



# WESTERN GOVERNORS' ASSOCIATION

## Reimagining the Rural West Initiative Appendix

The Reimagining the Rural West Initiative of the Western Governors' Association (WGA) included four regional workshops, a webinar series, and surveys to generate an enormous amount of information and diverse perspectives on rural community and economic development.

This Appendix captures a cross-section of paraphrased viewpoints expressed by participants in the Initiative. The input received throughout the Initiative has informed the recommendations of the June 2020 Initiative Special Report and is being used to inform future Initiative study and focus areas.

The Appendix is organized according to the three pillars of the Initiative: Opportunity, Community, and Connectivity. A number of sub-themes became apparent as the Initiative progressed; the appendix is organized by these themes and sub-themes as follows:

### **Opportunity**

- Entrepreneurial Ecosystem
- Disaster Recovery
- Remote Work
- Workforce Development
- Agriculture
- Outdoor Recreation/Tourism
- Energy
- Forestry

### **Connectivity**

- Broadband
- Transportation

### **Community**

- Local Leadership and Capacity
- Food
- Water
- Healthcare
- Housing
- Placemaking



Comments are followed by an indication of the sector represented by the stakeholder whose viewpoint was presented.

# Opportunity

The world is changing right now. Opportunity is booming, employment opportunity is almost everywhere, and this is a fantastic time for us to begin the process of reimagining how we think about the rural west. (ND Governor Burgum)

Rural prosperity is a priority of the President, the USDA, the Governors, and Congress. The Interagency Task Force on Agriculture and Rural Prosperity was created by Executive Order to lift up rural America, and the recent Farm Bill referenced the Task Force and set a structure to solidify it regardless of political leadership. The Task Force and its recommendations are intended to serve as a platform for the federal government and to identify where we need partnerships with states, local governments, and the private sector. (Federal Government)

We studied economic transition efforts in communities that are focused on the production of oil and gas and coal. The findings broadly apply to rural economies, whether their economies are more focused on farming, forestry, mining, retirement, or tourism, because they're all facing the same underlying set of trends and conditions and responding to them in ways that challenge us to think about what successful economies look like today and going forward. (Community Development Sector)

We have an economy that is fully globalized. It has been fundamentally altered in our lifetimes by automation. Some industries that have been mainstays for our rural communities, particularly in commodity sectors, are now in a mature stage of development, which is to say they're not generating a lot of new employment and are attracting investment largely for technology that increases productivity. Fewer and fewer people are needed to produce more output, and companies face competition from abroad and razor thin profit margins. (Community Development Sector)

Historically, resource industries have been tremendously resilient in the West. The oil shale industry, which was left for dead, is coming back. The gold industry figured out how to mine micro deposits. The same thing happened with copper. We are so resource-rich in the West – the message shouldn't be that the resource industry is done, but that it's different. (Academic Sector)

The US economy, especially the urban components of the economy, have moved from historical reliance on goods producing and commodity sectors to a more balanced mix of industries characterized largely by high growth sectors in services. Services include a mix of high and low paying industries and occupations. Many rural places are trying to avoid only attracting those lower paying and lower skilled jobs, but they are struggling to attract high paying, high skilled jobs as we see declines in traditional sectors. (Community Development Sector)

There is not as much industry diversification at the local and rural level as I would like to see. Diversification of the industry mix allows economies to be more adaptive and resilient over time. Smaller economies with a narrower focus of activity and industry can be very volatile. One way to hedge volatility is to broaden the mix of activities through diversification. (Community Development Sector)

Do we have a strategy? When I read economic development plans, one of the things that gets lost again and again is an actual economic strategy. People aren't asking the fundamental question, which is what the competitive positioning of a place or a business is in the market today. This question is so important because there are limited resources, leadership capacity, partnerships, and capital to work with. As a result, we must be disciplined and efficient about how we think about reallocating and reinventing. It's also critical because historically we have captured a comparative advantage in rural America by being low-cost producers of one or more commodities. Today, we're increasingly being asked to shift from capturing value to creating value, a fundamental shift from macroeconomic to microeconomic that asks us to rethink strategy. (Community Development Sector)

What do we really mean when we talk about rural economic development? Local economic development has a long history. We started using many of the metrics and tools we use today in the early 1900s, and we continue to rely on the same tools for economic development as we did 100 years ago. Local economic development hasn't really evolved much, even though our economy is driven by things that are very different. (Community Development Sector)

The idea that we should be holding economic development investments to broader standards than jobs and economic growth is really quite radical and counter to conventional wisdom. And it impacts what we should be investing in. (Community Development Sector)

Messaging is important. As youth, we're taught that we're too smart to stay in our towns and that we need to leave. The only options with that type of messaging are to stay or go – not stay and come back. We also need to advertise that the rural community can support all kinds of job fields, not just the dominant one. (Agricultural Sector)



With coal closures, we are starting to focus on infrastructure development and other opportunities. The steady nature of coal is gone. As people recognize that, the mindset shifts. It allows us to focus on building out rail and connecting corridors, as well as broadband for commercial farming opportunities, and additional opportunities we haven't taken advantage of previously. (Local Government)

In the west, we don't think about challenges and opportunities as mutually exclusive propositions. For example, take our ethos to protect our unique and beautiful natural environment. Our ability to protect the environment around us doesn't come at the expense of our economies. (NM Governor Grisham)

We need to combat the perception that rural communities are too far from epicenters to attract big companies. These companies can do business in small towns – we have the infrastructure. This mindset should shift as more people work remotely. (Local Government)

Small towns don't necessarily feel the success and economic growth of the big cities in the state. (Local Government)

Having federal agencies working in the areas that they're serving is a boon for the economy. (Local Government)

Originally, I thought that technology could erode the strong tribal culture and community, but I realized it can actually save some of that culture and preserve language. It allows us to be part of the larger ecosystem of the US, be relevant, and compete for economic development opportunity. (Tribal Government)

Seasonal jobs are considered the first phase of economic development. You need to have people and a workforce first. Jobs will follow. For some of these communities, telecommuting is a big part of getting the people you need. Retirees who stay in the community help too, because they give a lot more in taxes than they take. (State Government)

In Idaho, USDA Rural Development is a strong advocate for rural infrastructure investments, but economic development is not part of their public facilities mandate, so the Economic Development Administration (EDA) is a better fit for economic development infrastructure. However, the focus on large scale projects with two job-creating beneficiaries often makes EDA an unlikely partner for projects in smaller rural communities where costs are generally greater and the number of jobs leveraged is fewer. Those communities are lucky to land a single company, much less two or more for EDA's eligibility requirement. Perhaps in this case, a rural formula should accommodate single beneficiary infrastructure projects, as one rural job is often more impactful than a dozen urban jobs yet can cost much more to land. (Local Government)

There has been an extensive decline in employment in industries that have traditionally been the primary employer of rural workers, such as agriculture, logging, mining, and manufacturing. At the same time, developments in information and communication technology have opened doors for rural areas that did not exist in the past. In effect, they have reduced the relevance of distance. Rural workers can now market their products and skills globally. (Academic Sector)

We need a new rural paradigm that puts an emphasis on place instead of sectors and a focus on investments instead of subsidies. We need a shift from top-down, subsidy-based strategy to reduce regional disparities to a much broader family of policies designed to improve regional competitiveness. We need a development strategy covering a number of factors such as infrastructure and the availability of a suitable workforce that affect the performance of local firms. We need a greater focus on local assets and knowledge and less of a focus on investments and transfers from outside the rural area concerned. And we need a collective and negotiated governance approach to such matters, involving national, regional, and local government plus other stakeholders, with the central government playing a less dominant role. (Community Development Sector)

## Entrepreneurial Ecosystems

In order to connect and grow the entrepreneurial economy, focus on the power of the invitation and of big ideas and the experience economy. Millennials and Gen Z care about experiences, so we need to support rural areas with opportunities to offer people great times. Entrepreneurship is a team sport – everyone has the power to support young people by inviting them to the table, and we all benefit from people inviting those we can't otherwise access to come and speak at events. Additionally, we should give a platform to budding entrepreneurs. We should also dream big, because that's the spirit of the American West. Entrepreneurs are impact-driven, and we have the ability to improve the human condition. (Business Sector)

Only 3% of entrepreneurs are immigrants. When we think about the traditional organizations supporting entrepreneurs, I think we miss the opportunity to support new Americans. (Business Sector)

Civic sector institutions are essential innovation infrastructure in rural areas and are critical to creating rural development hubs. (Community Development Sector)



As a community member, support entrepreneurs by voting with your checkbook. (Business Sector)

We are trying to work as a federal family to promote economic growth in communities that have seen declines. One of the ways is through the White House Opportunity Council, which is supporting the Opportunity Zones Initiative that came out of the 2017 tax bill. (Federal Government)

In places that are struggling, there is a need for social support. Many solopreneurs in these areas are difficult to employ. Circles USA, a 12-step approach to reintegrating people to the workforce, would be a helpful strategy to implement. With poverty comes challenges. By nature, remote work mitigates challenges to barriers that have social components. (Local Government)

So that entrepreneurs feel supported, the SBDC spreads the word about their services and we encourage them. Sometimes, we have to tell entrepreneurs if their idea isn't as good as they hope it will be or if they are going to have to do some more work or find additional resources to make that happen, we can walk them through the process of start-up logistics of getting a business going. (Business Sector)

Unless they're a competitor, we find entrepreneurs like to hang out and talk shop with one another; they share best practices and learn from each other. (Business Sector)

We continue to remind everybody including state and local leaders how important it is that it's a global economy, we're a global society, and that comes to bear in every community in the United States and in the West no matter what size. We need to provide the infrastructure so that anyone who has a small business can still have an internet presence and use social media to help market their business. (Business Sector)

Most businesses in the US are small, about 99.9% of all US businesses are classified by the SBA as small businesses. Businesses can be located anywhere including in peoples' homes and 41% of private sector payroll comes from small businesses. They are important especially in rural communities because they are main street businesses which why the role of small businesses in rural communities is a really big deal. (Business Sector)

Doing a small business needs assessment is important to figure out what the local economy is like and see if the business is being supported by local government. Is local government buying what it needs at the local level? Or do local governments shop elsewhere because taxpayers expect the best bang for their buck when governments are spending their money; at the same time are those governments asking local businesses if they can provide the good or service they need at the best available price? (Business Sector)

We need to support entrepreneurship in young people and support them to say 'well if you don't see this business here and there's a gap in the community, how do you create a business that fills that gap?' (Community Development Sector)  
Historically, entrepreneurs in Idaho, no matter what sector they were in, became more efficient at the same time urban areas had pretty good growth. But, in rural Idaho, because of that efficiency, we have had to replace those jobs and infrastructure in those communities because there are fewer and fewer people there. Adding value to whatever it is those communities produce is really important to us to keep them thriving. (ID Governor Little)

What we do is grassroots development. Some cooperative development but also mutually owned companies. We provide technical assistance to help groups of people work through the process of developing the businesses and services they need to live comfortably in rural places. We've done childcare, healthcare, emergency services, main street businesses, dairies, grocery stores. We've lost more than 20% of rural grocery stores in the last 5 years and that is a big concern for us. (Energy and Electricity Sector)

Co-ops are there as an answer to market failure, so they are predominantly started locally but as they grow, they become competitive at a national level. For example, Land o' Lakes and REI are co-ops that were able to adapt. The difference between co-ops and [single-owner businesses] is that the consumers are member-owners and are benefiting more than stakeholders who are more than likely not living where the business is. (Business Sector)

USDA at one point had a whole agency for cooperative development. Through the years, we've gone out of direct technical assistance and now fund centers across the US that do the cooperative development technical assistance. (Federal Government)

Educate legislators in the use of the cooperative model in public policy solutions for emerging challenges such as food security, housing, homecare. For baby boomers nearing or working beyond retirement, making sure those businesses don't close down when the owner retires by giving workers and the community opportunity to purchase that business and form a cooperative. (Business Sector)

NCBA is working on issues related to the implementation of the Main Street Employee Ownership Act. This was bipartisan legislation that required SBA to provide education and outreach through district offices on succession planning so business owners nearing



retirement know employee ownership is a viable option for them. And then also required SBA to submit a report to Congress providing alternatives to personal guarantee requirements for their 7A loans, which don't work in cooperatives. That has not been resolved and we are continuing to work on it. (Business Sector)

When the HVAC or construction company is the only one in the rural community, the risk of that business shutting down is a big risk to the local economy. (Business Sector)

Did some research and learned throughout the heartland, states were struggling with closure of their grocery stores. We set out to identify what we could do and found a huge distribution problem for products into rural areas. We believe that coops can be part of the solution. What we're struggling with: nationally, the average grocery stores have weekly gross sales volume of \$320,000. The average grocery store in North Dakota has weekly gross sales volume of \$20,000. The profit margin for a supplier to keep delivering food to that rural store for that small margin doesn't make sense. But it's not just one supplier, its 15. Is there a way to form purchasing cooperatives to aggregate the product into a hub so that one truck can make the trip to the rural store? Post office is also struggling with volume in very small places. Can we couple our efforts? Food and mail on one truck? How can we keep supplies coming viably into our small communities? Trying to think outside the box about what we can do to bolster food access in rural places. (Energy and Electricity Sector)

Statistics show cooperative businesses have longer longevity and are probably less risky because they're locally owned and locally controlled. They are a good credit risk. USDA RD doesn't require a guarantee for our programs. That is the value of partnerships and making a seamless customer service experience - if you can't get credit from SBA, come to USDA. (Federal Government)

Access to capital is a challenge for any business but being unable to access traditional financing is a burden. (Business Sector)

