of numerous policy studies and journal articles, has presented dozens of Congressional testimonies and briefings, has provided senior policy consultation to most federal departments, state and local governments and has delivered major public policy speeches in over a dozen nations.

Norman Jacknis, Ph.D. is the Senior Fellow at the Intelligent Community Forum (ICF). His responsibilities include leading the ICF's Rural Imperative, building on the ideas he developed for the U.S. Conference of Mayors on a future-oriented economic growth strategy for cities. Before joining ICF, Dr. Jacknis was Director, Cisco's IBSG Public Sector Group where he worked extensively with states and local government, the National Association of Counties, the U.S. Conference of Mayors, and the staff responsible for the Federal government's website and citizen engagement. Prior to joining Cisco, Dr. Jacknis was technology commissioner for Westchester County, New York, when it was an ICF Top 7 city. Dr. Jacknis is the author of numerous articles, including "Beyond Smarter City Infrastructure – The New Urban Experience" and "Transformation of the Local Government CTO/CIO."

Sharon Strover, Ph.D. is the Philip G. Warner Regents Professor in Communication and former Chair of the Radio-TV-Film Department at the University of Texas where she directs the Technology and Information Policy Institute. Her recent research projects examine the individual and group use of so-called "second screens" devices and how industry is adjusting strategies to those uses; policy responses to the digital divide; and the economic benefits of broadband, particularly in rural areas. She also directs a Digital Media program as part of a broader collaboration effort between the University of Texas at Austin and the government of Portugal, a multi-year project that includes developing doctoral programs in digital media and sponsoring research in immersive technologies. Dr. Strover has worked with several international and domestic government agencies, has published numerous articles in academic journals and is the author or co-editor of three books.

MODERATOR:

Joshua Seidemann is Vice President of Policy of NTCA–The Rural Broadband Association. Mr. Seidemann focuses on Federal regulatory issues as well as technology and economic factors affecting the rural telecom industry. Mr. Seidemann authored the paper that served as the basis for the panel discussion reflected in this summary. He is a regular contributor to the NTCA tech blog, the New Edge, and other trade media. Mr. Seidemann is admitted to practice in New Jersey, New York and Washington, D.C.

About NTCA–The Rural Broadband Association: NTCA–The Rural Broadband Association is the premier association representing nearly 900 independent, community-based telecommunications companies that are leading innovation in rural and small-town America. NTCA advocates on behalf of its members in the legislative and regulatory arenas, and it provides training and development; publications and industry events; and an array of employee benefit programs. In an era of exploding technology, deregulation and marketplace competition, NTCA's members are leading the IP evolution for rural consumers, delivering technologies that make rural communities vibrant places in which to live and do business. Because of their efforts, rural America is fertile ground for innovation in economic development and commerce, education, health care, government services, security and smart energy use. Visit us at *www.ntca.org*.

About Foundation for Rural Service: The Foundation for Rural Service (FRS) is a 501(c)(3) nonprofit organization based in Arlington, Va., that seeks to sustain and enhance quality of life in America by advancing an understanding of rural issues. Established by NTCA–The Rural Broadband Association in 1994, the vision of FRS is to harness the power of the rural communications industry to enrich lives in America. FRS supports rural telecommunications companies, communities and policymakers with educational information, products and programs to increase their community development and involvement. The FRS mission emphasizes the benefits of rural telecommunications for the nation as a whole because FRS believes that America is a stronger and more unified nation when all of its communities have access to affordable, quality communications services. For FRS, the success of rural America is therefore not just a rural issue but a national imperative. Visit us at *www.frs.org*.

About Smart Rural Community: Smart Rural Community[SM] is an initiative of NTCA–The Rural Broadband Association. Smart Rural Community comprises programming relating to and promoting rural broadband networks and their broadband-enabled applications that communities can leverage to foster innovative economic development, commerce, education, health care, government services, public safety and security and more efficient energy distribution and use. Smart Rural Community hosts educational events for communications and non-communications professionals, including government policy-makers; administers an award program that invites and reviews applications of rural broadband providers for certification and recognition; and provides resources to rural broadband providers to assist their achievement of goals promoted by Smart Rural Community. Smart Rural Community also publishes original research and white papers that investigate issues relating to rural broadband deployment, adoption and use. Visit us at *www.ntca.org/smart*.

Smart Rural Community White Papers

Seidemann, Joshua, "Beyond Rural Walls: Identifying Impacts and Interdependencies Among Rural and Urban Spaces," NTCA–The Rural Broadband Association (*https://www.ntca.org/images/stories/Documents/Advocacy/SmartCommunity/src_beyond_the_rural_walls_white_paper.pdf*) (2015).

Schadelbauer, Rick, "Conquering the Challenges of Broadband Adoption," NTCA–The Rural Broadband Association (*https://www.ntca.org/images/stories/Documents/Advocacy/CCBA_Whitepaper.pdf*) (2014).

Ward, Jesse, "The Smart Rural Community," NTCA–The Rural Broadband Association (*https://www.ntca.org/images/stories/Documents/Advocacy/Issues/Broadband/TheSmartRuralCommunity.pdf*) (2012).