As a former technical assistance provider, it is oftentimes an ongoing type of business structure and it takes an ongoing education effort. Look at a conversion of a grocery store. From a worker standpoint, you're putting them in the boardroom. Huge education piece that needs to take place to keep them going and competitive in today's economy. Even though they are a cooperative they still have an economic purpose and have to compete. (Federal Government)

There is a "silver tsunami" of baby boomers wanting to get out of their businesses. Through the Rural Development Innovation Center, we brought together USDA RD, EDA, SBA, Northwest Cooperative Development Center (NWCDC) and the Federal Reserve to talk about this and as a result of that discussion, NWCDC came up with a scope of work to educate people in rural areas (accountants, attorneys working with small businesses) about transition. (Federal Government)

Home care providers, who provide assistance to seniors or people with disability in their homes, have an average annual worker turnover of over 80%. When those workers are in a coop, annual turnover drops below 30%. This is due to slightly higher wages, more predictable schedules, and they have ownership. Having an ownership stake is really the coop difference. (Business Sector)

A lot of communities in North Dakota are feeling effect of retail Armageddon. Doesn't take long for small communities to lose retail sector on their small-town main streets. Cooperative model can help regenerate main streets and bring retail back. (Energy and Electricity Sector)

What's the best way to help an entrepreneur? Set them up with a mentor. What's the best way to do that? Over a cup of coffee. Establishing a meeting place for entrepreneurs each week fosters conversations between established and aspiring entrepreneurs and support from the community. This is a way to bring businesses back to our underdeveloped areas and attract capital and partnerships. (ND Governor Burgum)

Hiring someone to focus on tech and expanding the tech sector fosters the entrepreneurial ecosystem that allows people to establish new businesses and grow. This work is very different than traditional recruitment - it's finding people within the community and then giving them the correct resources and tools. (Local Government)

Growing an entrepreneurial ecosystem is a regional effort. Communities must coordinate needs across geographies. (Local Government)

Places where community members can get excited and talk about all the things a community has are key to changing the narrative, encouraging entrepreneurship, and inviting investor dollars. (Local Government)

Eight jobs in a small town is tremendous. Ventures such as breweries create well-paying jobs for community members. (Local Government)

Small businesses having access to capital and having federal partners who can break through regulatory hurdles are key. (Business Sector)



We recognize the challenge of access to capital. Smaller, community-based banks have disappeared. The industry is moving away from physical branch locations. SBA is leveraging technology and lending partners for small businesses to access capital more easily. (Federal Government)

Investment in tribal communities often pose a high risk that banks can't take on. CDFIs have been a means for these communities to get funding. (Financial Services Sector)

CDFIs have done an amazing job across the country on increasing the flow of capital to rural communities. They have a \$185 billion impact, mostly lending in communities where banks haven't been able to due to perceived risk. (Financial Services Sector)

To increase the flow of capital, partnering with various governmental entities has been very beneficial. Community involvement is also important and educating the populace on financial opportunities by hosting workshops and visiting schools. (Financial Services Sector)

When partners work together, accessing funds is easier. The funder sees that money is extended farther than just the one entity. (Business Sector)

Access to technical assistance and broadband are essential to growing small businesses on reservations. (Financial Services Sector)

One issue with the 502 direct loans is getting money out into the community. We carried out a pilot program and found that CDFIs can be incredibly successful in getting this funding out on the ground. (Financial Services Sector)

In the midst of the COVID-19 crisis, the SBA is remaining fluid. There will be significant guidance about microloans and emergency funding to weather the storm. The issue will be what these businesses will do once they've taken on a significant amount of debt in industries with such small margins. (Financial Services Sector)

When small businesses have access to resources such as training, technical assistance, and finance, they grow, which leads to economic development across the community. (Business Sector)

Even with advancements in technology, rural entrepreneurs do value coming together in-person in addition to utilizing online platforms. Connection is important, especially in rural communities. (Business Sector)

The banking industry is considered essential, so we continue to be open during this crisis and provide access to capital. We are also working to accommodate small businesses. (Financial Services Sector)

We usually receive 120 inquiries about microloans in a month. In that last week, we have received 400 due to COVID and have closed 50. (Business Sector)

In the face of this pandemic, we are looking at how we can provide more flexible lending right now. (Financial Services Sector)

There is a real risk in paying employees and mortgages while everything is closed due to stay-at-home orders. We need to ensure that businesses can weather this, and we are working together very closely and collaboratively to accomplish that. (Business Sector)

It's human nature if you live and work 'regionally' you're going to be spending money regionally as opposed to the town you live in; residents need to understand that if you're spending dollars in another community you're not going to be helping your own community. (Business Sector)

The Rural Cooperative Development Grant program (USDA Rural Development/Rural Cooperative Business) is the only federal program to support provision of cooperative development technical assistance. Awardees typically are seen as the "SBDCs for cooperatives". National appropriations of only \$5.8 million provide \$200,000 grants to 29 organizations across the entire country. The amount is inadequate to meet demands and needs and does not provide for service to all states. The program does require 25% local match; providing applicants with an opportunity to secure some of that match via state funding would be of great value. (Business Sector)

The USDA Rural Cooperative Development Grant (RCDG) has been critical for our economic development work. This funding must be preserved. One of the challenges is that this is an annual grant. A cooperative business typically takes 2-3 years to launch, so showing results in 1 year can be difficult. Also, our Cooperative Development Center essentially functions like an SBDC for co-ops. Having longer term grant awards would create more stability in delivering effective services. Another challenge is that this funding has not increased over time to keep up with inflation. (Business Sector)



There are sectors like agriculture, tourism, urbanization, manufacturing, forestry, and the like. But I do not believe sectors is the proper framing. The key is to find and support entrepreneurs in these sectors plus other sectors that do not show up in the statistics. Human talent is present and moving into rural areas in the west. Our work in Montana and Oregon demonstrates this point. Energizing this talent is the key to growing sectors and particularly value-added clusters. (Business Sector)

Entrepreneurial and small business entities need access to capital. There is an absence of available capital in amounts under \$25K and it prevents these entities from growing (or causes them to close). By making small loans available to them, preferably through a local source, they can continue to circulate dollars in the community. Further, programs that foster an entrepreneurial ecosystem, starting with youth, provides the greatest opportunity to inspire individuals to stay in their communities. (Mining Sector)

Federal and state development policy either ignores (in adequate support) or is primarily focused on business attraction and industrial development... not entrepreneurs. For most rural communities they do not have sufficient "right stuff" to be very successful with larger scale attraction and industrial development. (Community Development Sector)

We value our relationship with Federal Home Loan Banks tremendously. They are a huge source of capital, especially for community banks who are focused on small business and rural lending. They are a lifeline in a lot of ways for providing capital access to the banks to fund those loans. (Financial Services Sector)

In order to be successful, small businesses need access to networks of ongoing technical assistance. Collaboration with the state is needed as well. Investment by the legislature and the governor in rural communities and helping organizations build capacity to provide training, technical assistance, and microloans is essential support for these businesses. (Business Sector)

I would encourage every state to invest in economic development councils and other entities that provide support to small businesses until they can grow and hire their own assistance. (Business Sector)

One of the most important investments for small businesses is broadband. Businesses can't be as agile, innovative, or flexible without it. A lack of broadband cripples businesses and their ability to sell their goods and services. (Business Sector)

When we first started lending, we did a study and 85% of our borrowers had never had a savings or checking account and virtually none of them had been in business. Starting with the right kind of technical assistance, like financial literacy, is crucial. (Financial Services Sector)

Small Business Development Centers are an invaluable tool for promoting small business growth. (Financial Services Sector)

With small grants, communities can convert lending to online platforms. Online lending can simplify the process for the lender and the recipient. In our experience, within two hours of having the funding and the online lending platform up and running, one of our organizations already had a loan application. (Business Sector)

Community foundations are often on the bleeding edge of change in communities. They provide grants to do innovative work and pay attention to what is emerging. When community organizations receive these funds, they can be more agile and effective at knowing what comes next because they don't have to know the outcomes right away. (Business Sector)

If there's one thing CDFIs lack, it's enough capital to make a big difference. Community foundations have participated with CDFIs, but they are too spread over so many areas to have a significant impact. On the other hand, regional foundations have been important supporters of native CDFIs. (Financial Services Sector)

The impact of technology can be a mixed bag. Evolution occurs with technology no matter where you are. Some small businesses could say it's devastating due to the impacts of companies such as Amazon and Walmart online. However, it has also provided opportunities niche small businesses would never even have imagined, with new markets and foreign investors and suppliers. The benefits definitely outweigh the alternatives. (Financial Services Sector)

For rural residents, it can be very difficult to get to a bank. Having access to online banking and payments is groundbreaking. (Financial Services Sector)

Rural entrepreneurs value coming together in person. Connection is important, especially in rural communities. We have found it beneficial to use multiple platforms, like in-person meetings, online forums, and video calls, to provide support to entrepreneurs. (Business Sector)

The remote entrepreneur has the ability to transform a rural economy if they're able to grow, and technology is a catalyst for growth. However, people of color and other marginalized communities are at a disadvantage because they often don't have access to these technologies. We need to work to address that disparity so all entrepreneurs can grow. (Business Sector)



## Disaster Recovery

We have to make sure we don't over-study the issue to death and end up performing an autopsy on a small or medium-sized business instead of a rescue. Multiple academic studies have shown that in natural disasters, 40% of small businesses that close their doors for three weeks will eventually fail. Hopefully, the CARES Act will help sustain businesses beyond those three weeks. (State Government)

In an emergency, you need to retain your state, county, and city's largest and highest profile businesses. For many small, rural locations there may not be one single business, but if there is, that is the money maker and the major employer for the community, so keeping them afloat is critically important. (State Government)

What is unusual is that COVID is national in nature, so we need to look for those natural connections and accentuate partnerships in particular regions. The opening and closing coordination aspect between these connections will continue to be important because there will be large disparities between one state being open and one still being locked down. We need to build on the disparity from an economic development piece and not worry so much about how each dollar is spent within state lines. (State Government)

There will be federal pressures through various stimulus measures to bring manufacturing back within our borders. I would target those efforts at the state level and work with congressional delegations to get that language into new laws promoting tax breaks or other incentives to bring manufacturing back. Companies like 3M might then decide to move their manufacturing out of their existing infrastructure to rural areas. (State Government)

We need to encourage communities to remember their vision for their community on the other side of the COVID crisis. Just because we're going through this disruption doesn't mean we don't all still have hopes and dreams. It doesn't mean that the priorities we had prior to this aren't still important, it just means they may have shifted some and we need to think about different pathways to get to the things that are important to us. (State Government)

We learned from natural disasters over the last few years, and we had practice pulling together an economic recovery response to those disasters. We put together several business resiliency guides, as well as a report that suggested ways the region could do better next time. So COVID hit, and we flipped open that report, and started pointing businesses to the guides, and went to work. (Local Government)

With coronavirus, there has been a loss of service sector jobs and an inability to gain unemployment, which will be felt especially in more rural areas. (Local Government)

Rural communities have been facing a crisis for a couple of decades. And sometimes we see that as a slow burn or sometimes we see it as a catastrophic mill closure. I'm not sure which is easier, but regardless, responding to that change is hard and slow work. It's slower than news or political cycles, and it requires patience and discipline. It's really important to think about short-, medium-, and long-term outcomes, and giving people and businesses deliverables and wins along the way to gauge success. We must build momentum and celebrate and share our accomplishments. (Community Development Sector)

We work extremely hard, our entire lives are invested in our stores, we employ others, and our cash flow is tight most of the year. The Paycheck Protection Program was created to help small business owners like us. For businesses like ours with limited margins, this revenue could be the difference between realizing our dreams of business ownership, providing for our families, and employing members of our communities. (Business Sector)

For the Paycheck Protection Program, I'm required to spend money in eight weeks but am not even allowed to open yet. Taking on a loan of this type just delays our inevitable closing. We need more than eight weeks to deploy the Paycheck Protection Program funds the correct way. (Business Sector)

By increasing flexibility, namely by getting rid of the 75/25 rule and extending the eight week spending period, you are putting trust into the hands of the people who know their business better than anyone, and use it to ensure that once doors open, they remain open and employees remain employed. (Business Sector)

On the topic of states re-opening, from a small business perspective, stores are looking for consistency. If a state tests the waters by opening and then must close again, that will have a detrimental impact on small business. It's better for states to wait to re-open until they can stay open. We need a plan and we need to know we can rely on that plan. (Business Sector)

Montana had a \$10,000 grant for business stability. \$10,000 is how much it would take a Subway sandwich store to stay open for a week. While these grants are needed oxygen, we need a working economy. State and local leaders need to focus on stabilizing their own revenues and cover the services citizens and businesses need to function. (Business Sector)



States cannot borrow with the same ease as the federal government; for that reason, economic aid should be left to federal levels. The SBA is best suited for this and they need to step up. (Business Sector)

To operate smoothly, we need a clear path forward; we're looking at putting wipes in all public areas and cleaning doorknobs and light switches, which is not standard operation. We have to think about paying for increased operations. That adds costs when room rates are lower and there are lower levels of business. To survive, businesses need to get creative. You need a strong balance sheet and a strong workforce that can execute all the state requirements. And at the end of the day, we need a functioning economy. (Business Sector)

As a small business, we don't have deep capital reserves, nor do we have access to them. The challenge has been trying to understand how to redevelop my business just to comply with the Paycheck Protection Program loan. (Business Sector)

I need to fund my business so that it adapts and pivots to survive the next two years through a potentially long pandemic, which means reestablishing the assets that I have to a new customer base. That needs to be my primary focus before putting employees back into positions that no longer exist. (Business Sector)

There's no way to grant our way out of this pandemic, and small businesses can't take on a significant amount of debt to solve their way out of the situation. We recognize that the federal government is not going to fix this problem for us; they are helpful, but we need to come up with local solutions. A team that represents a wide range of stakeholders from across our community is working on these issues. They have implemented more of a targeted approach so that we feel like we can do much more with a lot less. (Business Sector)

The Paycheck Protection Program needs greater clarity and better timing with the EIDL loan. We recognize that the SBA is in a nearly impossible situation, but this problem can't be solved with a shotgun approach. (Business Sector)

We need income and we can't have income without re-opening. The Governors can have the greatest impact by having a solid plan in place with clear communication of what the next step is moving forward. That is the next best thing we can do for small businesses. (Business Sector)

As a community bank, we are relationship driven. When the pandemic worsened in March, we called every one of our amortizing loans and offered a three-month payment deferral. (Financial Services Sector)

When Congress started debating the CARES Act, we were excited, and we believed that it was well-designed and could provide a meaningful chance for small businesses and their employees to survive a short shutdown. However, there were some flaws in the rollout. (Financial Services Sector)

We shoveled out \$285 million to 2,400 businesses without looking at the ability to repay because these loans were meant to be forgiven. Others spoke about the need for loans two years or longer, but the truth of it is we are condemning a lot of our small businesses to failure if these loans are not forgiven. (Financial Services Sector)

No one can plan for this kind of stoppage – going from 100% to 0% overnight is not a plannable event. No government stimulus can replace the wealth creation of a working economy. (Financial Services Sector)

The Forest Service can deploy and use teams for all kinds of hazards and emergencies, include public health crises, terrorist attacks, and natural disasters. (Federal Government)

## Remote Work

Many businesses realize that talent isn't in a zip code. There is talent in every community, but there isn't opportunity in every community. We have started including the businesses we partner with on remote work into local economic development planning. (Academic Sector)

Connecting people in rural communities to remote jobs helps to stabilize the community, which can then support service jobs. (Local Government)

If you can talk on the phone, you can work remotely. Customer assistance is a great example. Amazon has started doing chat functions. Lots of companies outsource and AI will only take the companies so far. Sales jobs are another example. (Academic Sector)



When you get a remote work job, the salary is tagged to that market, not the rural market. (Academic Sector)

There are many benefits to remote work, but it's difficult for disabled people to get past thinking that this type of work is punishment. We need to have the mindset that remote work is something that is earned now, although it shouldn't be an avenue to avoid making physical locations accessible for disabled people. (Federal Government)

Remote work can help solve talent shortages in urban areas and high unemployment in rural areas by connecting the two. (Academic Sector)

When matching people with a remote work opportunity, ask them where they want to be in five years and then reverse engineer. Do some career exploration and assess their skills. Connecting them to a remote work certification is helpful as well. (Local Government)

To target communities for remote work, look at unemployment numbers. Many of the rural unemployed are women in their homes, who are educated but don't have options. (Academic Sector)

Remote workers are coming from both big companies as well as the smaller local businesses whose workers realize they have the skill training to meet a local niche. (Business Sector)

Rural colocation centers for remote work should be a professional environment with reliable connectivity. (Academic Sector)

Local neutral employment programs, which provide incentives to companies that allow for remote work, are a way to ensure that economic development in a state occurs in both rural and urban areas. (Business Sector)

Every company is a tech company now. There are certain industries where most of the workforce has to be on-site, but there are still functions that can be supported remotely. Look at positions for remote work rather than the industries as a whole. (Academic Sector)

Remote work is leveling the playing field and encouraging innovation. Technology has allowed businesses to innovate in ways that expands the customer base as well as employee options. (Federal Government)

Communicating digitally is gaining traction. In-person isn't the only way to communicate. If we embrace digital communication, it can be more connecting than disconnecting, because you have access to people you wouldn't be able to meet personally. (Local Government)

Virtual assisting is a role solopreneurs can take. This might be someone who has experience with social media and web management. (Local Government)

The evolution of the workforce and the opportunity to telecommute and tap into valuable minds in rural communities involves these areas with tech companies and modern movements in society. It's a great way to solidify the US and the western region. (Tribal)

The transition from working in an office to working at home can be difficult, especially for people with disabilities, who worked hard to get into the workplace and to be viewed as an equal. The challenge lies in shifting your mindset and learning how you can be as effective of a leader remotely as you are in the office. It depends on the employee and the employer. Employer efforts to ensure that remote workers are included in team building activities are useful, and remote workers should be available for those activities. (Federal Government)

Technology has the power to do so many things that help improve employment outcomes for the full and equal participation in society of people with disabilities. The limiting factors are how we are using that technology and whether we're putting thought into how we are designing the technology for. (Telecommunications Sector)

The common enabler that we're seeing of technology and people in the 21st century is broadband and high-speed access. This access, which is traditionally wired but is increasingly wireless with LTE and 5G coming online, makes telework possible, which has long been used as a job accommodation for people with disabilities. Real connectivity barriers along with imagined barriers, like whether people can actually be productive in a remote work situation, have limited its adoption. But I think we're finding out with the pandemic that we're able to do a lot more work remotely than we ever thought possible. (Telecommunications Sector)

We need to combat the perception that rural communities are too far from epicenters to attract big companies. These companies can do business in small towns – we have the infrastructure. This mindset should shift as more people work remotely. (Local Government)



Seasonal jobs are considered the first phase of economic development. You need to have people and a workforce first. Jobs will follow. For some of these communities, telecommuting is a big part of getting the people you need. Retirees who stay in the community help too, because they give a lot more in taxes than they take. (State Government)

We try to support the entire region with our work. Since we are a job creation program, and these are economic based jobs, it is very important to the community. Not only do we help people get assessed, we help them get the skills they need and get placed in a job. We help people carve out remote career paths and offer assistance even after they're placed. Part of the reason for the development of this remote work program is to address the workforce shortage issue in rural areas. (Local Government)

One area we've seen enormous growth in is income generated in communities through non-traditional work environments, such as working remotely. Investing in broadband is key to unlocking this growth potential. (Financial Services Sector)

There has been an influx in the ability to work remotely, and the income generated by remote work in communities has contributed to revitalization and other community efforts. (Financial Services Sector)

The remote entrepreneur has the ability to transform a rural economy if they're able to grow, and technology is a catalyst for growth. However, people of color and other marginalized communities are at a disadvantage because they often don't have access to these technologies. We need to work to address that disparity so all entrepreneurs can grow. (Business Sector)

## Workforce Development

There are more jobs than there are people to fill them, and new Americans can help. Part of the solution is embracing more diversity, equity, and inclusion. (Federal Government)

The brain drain is when your high school kids graduate, and they leave your community. It is a measure of success when your children go out in the world and succeed, but they've got to know that they can come home and make a life in their hometown. Are you giving your young people a narrative of hope, that there's some place for them to come back to? (Academic Sector)

When asking newcomers why they moved to rural areas, the top three answers were for a simpler pace of life, safety and security (especially for people with kids), and low housing costs. It wasn't jobs first. Do jobs bring people or do people bring jobs? Right now, it's a mixed bag, especially with technology and with contract workers who can live wherever they want. When people are moving for nonjob reasons, they are exploring a region first, and then they start looking for a job. (Academic Sector)

With harnessing the rural workforce, education is key, but it needs to be accessible to rural people and the right fit for the community. We need to focus not just on the industries that are already there, but also on where to go next. This concept is especially important in resource-driven communities to reduce economic volatility. (Federal Government)

Smart people do things that don't always include a bachelor's degree. We need to empower rewarding work through routes other than incurring huge debts that might not adequately prepare people for what they want to do. (Federal Government)

For resource extraction communities and other transitioning economies, [diversifyeconomies.org](https://diversifyeconomies.org) has many helpful resources. With workforce development, it's necessary to both act and plan at the same time. You must act in the now by retraining and uptraining the workforce and working with your local community college. Additionally, you must look to the future, such as targeting K-12 to ensure the next generation is prepared. Finally, you must have investments in place by capitalizing on natural assets and addressing quality of life considerations in your community, to attract middle-aged people back to your community and since there is a place-based trend of people choosing where they want to live before finding a job. (Local Government)

There are several key actions to developing a workforce. First, do your research and honestly assess the community's workforce. The StatsAmerica site is great place to start – it's a one-stop shop for economic development data, and the cluster mapping feature helps you align your current workforce with other industries needing similar skills. Planning is critical, so evaluate the assets that are already there and build off those. In the planning process, incorporate accountability and best practices; develop an action plan. It's also important to add diverse people to the planning effort, and to bring in people that aren't from traditional economic development, such as community champions and young people. Cooperate within the community and with neighboring counties and communities – economies don't know political boundaries. If you don't know about wealth and capital, think hard and learn, and not just in terms of money. Social capital is another example. Connecting groups is beneficial for quality of place, and for finding jobs as well. In economic development, you want to build. In baseball terms, hit for singles and not home runs. (Local Government)



In response to worker shortages, we have tried education upskilling first, which is much more successful with locals. We meet quarterly with high schools, community colleges, universities, and the petroleum industry. We are trying to move towards a career academy concept. (Local Government)

Young people come for school because they like the lifestyle and want to stay, but the challenge is connecting them to jobs. (Local Government)

In transitioning economies, colleges should think about what the region needs and then coordinate and connect their goals. (Local Government)

In Colorado, the wind energy industry partnered with a junior college to create a workforce development opportunity. They developed an advanced manufacturing program focused in the wind energy sector. All students graduate with a 2-year degree and a job, mostly in the \$80,000 per year range. (Conservation Sector)

We need to find new opportunities for our resources. The issue of having an educated and skilled workforce is intermingled with the need to shift and take advantage of emerging technologies. Building a line of communication between K-12 schools and higher education is important to develop skills-based learning. Educators need to hear from the business community and researchers as to what they need. (Business Sector)

Rural communities need the right skill sets to take advantage of energy clusters by integrating skills-based learning into community colleges. Investors are starting to get interested, so having communities help investment happen will be essential. (Manufacturing Sector)

Some schools are doing a farm to school program, where each grade is assigned to part of the farming. It's a teaching opportunity – the kids learn science, culture, and math through hands on experience. Now, children want to be farmers and gardeners when they grow up. (Community Service/Nonprofit)

The Department of Labor doesn't want a separate workforce development system for disabled people. We want a system with universal design. We need to ensure that programs are inclusive of the largest group of people possible, including the disabled community. When we design for everyone, it allows industries to tap into each group, especially the large pool of disabled workers. (Federal Government)

Increasing awareness around the challenges disabled people and the disabled workforce face from the state to the local level is important. (Federal Government)

The large discrepancy among states for disability employment is due to gubernatorial and local leadership. It depends on awareness and the implementation of innovative workforce strategies. The types of jobs available in the state matter as well. (Federal Government)

Education and workforce development reform, led by the Coalition for Career Development, focuses on five key areas: prioritizing career planning, providing professional career advising, emphasizing applied and work-based learning, utilizing high quality career development technology, and ensuring accountability. With career planning, every 8th grader has a career readiness plan and every high schooler must have a career plan by learning high school. We have kids think about these topics early. For professional career advising, there are opportunities for kids to talk to people who know what the market and the economy offers today. Many counselors don't have a good understanding of the career opportunity landscape. In rural areas, we need to depend on job creators in the community. Every school should have a career development advisor. The emphasis on applied and work-based learning is because education is more than textbooks and tests. Kids need exposure to what is actually happening through apprenticeships and internships, a model that can work even in very small towns. We should be working with towns to encourage businesses to get high school students into their industry, which could be a way to recruit successors. Once we've expanded broadband, we need to make sure that rural kids are exposed to technology in order to help them explore opportunities. Finally, we must ensure accountability; the state should play a role in guaranteeing that schools are meeting the goals. (Academic Sector)

Areas that used to depend mainly on one resource, such as wood, need new skills and opportunities for people post-high school to replace the middle-class jobs that were lost from that industry. (Academic Sector)

Engaging youth in high priority community projects, such as conservation efforts, gives them credentials and hands on experience while improving the community. (Community Service/Nonprofit)

With workforce development, success could be defined as a young person going off to a career, community college, or college – whatever path they decide. Many young people don't have a desire to think about higher education, so we try to break down those barriers. (Community Service/Nonprofit)



Mentorships with businesspeople in the community can prepare young people for a variety of different careers. (Community Service/Nonprofit)

75% of houses in the rural west need to be rebuilt or rehabilitated and many people in those communities are older. There is a tremendous career opportunity to rebuild towns. (Housing Sector)

There are 375,000 unfilled construction jobs, which is a trend that is expected to continue for the next ten to fifteen years. The aging population of the current workforce will keep driving that. Schools are starting to reach out to builders. The main factor moving kids to consider construction is salary. (Housing Sector)

No matter what industry you are looking at for workforce development, think about partnering with local associations. (Housing Sector)

The housing sector is engaging groups that are re-entering the workforce, such as veterans and people who were formerly in jail. (Housing Sector)

The push right now is to get workforce development into middle schools. Industries are trying to get kids excited at an early age so that they choose that pathway when they get to high school. (Housing Sector)

There is a myth that the best people leave small towns as soon as they can. Myths start somewhere, so there was probably some truth to that statement at one point. There is a feeling in communities that they lose the smartest kids. We need to combat that by giving the opportunities for these people to stay and to participate fully. It's not always easy, which is why it's all about partnerships – work with schools, homebuilders, and economic development groups to structure solutions. (Academic Sector)

Lots of kids want to stay in rural communities where they have family ties, but young adults struggle to stay in small communities with limited jobs. We must connect them with options for education locally and with the career paths that exist there. (Community Service/Nonprofit)

Because we lost a majority of trades folks in the recession, at the state level, they're letting kids from sixteen to eighteen years old apprentice without violating state laws. At the industry level, we're looking at what we can provide financially to make these fields attractive. (Housing Sector)

We must bring teachers to the table for workforce focused discussions. They are missing from the conversation. We need workforce development integrated into post-secondary curriculum for education majors in college. Teachers don't seem to value career education, because they think they are failing their students if they don't send them to college. (Forestry Sector)

Career should be part of the teaching for any subject matter class and academic teachers should have a career awareness focus. It's not a replacement for academics, but rather an integration issue. Students engage in and like these types of programs, as demonstrated by higher attendance rates. (Academic Sector)

We are engaging educators on their role in workforce development by reteaching community college teachers. Career training is starting to get implemented across all disciplines. It comes from the top in the college – you need to find leadership in the schools who will talk about it and encourage implementation. (Academic Sector)

The GI bill provides lots of opportunities for agricultural education and training for service members. This presents a strategy to match available workforce with needed careers. (Agricultural Sector)

We are woefully behind in preparing college graduates for careers in food and agriculture. There is a gap of approximately 30,000 to 40,000 graduates per year from the 60,000 or so the industry will need. We need to grow these individuals from youth, so that they move into agriculture or food systems work as a career. (Academic Sector)

38% of 10,000 students in Future Farmers of America identify as minorities. We need to think broader than the white male population that has dominated the agriculture industry for a long time. We need to cast a wide net in terms of recruiting new entrants to the sector. (Academic Sector)

The more support we can provide in encouraging women into the agriculture industry, the more success we'll have in the future. (Academic Sector)

New farmers and ranchers are limited in their success with lack of access to land, technical knowledge, and capital. Those are the limitations that need to be addressed, along with undoing biases of what farmers look like. (Academic Sector)



There are opportunities in our schools to show students there are prospects for them within our small towns in which they can thrive. We need to demonstrate that the workforce is changing, the jobs of today likely won't be the jobs of tomorrow, and there are employment opportunities around changing technology. (Community Development Sector)

With every agricultural job 'replaced' by robots, there is a new job created in programming and design of those robots. (Agricultural Sector)

We try to support the entire region with our work. Since we are a job creation program, and these are economic based jobs, it is very important to the community. Not only do we help people get assessed, we help them get the skills they need and get placed in a job. We help people carve out remote career paths and offer assistance even after they're placed. Part of the reason for the development of this remote work program is to address the workforce shortage issue in rural areas. (Local Government)

The cooperative model has such strengths in rural communities because of the ownership structure. Lower employee turnover translates to success in many industries. Cooperatives treat their workers well; they have good safety, high community participation, and professional development. It is the culture of education and training that keeps people engaged and innovating, since they're not just a cog in the machine. The cooperative model is a good way to address workforce capacity issues. (Business Sector)

In Montana, we are looking at the potential to use cooperative model to solve childcare challenges in the state. We are hearing from businesses in rural places that when they are ready to recruit someone to the community, the family realizes there are no licensed childcare providers in the county, and no open childcare spots even if the provider is not licensed. Rural communities are clear that it's hurting their ability to recruit workers and businesses are talking about coming together to solve the issue. (State Government)

We have two childcare cooperatives operating in North Dakota. They are incorporated as a nonprofit but operated as a cooperative in the bylaws. In this model, a group of employers comes together, forms a nonprofit, and pools their resources. The nonprofit gives them a tool to donate and take a tax deduction. In a town of 2,500, we planned for thirty children, but quickly learned that wasn't enough. Instead, we started with eighty spots, which filled instantly. The startup board is comprised of the business owners who are able to contribute, who then step off as parents fill the board and serve as oversight for the director. The entire process took six months. (Energy and Electricity Sector)

Cooperatives have a strong reputation in workforce development. Professional development and ongoing education are one of the cooperative principles. Typically, workers are able to have multiple roles due to nature of the business. That is one of the factors contributing to viability of cooperative businesses and strengthening the community as well. (Business Sector)

Hiring someone to focus on tech and expanding the tech sector fosters the entrepreneurial ecosystem that allows people to establish new businesses and grow. This work is very different than traditional recruitment – it's finding people within the community and then giving them the correct resources and tools. (Local Government)

If you have connectivity, building out the technology sector is a great workforce opportunity. (Local Government)

It's very important to support training through high schools and community colleges to add capacity to do energy efficiency work in small communities. (Energy and Electricity Sector)

Small businesses are saying that they are facing workforce challenges. Agencies are trying to break down silos across the federal family and work on these issues. (Federal Government)

Land grant universities, historically black colleges, and tribal colleges provide great access to education that intersects with rural communities. They have come up with lifetime learning and economic mobility opportunities related to outdoor recreation. Examples include outdoor school experiences for students and education on associated topics, post-secondary experiences for degree programs in outdoor products design and development that help fill technical skills gaps in the field and connect students to outdoor products companies, and other workforce development and training. (Academic Sector)

There is a program, the Outdoor Economy Initiative, that identified skills the outdoor recreation industry needs in its workforce, such as leadership, problem-solving, and critical thinking, and created a credential that provides training on these. Various land grant universities partnering together on these outdoor economy workforce development efforts can provide a better platform for learning and experiences. (Academic Sector)

Outdoor recreation jobs bring up the image of seasonal or low wage jobs because there is a gap in skills to get those workers to management positions. (Academic Sector)

Job training is an important element to transition from low wage and seasonal jobs. Outdoor recreation training in high school and post-secondary education helps bring kids back to communities. (State Government)



The intersection of data science and outdoor recreation and how to use data to drive decision-making is a rural community skill gap. Invest in workforce development opportunities in this area. (Academic Sector)

There are 55 million Hispanics in the US and we need to engage them in the outdoor industry, both in recreation and in stewardship. Tree planting is a way to bring in this group and begin the education process. (Tourism and Outdoor Recreation Sector)

Extension needs to do the same thing for outdoor recreation as it does for agriculture and forestry in terms of academic preparation, engagement, and training. Fire management training is a recent addition to Extension services. Because Extension is a needs-based organization, it can move wherever states and communities need. (Academic Sector)

Communities need people who know how to build better trails and maintain them. Online modules and other training can help close this gap. (State Government)

We have started to work with some school districts in small towns to look at ways to get students into pharmacy technician roles as a first step before going on to college for a pharmacy degree in order to build more capacity in the field. (Academic Sector)

The timber industry is strongly innovation based. Examples include the CT scanner, which can be used to see inside the log and ensure it is sawed in an efficient way and robotics. The industry has a greater interest in hiring engineers than low-income workers because they require the skills of flying drones and programming robots. (Forestry Sector)

We don't have a higher skilled, engineering workforce for the forestry sector and the Forestry Service because we haven't built that. We're looking for ways to accelerate the pipeline, which is where partnerships with universities can help. Integration is a critical factor, so we need to rethink how we hire and train to incorporate that integration. (Federal Government)

We're trying to figure out how to make forests and forest education part of the classroom so students can see themselves in the field after graduating. (Federal Government)

Land grant universities can help respond to workforce needs in the forestry sector. The Extension Service can be used to do place-based training, which could also be a tool for retraining and upskilling. (Academic Sector)

In many ways, self-employment is a workforce development strategy. (Business Sector)

We have a lot of national partners, but those national partners have a supply chain. So, although we are working with large companies, we also work the smaller companies in the supply chain as well as several companies that have work-from-home positions in the rural areas. In rural areas we've got transportation issues, we've got issues with broadband connectivity, we really need to look at remote work as a way to enable the very skilled workforce to continue working. We also work closely with agricultural operations to modify farm equipment so that people after having an accident can continue working. (State Government)

In Alaska, our rural and remote regions have wage employment but it's different than our urban areas. You have government services, education administration, post office, fishing and processing, transportation, mining, drilling, tourism, retail, many of these things have a very seasonal nature to them. But what's important to realize is equally or sometimes even more so present in our rural and remote regions is informal employment, trade, reciprocity, subsistence. Those things make up what would be a normal commensurate adult economic activity. We wanted to make sure students with disabilities were getting those traditional Alaska skills so they could stay in their home community and be successful. (State Government)

The vocational training and certification program at San Juan Community College is just outstanding. Community colleges are crucial resources, assets, and physical space for people to convene around a whole range of transition efforts. They become hubs for retraining, maker spaces, incubators, startup bases. Retraining has been rethought around IT and medicine and renewable energy. Many employees feel like they do not have the luxury of stepping out of high-paying resource sector jobs to get retrained for jobs that are lower paying and still sustain their debt load and standard of living, so they typically don't retrain or they leave and follow the energy frontier. San Juan focused on stackable credentials. They did market analysis of where jobs are so they wouldn't train people for jobs that don't exist, and then gave people an opportunity to step into and out of the labor market, to build skills in a sequential manner without foregoing income for a sustained period of time. The sequential reskilling over time allows people to rebuild their earning power. (Community Development Sector)

Partnerships with universities can help communities that don't have the planning staff and capacity to develop multi-hazard plans. Planning students can assist with this work, which gives them experience and stretches dollars for rural communities. (Academic Sector)



# Agriculture

Agriculture has not been the primary income in rural areas for over eighty years. Today, education and health services by far make up the majority of jobs in rural places. (Academic Sector)

We would not be where we are today in the agricultural sector without huge technology and innovation leaps that allow us to develop large amounts of healthy food. Food is safe, and this innovation is crucial to feeding the world. (Federal Government)

We have been investing in fixed wireless internet and identifying vertical assets, which allows us to serve the future of agriculture. While it is impossible to run fiber or wired line to every acre, the speed, reliability, and throughput of fixed wireless has improved considerably in past years. There is access to licensed and unlicensed spectrum becoming available from FCC, allowing speed of fixed wireless to go through the roof. (Telecommunications Sector)

Digital connectivity in agriculture is dead last out of all industries in the United States. If we can move data efficiently from the grain elevator to the farmer and back, then we think we can make a really big impact. (Agricultural Sector)

We created tools so that farmers could see all the accounting information from their grain elevators without having to go get paper tickets. (Agricultural Sector)

A planter built in 2009 is 48 rows and for every mile an hour it goes it plants 10.6 acres. When we bought the planter, it could only go 4 or 5 mph and be accurate with our 2020 sensor. We invested in that planter, and now it can go 10 mph and we can plant 106 acres an hour. That is how much precision agriculture has changed things. (Agricultural Sector)

The biggest thing that happened in precision agriculture was GPS. You used to lose 7% efficiency, and now we're within a half inch accuracy, doing more with less. One man can do the same with one planter what two men did just a few years ago. That's productivity and that's what precision agriculture does for us today. (Agricultural Sector)

In North Dakota, we can raise crops that they cannot grow in other states, or that they cannot grow as well. We're ahead of the pack. But while we're good at producing, we're not good at manufacturing. I'd like to see more of that happen in our state, so we don't have to ship these crops away – it just takes some grassroots people to get involved. (Agricultural Sector)

I use Razor, Fieldview, and Conservis software, which are related to Global Good Agricultural Practices (GAP), the most employed farm certification program in the world. Conservis saves planting, spraying, and harvest data, so you can experiment with spraying and figure out if it's worth doing again. People have a high level of confidence in this real time data. When it rains at night, Fieldview provides real time data analysis. It tells you how much rain you got in any field and when there is a chance of hail, all on your phone. Razor tracks every truck and tractor. We couldn't use any of this software without connectivity. (Agricultural Sector)

We use agricultural software, such as Razor, Fieldview, and Conservis, because of Global GAP. People want to know where their food is coming from, and they want traceability. Some companies mandate their suppliers to be Global GAP accredited. (Agricultural Sector)

200,000 farms in 155 countries are certified by Global GAP. It can tell you the day we planted the crop, what we sprayed it with, when we harvested it, and where we shipped it. These practices are slowly coming to North Dakota. (Agricultural Sector)

Arcadia wheat, from the genomic company Arcadia BioSciences in California, is a reduced starch, low gluten what that gives whole wheat a shelf life of thirty weeks. They are working on drought resistant soybean now. These crops are technology not in software, but in food, and I believe we can specialize in them. (Agricultural Sector)

We are committed to building the first fully autonomous farm. (Agricultural Sector)

The idea of smaller, more efficient, and maybe even electric machines is an interesting one. An autonomous machine is less intimidating if it's smaller. Moreover, big machines that plant 100 acres an hour plant zero acres when they break down. With ten smaller planters, if one planter breaks down, you are still planting at 90%. This "swarm technology" model may challenge the traditional model of scale and may be what is needed to make autonomy work. (Agricultural Sector)

Often, there aren't enough people to fill agricultural jobs. Automation would make farming three times more efficient. (Agricultural Sector)

In order to integrate new technology into farming, we first have to get everyone involved to understand what is already possible. It's useless to challenge people to think about the future if they don't know what can be done today. We need to show that the technology is already possible. (Agricultural Sector)

When you produce and process crops in-state, farmers can get more money. For example, before there was a state mill for flour in North Dakota, farmers received seventeen cents per mill. After the state built a mill, revenue increased to thirty-four cents. (Agricultural Sector)

To produce and process more crops locally, we have to get over the attitude that it needs to be done elsewhere. We can do it all in our communities. (Agricultural Sector)

One challenge with manufacturing more meat in-state is the disassociation people have with livestock, and the not-in-my-backyard attitude. (Agricultural Sector)

We must invest in cybersecurity for precision agriculture to ensure our data is well protected. (Telecommunications Sector)

This industry needs to overcome the mentality that personal servers are safer than the Cloud for storing agricultural data. We should keep our data on the Cloud, because Google and Amazon have the largest security budgets on earth and will keep it more secure than we can. (Agricultural Sector)

In the future, there will be fleets of people whose job is to scout drones and planes remotely for farmers. We're already doing that on our autonomous test farm site. (Agricultural Sector)

We're working hemp into wineries as a means for value-added agriculture. (NM Governor Grisham)

Food insecurity is a critical issue in rural areas, especially on reservations. Coal mines and generating plants have depleted water tables, impacting the ability to raise food. (Community Service/Nonprofit)

Farm to table is an outgrowth of farmers' market development. Around 25 years ago, farmers' markets were on the upswing, providing local farmers and ranchers opportunities to sell their goods locally. Farm to table expanded on this mission by continuing to build out local markets for agriculture, creating a cross-sector coalition working on policy related to health, hunger, agriculture, and education, and spearheading farm to school efforts. (Agricultural Sector)

Connecting local agriculture to as many people and parts of the community as possible, such as schools, seniors, local grocery stores, and underserved populations, builds out the agriculture economy in a robust way. For example, figuring out how WIC recipients can shop at farmers' markets and providing them with matching funds from the state increases clientele for local products and access to fresh food. These types of efforts have expanded farmers' markets and school food programs dramatically. (Agricultural Sector)

A supply chain perspective is beneficial for farmers to build out marketing opportunities into grocery stores, schools, and national chains. Policy can spur investment in local agriculture, which can then have an exponential effect as people become more familiar with the farms and the products. For example, in New Mexico, the state appropriated \$450,000 to schools per year to buy local food. Now, that \$450,000 translates into more than \$1.2 million in purchases from schools, complemented by \$13 million in other local sales that didn't exist 10 years ago. (Agricultural Sector)

We're trying to do experiential learning in schools to get young people and new groups interested in agriculture. We pair up students with existing agricultural producers. (Agricultural Sector)

Some schools are doing a farm-to-school program, where each grade is assigned to part of the farming. It's a teaching opportunity – the kids learn science, culture, and math through hands on experience. Now, children want to be farmers and gardeners when they grow up. (Community Service/Nonprofit)

Farmers are hesitant to participate in farm-to-school programs because they don't like the business side and the regulatory complexity scares them off. We are trying to ease that hesitation and encourage participation. (Community Service/Nonprofit)

We need to continue export agriculture while also focusing on local markets and building out local agricultural infrastructure. (Agricultural Sector)

Tribes have to go to state governors separately to develop agricultural policy. It would be helpful if we could coordinate together instead. (Community Service/Nonprofit)



We need to make sure that we not only deploy fiber to the farm, but also that farms are connected wirelessly. This combined connectivity supports variable rate technologies that improve automated fertilizer and herbicide application, soil monitoring, and moisture sensors. (Telecommunications Sector)

Top ten counties in terms of agricultural production are in western states. This shows the influence of specialty, high-value crops raised in the West. (Federal Government)

This is an exciting time for technology in the agriculture sector. There are a lot of societal challenges like population growth and environmental issues that agriculture will play a role in solving. We are seeing rapid increases in efficiency and yields. (Agricultural Sector)

Over the last 3-4 years, net income for farms in Oregon is down about 50%. What would it look like in your household if you took your income and chopped it in half? (Agricultural Sector)

There are a lot of convenings of food systems stakeholders. When your state or community is hosting those discussions, make sure that farmers and ranchers are present. We must include the people whose livelihoods depend on farming and ranching. (Agricultural Sector)

We are woefully behind in preparing college graduates for careers in food and agriculture. There is a gap of approximately 30,000-40,000 graduates per year from the 60,000 or so the industry will need. We need to grow these individuals from youth, so that they move into agriculture or food systems work as a career. (Academic Sector)

38% of 10,000 students in Future Farmers of America identify as minorities. We need to think broader than the white male population that has dominated the agriculture industry for a long time. We need to cast a wide net in terms of recruiting new entrants to the sector. (Academic Sector)

The more support we can provide in encouraging women into the agriculture industry, the more success we'll have in the future. (Academic Sector)

New farmers and ranchers are limited in their success with lack of access to land and technical knowledge, and capital. Those are the limitations that need to be addressed, along with undoing biases of what farmers look like. (Academic Sector)

One potential issue with COVID-19 will be if there are more stringent shelter-in-place policies. Agriculture is very seasonally bound. Whatever public health limitations are put in place, we would like them to not constrain agricultural production and interrupt the food chain. (Agricultural Sector)

Cooperative Extension Services possess a tremendously powerful network because they have a presence in every county in the country. This network can be leveraged to address community's needs, both in and outside of agriculture. (Academic Sector)

Studies shown that agriculture is a great way to deal with PTSD. Agriculture can be therapeutic, so we work to place veterans into careers that they can function well in. (Agricultural Sector)

The GI bill provides lots of opportunities for agricultural education and training for service members. This presents a strategy to match available workforce with needed careers. (Agricultural Sector)

USDA conducts a quarterly labor survey and will be collecting data in April. This will show how many workers are on farms and the early, local impacts of COVID-19. The numbers will tell the story and will help to move policy. (Federal Government)

We have concerns about COVID'S effects on seasonal agricultural workers. The proactive thing we're doing is trying to get the best information to employers. We want them to be aware of policies and practices that promote the safety of workers and the integrity of the food supply chain. (Agricultural Sector)

One of our big efforts is letting veterans know that agricultural jobs exist and are in demand. We emphasize that they can often stay in their home communities while working in the industry. (Agricultural Sector)

Wyoming was the first state to champion the idea of the utilization of blockchain technology in the animal industries. There's a pilot company known as BeefChain who have thousands of cattle that are on the blockchain. That group has also been an advocate for the USDA approval for a digital certification that uses blockchain. (Agricultural Sector)



State-wide application of precision agriculture technology is not as great as you would hope. When looking at outputs for farms and regions widely using the technology you see improving trends, but when looking at a state level there isn't really much improvement. You will see wider use and adoption of the technologies in more farm-intensive communities and states. (Agricultural Sector)

One of the major challenges with adoption of precision agriculture technologies is education, it is training older farmers that don't have the same experience with technology as millennials, and showing the farmers and ranchers either how they are going to make money or save money by using the technology. But by far the biggest hang up is broadband and bandwidth. When one person gets broadband and there is enough bandwidth to say the entire county is receiving broadband access, it's completely inappropriate. There is such a need to expand broadband and increase connectivity for the farmers throughout many of these regions. (Agricultural Sector)

Extension centers throughout the West are working with a variety of entities trying to learn more about how broadband is influencing producers in rural communities and working with policymakers to address the limitations of connectivity. (Agricultural Sector)

The biggest benefit of using precision agriculture and other technologies on your farm is record keeping for crop insurance purposes. That information is accepted at the FSA and RMA office for risk management; it's now a quick process when it used to be very tedious. (Agricultural Sector)

The Pacific Northwest Farmers' Cooperative is most well-known for raising and marketing chickpeas to Sabra. Sabra sources most of the chickpeas for their hummus here in the Pacific Northwest. (Agricultural Sector)

You think of farming and you think of big commodity crops, but we need diversify to stay profitable in our markets. Partnering with Pacific Northwest Farmers' Cooperative allowed me to diversify my farm to raise rotational crops when the markets fluctuate. The coop did the groundwork to develop these crops, make them marketable, create business relationships throughout the country and the world. For a farmer like me, I can partner with someone who already done the groundwork and leg work. (Agricultural Sector)

In the past 30 years, the number of farming coops has probably fallen to a third of what it once was. What used to be 10 coops in a region is now 3. They originally started because farmers got together to figure out a better way to market their crops. They formed little coops all through rural towns. Now coops have done the same thing – they've asked how we can stay profitable and the answer has been to merge. Now you've got one giant coop in a region, but by merging together they have kept businesses open and kept communities alive. By coops merging together, it's keeping our small communities alive for the time being. What it will look in 20 years, will be interesting. (Agricultural Sector)

More people are investing in higher value agriculture and niche markets as opposed to the traditional model. In states without large processors, these higher value products can even stay within the state for the entire supply chain. Those that grow small amounts of food serve local markets and restaurants, and people are increasingly utilizing technology to source food in-state year-round and increase access to fresh produce. (Local Government)

Utilities can sign contracts with farms on renewable natural gas. The use of captured methane is beneficial. (Energy and Electricity Sector)

Some schools are doing a farm to school program, where each grade is assigned to part of the farming. It's a teaching opportunity – the kids learn science, culture, and math through hands on experience. Now, children want to be farmers and gardeners when they grow up. (Community Service/Nonprofit)

With every agricultural job 'replaced' by robots, there is a new job created in programming and design of those robots. (Agricultural Sector)

The Native American Agricultural Fund is really trying to partner with the Farm Credit Administration, because they have a lot of money, and work with them to set up a loan loss reserve that would take out some of the risk of loaning to ranchers and to agriculture. (Financial Services Sector)

Technology has provided huge advances for farmers in efficiencies and what they can do with their operations. (Financial Services Sector)



## Forestry

We work in traditional markets where we try to help advance opportunities for existing forest products to try to help expand markets: if you add value to forest lands they will continue to stay as forests; we also explore new technologies and new applications for wood, not only in existing markets, but look for new opportunities. One of those technologies is called ‘torrefaction’ which is a treatment of wood that changes the constitution of it a little bit into charcoal-like and it becomes more energy dense and hydrophobic making it easier to store – the treatment is important because it allows existing power plants to use that type of fuel without huge modification. Unfortunately, it’s not hard to find rural forest communities that have needs and existing mill infrastructure not being used to its full capacity. One mill partner was willing to take the risk with us; it was an isolated community with little access to markets, and no one was going to be able to take the risk there like we could. We also saw it as a challenge for ourselves because if we could do it in one of the hardest places to do it, every place after that was going to be a lot easier; if we can do it in a place with a suite of challenges, we can take that blueprint to other communities. (Forestry Sector)

Over the years, common sense and science have aligned around the need for active forest management. Attitudes ebb and flow in that area, but the general understanding surrounding the necessity of forest management has greatly increased, largely accelerated by fires. (ID Governor Little)

Mortality of trees and fire have increased exponentially in forests, especially over the last ten years, and in many areas, mortality has outstripped growth. More than 70% of national forests are in need of at least some treatment. (Forestry Sector)

Shared stewardship agreements can help increase the pace and scale of treatment on national forests and commit more resources to the cause. (Forestry Sector)

While the use of technology has increased capacity at mills, the drastic decline in the number of mills has resulted in a decrease of total mill capacity. Fewer mills mean no value for timber in some areas and consequent job loss, decreasing forest health, and decreasing restoration work, greater haul distances, and more expensive mills making higher amounts from less. (Forestry Sector)

When discussing how to increase board feet, or the volume of lumber, we must first ask whether the supply is there, how long the contract is, and whether we have workforce. We need to start with the existing infrastructure and try to grow that first. (Forestry Sector)

If we could get to six billion board feet, that would mean that every national forest would meet its goals. How can we accomplish that? The Forest Service can’t do it alone. We need to work with local collaboratives and have good data along with leadership in the forest. States must participate. 20% of the harvest should be done by states. (Forestry Sector)

Recreation has competition with forest management. Fire and smoke are tough on the recreation economy. Healthy forests really matter. (Federal Government)

There is a huge backlog on maintenance in national forests, which don’t have as good of a handle on the issue as national parks. Problems arise, such as trails closing from wildfires, and maintenance gets pushed back because investments go into buildings rather than assets, further compounding the situation. This dilemma prevents us from helping communities and providing amenities. (Federal Government)

Forest land can help handle overflow from national parks. Since the mission is very different and there is a wide array of available experiences, forests don’t face that challenge like national parks do. The Forest Service can handle a lot. While the experience for locals may be displaced slightly to serve that new demand, there is room for these communities to grow. (Federal Government)

There are plenty of trails, but they’re not in the best shape. We need investment in restoring and strengthening the existing capacity and infrastructure. (State Government)

Solutions to unhealthy forests include expanding the use of wood products, such as through mass timber projects, biofuels, and nanofiber, and an increased focus on improving the environment and thus reforestation and better forest management. (Forestry Sector)

For biomass, vegetation management needs to be embedded in rates. If we have woody biomass, forest health and energy goals should be able to align. (ID Governor Little)

Forest markets are driven by innovation and forest management can support rural communities and jobs. (Forestry Sector)

Water is the most valuable forest product there is. We should work on monetizing the value of forests' impacts on water quality. (Forestry Sector)

Since the 1980s, fewer people are employed for harvesting the same board feet, so an increase of board feet back to those levels won't create the same job numbers. (Academic Sector)

National Forests aren't just about cutting trees; there is a restoration mission as well, and that has to be valued. Stewardship contracting doesn't show up in county payments (Secure Rural Schools payments and Payments in Lieu of Taxes, but it still supports local communities. Mostly, the people who get those contracts are local people in rural communities. (Federal Government)

The key is to develop new markets, like for smaller diameter wood. These new markets help feed success and consequently support for the communities. They provide some certainty for smaller operators. While it's a complex system, the pieces are starting to come together and we're starting to see longer contracts. That will help the private sector step in. (Forestry Sector)

With the closure of mills, we realized that we needed them for restoration and forest management, so we're searching for the infrastructure to do that. Across western states, we're challenged with the same issue of how to recover infrastructure and how to partner to address restoration. (Federal Government)

Nez Perce has been able to sustain timber infrastructure due to the relationships between the forest, private industry, and working creatively to redefine industry practices and create a more diverse industry. (Federal Government)

A recent increase in facilitation skills and tools, such as the Good Neighbor Authority and stewardship contracting, have allowed states and industry to do work on the ground and get things done across boundaries. (Federal Government)

The next step is how we bring investors into forest restoration. Conservation financing is a way to transform how we get work done. (Federal Government)

To give bankers confidence that if they finance a sawmill, they will have a sustainable supply to support that investment and the workforce will be there, we need to do more work on solidifying the supply chain. One challenge is with the environmental planning processes. We need to streamline planning and implementation, which the Good Neighbor Authority helps with because it lends more capacity. (Federal Government)

The timber industry is strongly innovation based. Examples include the CT scanner, which can be used to see inside the log and ensure it is sawed in an efficient way and robotics. The industry has a greater interest in hiring engineers than low-income workers because they require the skills of flying drones and programming robots. (Forestry Sector)

We need to think about how to get lenders to invest in the timber industry and technology. There needs to be a dialogue between investment and technology stakeholders in this discussion. (Forestry Sector)

We don't have a higher skilled, engineering workforce for the forestry sector and the Forestry Service because we haven't built that. We're looking for ways to accelerate the pipeline, which is where partnerships with universities can help. Integration is a critical factor, so we need to rethink how we hire and train to incorporate that integration. (Federal Government)

We're trying to figure out how to make forests and forest education part of the classroom so students can see themselves in the field after graduating. (Federal Government)

Even as timber sales increase, litigation can be a challenge that causes areas to lose mills. We have had success in partnering together and having the governor, counties, and communities intervene on our behalf. (Federal Government)

We suppress and contain 96 to 98% of fires, but the 2 to 4% that escape are getting much larger. Approximately 5,000 homes are burned by wildfires each year. (Federal Government)

Because we don't have the capacity or resources to treat all fires, we prioritize fires that threaten communities – life is first, property is second, and resources are third. We also use a quantitative wildfire risk assessment to focus our resources on the greatest hazards. (Federal Government)

Fire and other emergencies know no boundaries, so collaboration is essential. (Federal Government)

The Wildfire Risk to Communities tool, developed by the Forest Service, is a great suite of resources for communities nationwide to explore to understand and reduce risk of wildfires. (Local Government)



Zoning, understanding the role of the Forest Service, getting more fuel treatments done, knowing evacuation routes, and moving wood piles are all vital for wildfire preparation. (Academic Sector)

Wildfire and wildfire preparation and response are very connected to other rural community issues. The resources you use for one are the resources you'll need to use for another, and we can mobilize these resources to address different threats and concerns. (Academic Sector)

The Forest Service coordinates constantly with state and local partners. Partners have to be on board for us to be successful. Success is determined by the local public's perception and understanding of our work, which is why we collaborate so closely with communities. (Federal Government)

One-third of firefighters are from the west. 10,000 firefighters are on contract. They're a critical part of the equation and we can't do our work without them. (Federal Government)

We work hard to ensure we're not impacting communities, but during wildfire season, we don't have control over where the smoke is going. There will be smoke – the question is when and how much. Communities can either have small, controlled amounts in the spring with prescribed fire versus large amounts with wildfires in the summer. People mostly understand this trade-off, but we continue to educate communities for those who don't. (Federal Government)

The Forest Service can deploy and use teams for all kinds of hazards and emergencies, include public health crises, terrorist attacks, and natural disasters. (Federal Government)

Like using community scale collaboration to overcome barriers to conduct fuel reduction, some of the areas that are most effectively increasing prescribed fire are going so through interagency and multi-scale collaboration. For example, land managers who want to burn are working very closely with air quality regulators to divide up airsheds and get higher quality information into the system to allow more burning on more days. There are also many resource challenges. Communities are solving those by expanding local capacity and the number of people who are on burns. They are developing partnerships between land management agencies, NGOs, and other local organizations to garner capacity and get fire on the ground at the right time of year. (Academic Sector)

Working to relax smoke rules and increase capacity helps to make everyone comfortable so that more burning can occur. (Academic Sector)

If you're a local government, you have information about where vulnerable populations are located. You need to build relationships so that you can let them know about prescribed fires and other actions. (Local Government)

Planning is a process. Not all planning departments, especially in the rural west, have multiple planners. Some countries have one planner and one emergency manager and sometimes that's the same person, so capacity is limited. We try to bring a lot of people to the table so that we can capitalize on their expertise, but it takes a while. Other responsibilities, such as updating fire safety standards and launching community wildfire protection plans, get pushed to the back without a designated hazard planner. (Local Government)

Having local wood processing infrastructure is critical for economic, conservation, and mitigation outcomes. It's very difficult to get it back once it's gone. (Academic Sector)

In the wildfire space, federal agencies interact very well with state, county, and municipal players, especially compared to where we were ten years ago. Shared stewardship agreements between agencies and governors is the next step. (Federal Government)

## Outdoor Recreation and Tourism

Our main stage theater productions draw thousands of people into our town and we put on other shows throughout the year, which has quite an impact on the community. At first, we wondered if anyone would come, but buses started showing up and streets were filled with cars. (Arts Sector)

When we travel, we want to go where the locals go, not where the tourists go, so our communities should provide tourists with these types of experiences. (Business Sector)

We want to figure out what would bring non-Indians to reservations, and how we can invite people into this space. (Tourism and Outdoor Recreation Sector)



In the west, we don't think about challenges and opportunities as mutually exclusive propositions. For example, take our ethos to protect our unique and beautiful natural environment. Our ability to protect the environment around us doesn't come at the expense of our economies. (NM Governor Grisham)

Cultural centers create jobs for community members, both tribal and non-tribal, and community members spend time there along with tourists. (Tourism and Outdoor Recreation Sector)

The tourism passion is about telling stories – it's like a love letter to that place – and rural communities have that ability. Many travelers want to connect and be part of a global family; they want to experience something. (Tourism and Outdoor Recreation Sector)

Tourism is very important to tribes, as well as the communities that are ancillary to tribal areas. (Tourism and Outdoor Recreation Sector)

We are attempting to address over-tourism by partnering with other tribes in the areas of concern. (Tourism and Outdoor Recreation Sector)

We are working with the National Park Service across the US to drive visitors and visitation to gateway tribal communities near national parks. We have also helped the Park Service interpret the Grand Canyon from the tribal perspective. (Tourism and Outdoor Recreation Sector)

In order to balance increasing tourism with the need to care for impacts to the natural environment, habitat control is crucial. We must have control over the visit, the flow of people, and where people can go due to the sacredness of traditions and lands, while still giving them a spiritual experience. For example, on our tour, people can't take pictures in certain areas. (Tourism and Outdoor Recreation Sector)

Communities have to be ready and have capacity for the impact that tourism causes. "Pint-sized" tours, with an 8 to 1 ratio of tourists to guides, can mitigate those effects. Small tours also have greater charm because people can hear stories and ask questions better. (Tourism and Outdoor Recreation Sector)

We need to teach manners when going to sacred spots. We live in a technologically driven world, but beautiful locations are harmed as people seek to take exceptional photos to put on Instagram. Visitors' manners are making tribes rethink tours and how they can instill the "leave no trace" mindset. Control of the number of people coming in is important as well. (Tourism and Outdoor Recreation Sector)

The Native American Tourism and Improving Visitor Experience (Native) Act passed in 2016 and is in implementation stages now. It was intended to coordinate federal agencies with missions that include tourism, making sure that tribes are included in planning. AIANTA is the facilitator and they have an MOU with DOI and DOC. The first role is determining the need in Indian country, while the second will be to develop technical tools to assist tribes. They will be doing listening sessions across the region, with the goal of empowering tribes and providing resources for tourism development. (Tourism and Outdoor Recreation Sector)

Working in a rural context is always challenging. Collaboration and communication are necessary for tribes and rural communities to work together on tourism, and often, that isn't happening. Connections need to be made, which is a frequent topic of conversation for us. (Tourism and Outdoor Recreation Sector)

Local tourism boards are there to help facilitate collaboration in the area, but tribes have to let them know. Many tribes are very cautious about working with people outside their communities because they don't have a great relationship with federal or state governments. They don't like money coming through states to them. It's important to focus on building trust first. (Tourism and Outdoor Recreation Sector)

Every reservation is different, and every tribe will have different approaches and attitudes to governments and rural communities. We're sovereign nations, but we're happy to accept help. MOUs are useful to define help and relationships with other tourism entities. (Tourism and Outdoor Recreation Sector)

Right now, our biggest priority is expanding tourism to be year-round. Tourism is hurting in winter months. Job security depends on the tourism traffic flow. (Tourism and Outdoor Recreation Sector)

In 2018, there were 1.986 million international visitors who came to Indian country. 5% of all visitors who came to the US. Those who come to Indian country stay longer. International travel to Indian country has increased over 180% since 2007. There is tremendous potential to work with your tribal communities. This tourism positively impacts everyone since money is being spent in the state and in rural communities adjacent to tribal communities. (Tourism and Outdoor Recreation Sector)



One of the challenges is also a blessing with curating in rural areas. There are sites without funding sources anymore. As travel operators, we are stewards of preserving our heritage and our culture as we invite people into these unique areas. It's about focusing on the experience as a whole and telling a deeper story about places that people can't Google or find elsewhere. The people living there don't necessarily know how to market that place or experience, so we bridge a gap between them and tourists. We need to look at this sector more collaboratively. Travel companies compete in some ways but we each have our own unique offering. We must create and cultivate unison versus separation if we're going to unveil these great opportunities for people to experience our rural places. (Tourism and Outdoor Recreation Sector)

New Mexico has a unique example of local collaboration resulting in infrastructure investment for tribes and colonias. A local legislator partnered with other legislators from these areas and set aside 4% from capital outlay dollars to develop infrastructure in tribes and colonias. Some of the basic functions these funds supported are essential to sustain tourism, such as access and drainage. These efforts have also bridged the gap on trust to work together. (Local Government)

Rural areas not only help the regional economy and tax base but provide the amenities for urban dwellers when they want to get out on the weekends. (Business Sector)

We have a lot of culturally specific and cultural heritage-based opportunities in communities that have figured out how to do something every year so they can raise economic development. For example, all around Pekin, North Dakota, they've been able to offer arts and cultural activities to the people of the county and made sure the board of directors included people from the other communities so there was regional ownership. They have an arts festival every summer that has put Pekin on the map- it now has a nationally juried art show, and now every summer they bring in over 5,000 people to that tiny community and helps to boost the economy of everyone contributing and participating in that art show. (State Government)

Wildlife viewing according to FWS last surveying found \$75 billion spent annually- a ton of money is put into local economies and it's a critical part of growing the economies for some of those places. (Conservation Sector)

There are many communities across the west who were once dependent on extractive industries and are trying to find out what the next play is. Outdoor recreation and tourism are becoming big players and there are great federal and state programs that support those communities. The Land and Water Conservation Fund for example, created to benefit the health of all Americans and increase outdoor opportunities. It's been really awesome to see a lot of these towns think critically about how to sustain an economy in the long-term. (Conservation Sector)

People are interested in [the history of the Acoma Pueblo], and with tourism comes job opportunities for our own local people. Even though it's not a huge job market, it does provide job opportunities. (Tourism and Outdoor Recreation Sector)

When people come out it's really about the geographic location, they love the beautiful drive 60 miles west of Albuquerque. The scenery is really inspiring to them and can give people a spiritual feeling when they come to our location. (Tourism and Outdoor Recreation Sector)

We are self-sustainable when it comes to tourism, but we talk about partnerships we are talking about the NM department of tourism, cultural centers: there are various programs around the state that are very supportive of who we are and what we do. (Tourism and Outdoor Recreation Sector)

[Advice] for tribes who are trying to get into tourism: seek assistance at the state level, and make sure it's what you want to do because there can be funding available. That's how I go about as the operations manager: how can we communicate with other Pueblos and how can we help one another promote one another? (Tourism and Outdoor Recreation Sector)

A focus on tourism recovery [after a disaster] has both urban and rural benefits and is a lifeline for much of our small to medium sized communities in the west. (State Government)

For rural communities that have a tourism economy, often based in recreation, as they reopen, many communities will be at different points in their willingness and ability to handle visitation. How do we message those varying levels of readiness... communities need to continue to promote their city or county while at the same time saying, 'Well maybe we don't want you to come right now.' (State Government)

We have habitat restoration days where we bring the community out and actually have them do that restoration. The value of that economy isn't just in the dollars and cents, but it's in the experience, knowledge and memories that develop by getting folks out there- it will have a lot of benefits besides just growing the local economy. By restoring habitats, you benefit from ecosystem services. By investing in the short term, there can be real long-term benefits like saving a community from a catastrophic wildfire. (Conservation Sector)

The arts have an impact on tourism and engaging the community: 31% of an arts audience in a rural community is not from that community as opposed to 19% of an arts audience in urban areas. Additionally, two-thirds of rural employers say the arts are an important part of retaining workers; often arts centers are where the community engages. (Federal Government)

On reservations, tourism and economic development projects draw in outside community, which can pose challenges. Recreation and access to land and trails make it difficult to protect sacred sites and culturally relevant areas. While we want to share some of that, we can't share it all, so it becomes a large balancing act. (Tourism and Outdoor Recreation Sector)

What we're seeing with the growth of craft brewing and value-added agricultural businesses is a community and cultural shift. Breweries serve as a community point – people go after work and on the weekends. They're hanging out and having conversations and they're meeting with their neighbors, friends, and tourists, resulting in a huge cultural impact we haven't otherwise seen. In the past, if you wanted to get the scoop in a small town, you would go to a coffee shop. Breweries now serve that role. People can share what the town is about, which has transitioned well to the tourist economy. It has extended the season in towns that normally get an economic boom in the summer. State residents come year-round, and breweries are a very important part of that. (Local Government)

In communities that don't tend to support tax increases, it can be difficult to request support to renovate city-owned theaters or arts facilities. In our experience, it helps to frame it as an economic development project and talk about how it will bring people in from out of town and the direct impact of increasing downtown traffic. (Local Government)

Outdoor recreation helps diversify economies in small towns. There may be a mine in the community, but there are also access points to trails, lakes, rivers, and other outdoor attractions that provide opportunities. (Local Government)

One of the most important trends in the airline industry is consolidation, and a decline in connectivity as a result. Two-thirds of states saw a decline, a vast majority at medium, small, and non-hub airports, making it more difficult for travelers to get to those areas and for those communities to be connected to the national and global economy. Cost increases because travelers have to go farther to find a suitable flight and take more connections, causing them to spend more time and money on airfare and gas to get to their final destination. (Tourism and Outdoor Recreation Sector)

We need to allow innovative partnerships between destinations, airports, and airlines. Instead of marketing the airport itself to attract or promote a new service, airports should be marketing the destination. Such a partnership would be one way to enhance tourism. (Tourism and Outdoor Recreation Sector)

Business aviation connects communities. Companies represented by business aviation are spread across fifty states and 5,000 airports, not just big hubs or where airlines have their operations. It serves as a network to get in and out of communities, especially Hawaii, Alaska, and other remote communities in the west. This service is a lifeline to these places, whether they need food, medical supplies, or access to other goods. It links rural areas to the state and bigger cities throughout the country. (Business Sector)

Since COVID, there has been a 96% drop in air travelers. (Federal Government)

Destination locations have to be very cognizant of emergency plans, especially for disease outbreaks, because there are many out of state and international travelers. Quick and effective responses in these communities can prevent further spread and minimize catastrophe. (Local Government)

The creation of offices of outdoor recreation tied to governors' offices helped provide focus and structure and is now a model that is spreading across the nation. States that have established these offices have created shared purposes, including education and workforce development, public health and wellness, conservation and stewardship, and economic impacts. (Academic Sector)

Land grant universities, historically black colleges, and tribal colleges provide great access to education that intersects with rural communities. They have come up with lifetime learning and economic mobility opportunities related to outdoor recreation. Examples include outdoor school experiences for students and education on associated topics, post-secondary experiences for degree programs in outdoor products design and development that help fill technical skills gaps in the field and connect students to outdoor products companies, and other workforce development and training. (Academic Sector)

Offices of outdoor recreation are a good way to connect outdoor recreation to economic development. Quality of life plays a large role in this work as well and really relates to rural communities. Part of the mission is to promote healthy lifestyles through outdoor involvement. Attractive lifestyles are a big draw for companies and workforce to live in a community. (State Government)

Outdoor recreation is a major reason that new people will move to a rural community. (State Government)



There is a rich history of recreation in the west. Trails were built into the land along with campgrounds and they were used by people in adjacent communities for hiking and hunting. Infrastructure was constructed a long time ago, with not much developed in recent years. (Federal Government)

Recreation has competition with forest management. Fire and smoke are tough on the recreation economy. Healthy forests really matter. (Federal Government)

There is new demand now for front country recreation such as mountain biking and rock climbing. The infrastructure and the Forest Service aren't set up for these uses. It's like turning a cruise ship to align the agency to these uses of the forest. (Federal Government)

Stewardship agreements are a possible tool for recreation. They help state and federal objectives align, like with motorized trails which state governments are ahead on. (Federal Government)

Outdoor recreation plans for communities, similar to community fire protection plans, considering infrastructure needs and community desires for recreation, could be a model for states to replicate. (Federal Government)

We've seen some interesting partnerships between outdoor recreation and the medical community where they prescribe people to hike and other strategies. (Federal Government)

There has been a big change in the people who are engaging in recreation. People don't want to do outdoor recreation in places where they don't have internet services. (Federal Government)

The outdoor recreation industry faces the challenge of having a consistent lobby and collective policy priorities people can rally around in DC. State recreation offices could help develop these priorities. (Federal Government)

There is a program, the Outdoor Economy Initiative, that identified skills the outdoor recreation industry needs in its workforce, such as leadership, problem-solving, and critical thinking, and created a credential that provides training on these topics. Various land grant universities partnering together on these outdoor economy workforce development efforts can provide a better platform for learning and experiences. (Academic Sector)

Former mining towns that have to reinvent themselves can use the natural features and environment around them to do so. One community restored their river and made it into a recreation space. They invested in their town and now it's vibrant and thriving. (State Government)

People come to visit places for many reasons. Give them at least two reasons to visit your town. (State Government)

Outdoor recreation jobs bring up the image of seasonal or low wage jobs because there is a gap in skills to get those workers to management positions. (Academic Sector)

Job training is an important element to transition from low wage and seasonal jobs. Outdoor recreation training in high school and post-secondary education helps bring kids back to communities. (State Government)

The intersection of data science and outdoor recreation and how to use data to drive decision-making is a rural community skill gap. Invest in workforce development opportunities in this area. (Academic Sector)

There are 55 million Hispanics in the US and we need to engage them in the outdoor industry, both in recreation and in stewardship. Tree planting is a way to bring in this group and begin the education process. (Tourism and Outdoor Recreation Sector)

Use the outdoors as a magnet to keep people in your communities. (State Government)

Communities must have local champions to lead the outdoor recreation cause and bring attention to natural features. In one community, pictures started circulating of the large boulders they had internationally. Climbers came but were staying separate from the locals. The community embraced the climbers and invited them to be part of the community. Each shared their skills and the collaboration led to the creation of economic development plans to capitalize on the momentum. It resulted in community improvements and they now have great broadband and are supporting telecommuting and home-grown businesses. These opportunities often act as steppingstones. (State Government)

There is a huge backlog on maintenance in national forests, which don't have as good of a handle on the issue as national parks. Problems arise, such as trails closing from wildfires, and maintenance gets pushed back because investments go into buildings rather than assets, further compounding the situation. This dilemma prevents us from helping communities and providing amenities. (Federal Government)

Extension needs to do the same thing for outdoor recreation as it does for agriculture and forestry in terms of academic preparation, engagement, and training. Fire management training is a recent addition to Extension services. Because Extension is a needs-based organization, it can move wherever states and communities need. (Academic Sector)

Communities need people who know how to build better trails and maintain them. Online modules and other training can help close this gap. (State Government)

Master naturalist programs can help individuals learn about various outdoor systems around the state. (Academic Sector)

Signage for trails allow people to get educated about foliage and other topics as they use the trails. (Academic Sector)

## Energy

Energy transformed what was always a very rural community. Extraction and the ensuing energy boom caused a huge spike in the population, putting stress on infrastructure, including roads, schools, and water, but also excitement and new opportunities. (Local Government)

With the energy boom, the first people that came were single energy workers. Now that growth has been established, more families are coming, impacting schools and housing. Housing is a big challenge. Apartments are full and single-family housing is limited, and FHA Loan amounts aren't meeting construction costs. Local government is working to subsidize the difference. (Local Government)

Energy markets impact the full region. There are coal plants all over, and many will be closing between now and 2025. Economic drivers are changing. Oil, gas, and coal must forge partnerships and work together. (Local Government)

With coal closures, we are starting to focus on infrastructure development and other opportunities. The steady nature of coal is gone. As people recognize that, the mindset shifts. It allows us to focus on building out rail and connecting corridors, as well as broadband for commercial farming opportunities, and additional opportunities we haven't taken advantage of previously. (Local Government)

Many current coal workers are nearing retirement, but facilities will still need the workforce for the years until they close. (Local Government)

As coal plants close, some leases require mines and plants to be removed completely. Reclamation takes about three to eight years, so there are employment opportunities there in the interim. (Local Government)

We work through the Counties Association and partner with other coal counties. Instead of having an Economic Development Director for our county, we hired someone to work on behalf of the region. We have achieved some success with this approach. (Local Government)

We're encouraging people to study alternative uses for coal, and how to turn coal into carbon fiber and rare earths. Utah and Wyoming are tackling R&D for advanced uses of coal and carbon. (Local Government)

The narrative needs to change. Energy is strong and resilient in the region. It isn't a question of either/or – we can be proud of our energy economy but still be looking to diversify as well. (Local Government)

Since 2000, wind energy has generated several thousand jobs, about \$10 million a year in local property taxes to counties, and over \$10 million a year in royalty payments to landowners in Colorado. Each tower can create \$10,000 in income to the agricultural landowner. Many of the impacted counties are also oil and gas or coal royalty oriented. Renewable royalties have less fluctuation, so they're more stable sources of revenue for agricultural producers. (Conservation Sector)

Right now, the largest wind energy tower that can be taken on roads is 14 feet in diameter. If they could manufacture the towers onsite, they would be 22 feet at the base. They could make the towers 80 feet higher and put technology on them to increase capacity. I think they would be able to get the price for wind down to 3 cents per kilowatt hour in Colorado with that configuration. (Conservation Sector)



We're working on training and taking stock of the people in the community who have leadership capacity. Once we've identified the leaders, we'll take them to do a tour of the National Renewable Energy Laboratory to help educate them on opportunities in renewable energy. This program has been slow to build but has promise as a great longer-term tool. (Conservation Sector)

We envision co-locating the carbon industry by having all value-added processes near the coal mines in rural areas. (Manufacturing Sector)

We are looking at new power plant designs to incorporate innovative carbon capture technologies, with the goal of accelerating the implementation of advanced technologies. (Federal Government)

With subsurface energy, we're using modeling and simulation tools, as well as experiments, to better understand how to recover more oil and gas, and to improve the safety and secure storage of carbon. (Federal Government)

For grid modernization, we are developing optimization and control technologies to better integrate renewables into the grid and increase resiliency against extreme events. (Federal Government)

People in the US are working on extracting CO<sub>2</sub> from the air and turning it to liquid fuel. While it has not been realized yet, we are hopeful. The Department of Energy's fossil fuel program held a workshop on this topic. (Federal Government)

The federal government looks beyond where the commercial energy market is today. Our research moves along a technology-readiness scale. (Federal Government)

There are lots of people who are very interested in being part of the energy solution, so I do think we will have the workforce to realize opportunities in the field, although energy security labs can be limited on hiring. (Federal Government)

Low cost carbon fiber would be a terrific application to make wind turbine blades. (Manufacturing Sector)

We have been working on renewable natural gas. We have a partnership with a farm to capture the methane from dairies, where we're able to capture 25% of the waste, which is then put in a digester and turned into natural gas. (Energy and Electricity Sector)

Rural communities need the right skill sets to take advantage of energy clusters by integrating skills-based learning into community colleges. Investors are starting to get interested, so having communities help investment happen will be essential. (Manufacturing Sector)

Location is of the utmost importance for energy clusters. When it comes to electricity, it's all about transmission. That's what it takes for renewables development. There are lots of conversations about how to expedite transmission. Even the easiest process, without ESA, federal land, complicated geographical features, and major opposition, took 8 years. How can we expedite the process? We'll have to make compromises to meet renewables goals. (Energy and Electricity Sector)

The Department of Energy signed an MOU with USDA to look at energy development in rural communities, including energy infrastructure and technologies. WGA could coordinate with those working groups. (Federal Government)

It's essential to think outside of the box. Some cities will no longer buy electricity that is generated by coal. One example could be using renewables to power the production of hydrogen energy. (Manufacturing Sector)

The development of carbon fiber technology can offset the impacts to coal-reliant communities. The big problem with carbon fiber is its expense, so we're working to get the cost down, using coal. If we could make carbon fiber for less than \$5 per pound, it could be used in the auto industry and other industries as well. If people in the auto industry start using carbon fiber for parts, it would drive this technology. (Manufacturing Sector)

States could be willing to invest in research and development for energy as well. Perhaps there is an opportunity to collaborate on funding. (Manufacturing Sector)

Producing oil and gas and being a leader in pivoting to renewables and developing transmission to export it have traditionally been viewed as either/or propositions. In New Mexico, we are showing that it's possible to do both. We are reducing CO<sub>2</sub> and methane emissions with industry input and help, but we are also supporting and encouraging that important sector in our state. I think of this as an "all of the above" strategy, but in its most productive form. (NM Governor Grisham)

Every dollar saved in a rural community through energy efficiency is important. That is money that can be put to use helping citizens another way. (State Government)



Federal labs are important partners with universities and business to do rural energy projects. (Federal Government)

Investments of \$1.8 billion in our organization over 17 years have resulted in \$3.4 billion in residential, commercial, and industrial energy bill savings. That becomes \$3.2 billion's worth of income to residents and \$1 billion net income to businesses and 6,000 jobs. (Energy and Electricity Sector)

For rural areas, the most important investment is in maintaining a contractor network. If that network is in place, it can connect contractors to consumers to do work on efficiency and small-scale renewables for rural citizens. (Energy and Electricity Sector)

It's very important to support training through high schools and community colleges to add capacity to do energy efficiency work in small communities. (Energy and Electricity Sector)

No state is an island. Electric providers have to view themselves as part of a larger community because there is a shared grid. They must be involved in conversations and work constructively with neighboring states. (State Government)

Resilience is something you have to work to maintain in the system. Developing micro grids can help keep critical services and public safety services on. (Energy and Electricity Sector)

Micro grids can help during natural disasters. During the California fires, a micro grid in a community kept the hospital running and gave them four to five days of power. The micro grid utilizes existing technology to give immediate relief and backup through generators to provide short-term emergency power. (Federal Government)

Support utilities and work with them directly when addressing cybersecurity issues. Understand the systems, find out where they are the most vulnerable, and protect those, while also keeping an eye on the future because threats move fast. (Federal Government)

At the federal level, challenges for national energy labs include privacy and data sharing. (Federal Government)

The cybersecurity challenge to the grid can only be met if all players work tougher. State boundaries don't matter. (Federal Government)

For businesses moving out west, be aware of a state and utility's record of energy delivery and whether that aligns with your business and be a good consumer of technologies that improve internal resiliency. (Federal Government)

Programs and utilities work to encourage big, new energy consumers like data and cryptocurrency centers to be as efficient as possible. That, though, isn't the biggest challenge for resiliency. Really for any commercial or industrial energy user, the first step for resiliency is simply reducing the footprint of the facility. That can really impact energy use. The issue we face is that there is a disconnect on the incentives to put options for energy efficiency before energy users. If utilities do it directly, they get a great return. If another entity does it for the utility, the utility can't get a return on it. This is a policy issue that states could address. State legislatures could enable customers to get a return on their investment for renewables and energy efficiency. (Energy and Electricity Sector)

If there was a way for utilities to get a return for small-scale renewables done by other entities, it would incentivize utilities to get even more involved in promoting them with their customers. (State Government)

How do utilities account for all the various state policies and requirements on different electrons and generating sources? If a state has a policy on the production of carbon and critical parts of a utility that spans three states are carbon based, what can it do? Nobody has come up with a good accounting system for tracking that, but it's a great example of the need to be involved with neighboring states. Any time you have a utility serving customers in a state, it's being impacted by other states. We have to keep track of those impacts. (State Government)

I'm a fan of renewable portfolio standards adopted by states, but we need to think about other ways to grow clean energy. Most renewable portfolio standards have a narrow definition of renewables that don't include hydro or nuclear. We have to grow "the kitchen sink", including long-term battery storage. (Federal Government)

In some areas, incentives don't have that big of an impact on clean energy development in rural settings, so expired energy efficiency incentives and mandates at the state and federal levels aren't a huge deal. All utilities have energy efficiency programs, and 95 to 97% of customers are covered by utilities with programs. (State Government)



For renewables, any time you take an incentive away, you're going to have less of it. As the price of technology has gone down, those incentives have mattered slightly less, but incentives do move behavior. (State Government)

Renewable tax credits are really important. They have allowed for economies of scale and for the cost of solar to decrease significantly for the consumer. (Energy and Electricity Sector)

The Rural Utilities Service has a significant amount of money for communities who can't get enough power. (Federal Government)

We're working on projects for gravity-fed pumps that save tremendous amounts of energy. A lot of work is being done on the landscape that can help on efficiency in water pumping. (Federal Government)

Whenever you're thinking about power, you should also be thinking about the capacity for fiber. (ID Governor Little)

As rural cooperatives are upgrading systems, they are upgrading fiber. All programs have the ability to add fiber when they're upgrading. (Federal Government)

Communities can't do smart meters or microgrids without broadband. (Energy and Electricity Sector)

In terms of whether biomass can be a significant form of energy, cost is still a large barrier for biorefineries using woody biomass. Most work is on utilizing waste that is already aggregated. Stakeholders are looking for a technology and conducting research on small scale biomass. (Federal Government)

There is lots of research on biomass, but it's difficult to scale to drive down cost. (Federal Government)

The biggest obstacle for using biomass for heat and energy in communities is the inability to secure a long-term, cost-effective supply of fuel. (State Government)

For biomass, vegetation management needs to be embedded in rates. If we have woody biomass, forest health and energy goals should be able to align. (ID Governor Little)

We're working to support the economics of using a cleaning facility to pump methane and bring it into the grid. It's useful that it can utilize existing technology – the question is how to wire it together. It's an idea that shows great promise. (Federal Government)

Utilities can sign contracts with farms on renewable natural gas. The use of captured methane is beneficial. (Energy and Electricity Sector)

In Gillette, WY, they have developed a high risk, high reward strategy to reinvent around the use of carbon in new ways in today's market for things like manufacturing, filtration, sequestration. They have been very successful at bringing in outside investment, technical support, and building partnerships with the state and U.S. EDA to develop proofs of concept. (Community Development Sector)

In Colorado, the wind energy industry partnered with a junior college to create a workforce development opportunity. They developed an advanced manufacturing program focused in the wind energy sector. All students graduate with a 2-year degree and a job, mostly in the \$80,000 per year range. (Conservation Sector)

## Connectivity

Updated critical infrastructure like water, sewer and roads is the foundation of economic development as it ensures an updated and viable community. Many small communities will not apply for federal funding for infrastructure (like broadband and streets) because of the added requirements and the added cost for the single audit. All cities and towns need to invest in their critical infrastructure to entice business and jobs to their communities. (Local Government)

Better connectivity and reliable air service are two huge barriers. Reliable, redundant, and high-speed broadband is needed in all sectors but especially our education, government, healthcare industries. Air service is essential to get doctors, remote workers, and entrepreneurs in and out of where they love to live but don't work. (Local Government)

## Broadband

We must recognize the challenges of future, which are those last miles of broadband connectivity from a private capital perspective. 80% of households in America have gigabit internet from private capital. (Telecommunications Sector)

People do not care how they get their internet as long as the speed, reliability, and throughput are there. The difference is cost. Several government programs spent \$7.2 billion on rural broadband and hooked up less than 700,000 customers. (Telecommunications Sector)

We have been investing in fixed wireless internet and identifying vertical assets, which allows us to serve the future of agriculture. While it is impossible to run fiber or wired line to every acre, we can reach these areas with fixed wireless, and the speed, reliability, and throughput of this service have improved considerably in past years. There is access to licensed and unlicensed spectrum becoming available from FCC, allowing speed of fixed wireless to go through the roof. (Telecommunications Sector)

We're using the top of elevators, water towers, and even grain legs as vertical assets for fixed wireless, which allows us to serve every acre. Farmers are hooking up all kinds of devices. They aren't just hooking up the farm anymore – they want to hook up multiple farms and multiple pieces of land. If it's fast and affordable and you just have to make one phone call, you can do that. We can deploy fixed wireless service quickly and throughout the entire year. (Telecommunications Sector)

Digital connectivity in agriculture is dead last out of all industries in the United States. If we can move data efficiently from the grain elevator to the farmer and back, then we think we can make a really big impact. (Agricultural Sector)

I use Razor, Fieldview, and Conservis software, which are related to Global Good Agricultural Practices (GAP), the most employed farm certification program in the world. Conservis saves planting, spraying, and harvest data, so you can experiment with spraying and figure out if it's worth doing again. People have a high level of confidence in this real time data. When it rains at night, Fieldview provides real time data analysis. It tells you how much rain you got in any field and when there is a chance of hail, all on your phone. Razor tracks every truck and tractor. We couldn't use any of this software without connectivity. (Agricultural Sector)

We've got to go from connecting schools and communities to connecting every tractor and every device in the state. (ND Governor Burgum)

Through the Interagency Task Force on Agriculture and Rural Prosperity, we've learned that the single most important factor in the 21st century is connecting rural America. It's like electrification of rural America in the 20th century, but even more significant. There is no way to promote any type of prosperity without connectivity as an essential part of the conversation. Broadband is its own pillar and the starting point for everything else. (Federal Government)

We need to connect rural America to drive innovation, including in industries outside of agriculture. Innovation doesn't have to lie on the coasts, and connectivity is the key. (Federal Government)

Identifying remote work as a priority of a community can help spur the build out of fiber. One community worked with the local electric cooperative to lay fiber throughout the service area. It takes time – at first, people can work from the center. Once all the resources are in place, they can transition to home offices. (Local Government)

We need to make sure that we not only deploy fiber to the farm, but also that farms are connected wirelessly. This combined connectivity supports variable rate technologies that improve automated fertilizer and herbicide application, soil monitoring, and moisture sensors. (Telecommunications Sector)

We've had several issues in our broadband deployments, the most significant being the development of a right-of-way use agreement with the state of Idaho, which took about eight years. Now that we have it, we're deploying fiber within the right-of-way off-reservation space to connect outside of the region. (Tribal Government)

Idaho's terrain drives up the average cost per mile of laying fiber, but it's necessary to do in order to get middle and first-mile connectivity. (Tribal Government)

Member tribes of the Affiliated Tribes of Northwest Indians have had had difficulties negotiating agreements with providers, states, and landowners in developing and deploying fiber, and the cost can be very prohibitive due to geographic obstacles. Many tribes still rely heavily on the technology of microwave and point-to-point towers because fiber deployment is so expensive. (Tribal Government)



Tribal governments frequently get grants from the federal government to build out middle mile infrastructure. They often direct the money to an outside provider, who then extends its own network and infrastructure, subsidized by the tribal government's work, and creates a monopoly in the community. (Community Service/Nonprofit)

Tribes have formed consortiums to run long-haul fiber between tribes in order to connect core institutions such as schools and libraries. They then then put in their own conduit and fiber at their expense while the distant fiber is being laid. It's about finding the most efficient use of funding and maximizing opportunity once that ground is open. (Financial Services Sector)

Middle mile fiber is about aggregating demand and engaging core community institutions, not looking for competitive entry based on population density. Many companies don't want to go into rural or tribal areas, so tribes find themselves becoming the de facto carrier of last resort. It is helpful when states recognize this issue and bring tribes to the table to assess needs and create a higher-level plan. (Financial Services Sector)

There are huge unserved areas between fiber routes, which often line up with where tribal lands are. (Tribal Government)

We're looking at building regional fiber-optic networks for high-speed connectivity. Our investment elevates the region because the network can be used by businesses, providers, government agencies, and other stakeholders. In each fiber gap, that's where tribes are building out broadband. (Tribal Government)

There used to be a saying that once you enter Indian country you hit a pothole in the road. Now, it's that you know you're getting into Indian country when you have a dropped phone call. (Financial Services Sector)

There is an intersection of needs for power, fiber, and wireless spectrum. Middle-mile fiber is such an important priority because it's upon that middle-mile fiber that the most robust wireless networks can also be built, which helps overcome the limitations of point-to-point microwave. (Community Service/Nonprofit)

There are very few federal and state resources directed towards middle mile fiber because most (like the federal Universal Service programs) address that "first" mile, from the distribution point to the home. (Financial Services Sector)

Middle mile fiber is going to become increasingly important across the western states. There are large amounts of fiber and power going to cell towers. This is so they can maximize the efficiency of spectrum for our wireless devices. The importance of middle mile fiber can't be overstated as people start carrying around more wireless devices and with the growth and deployment of 5G, 4G LTE, and other wireless services. (Financial Services Sector)

Some tribes have access to wireless connectivity in their communities, but there's a definite gap in wireline services to the home and connectivity at the home. This lack of home connectivity contributes to "homework gap" challenges in tribal communities. (Tribal Government)

Tribes have identified an underutilized spectrum band called Educational Broadband Service spectrum, which offers an ideal balance for rural deployment with good propagation and distance. If you have a fiber backhaul, a microwave link, or even satellite, this spectrum distributes connectivity evenly and cheaply across a community. It takes a few hours to put the equipment on existing infrastructure, costs less than \$15,000, and the open source software is easy to use to operate the network. (Community Service/Nonprofit)

One issues especially affecting western states is native communities' access to wireless spectrum. In Alaska and Hawaii, there is available land but not the eligible claimants that can apply for Educational Broadband Service spectrum because only federally recognized tribes can apply. Native Hawaiians and Alaskan corporations should be allowed to claim the spectrum. (Community Service/Nonprofit)

State agencies have been one of our best partners in outreach to tribal communities. What the states can do with outreach and support is huge. (Community Service/Nonprofit)

Under funding programs such as the FCC's Connect America Fund and Mobility Fund, tribes are typically the last areas that receive support. Those grants could be improved by changing that model from the most difficult build occurring last to it being the first segment built out. Those programs should encourage telecommunication companies and the major carriers to build on tribal lands first. (Tribal Government)

Right-of-way use agreements between tribes and states are critically important. We often must go through multiple state departments. If the role of broadband was elevated and prioritized in state offices and right-of-way agreements were streamlined, that would be very helpful. (Financial Services Sector)



We don't even have full 4G LTE on our reservation. 5G connectivity is fiber dependent, so I don't see that happening anytime soon, and I think it would be challenging based on the current reality. 5G won't come to rural America without fiber backhaul and access to good middle mile connectivity. (Financial Services Sector)

States can really help by providing match funding to tribal communities and providers that are seeking federal funds. (Tribal Government)

Tribes have a strong federal funding relationship, but federal dollars can't match federal dollars. It can be a struggle to match federal funds. States can make a difference by supporting efforts to find or provide state level matches. (Tribal Government)

Cooperatives are more interested in making sure their community is served as opposed to getting a return as soon as possible, so it's a very different business model. (Energy and Electricity Sector)

In order for us to have a great wireless experience and offer a robust wireless connection, we truly have to have that fiber deployed as densely and as thoroughly as possible in all areas. (Telecommunications Sector)

We ended up building over 3,000 miles of fiber. The main challenge for us was the fairness factor and figuring out who would be the first to get connected. We used a crowdsourcing model to get an upfront commitment from our members. We had to figure out the number of customers we needed to presubscribe in order to fund the infrastructure investment. (Energy and Electricity Sector)

Building out to rural areas is not without costs and challenges. There is no way could have accomplished as much as we did without federal programs and grants, as well as state funding. Grant dollars are vital to bringing our members service. (Energy and Electricity Sector)

The biggest benefit of broadband connectivity is the economic benefit for our communities. We've been able to level the playing field for small towns, so that they have an economic foothold alongside urban markets. (Energy and Electricity Sector)

We're watching a shift in the workforce in terms of a transition towards a location-neutral status with connectivity. This will help accelerate the entrepreneurial spirit in rural America. (Energy and Electricity Sector)

Electric and telecommunications providers each have their unique strengths. When they pair these strengths together, they can overcome their individual weaknesses to create a better service for their members and customers. (Federal Government)

When providers work in concert rather than as adversaries, problems of the digital divide get answered more quickly. That cooperation helps immediate and long-term economic growth throughout rural America. (Federal Government)

The state of Colorado has stepped forward with broadband deployment. The previous governor created an Office of Information Technology that has helped lead the way and assisted service providers with locating grants and supporting their funding applications. (Energy and Electricity Sector)

Federal agencies don't want to drive anyone out of business, but when we can't get service into a rural area, we need to identify the next best option. That might be the electric utility provider working with a telecommunications provider or another creative partnership. (Federal Government)

With any broadband funding application, we are going up against the self-reported data mechanisms operated by the FCC. Carriers sometimes paint the best picture of their coverage, and there aren't good systems for checking claimed coverage on the ground. (Energy and Electricity Sector)

Many technical assistance broadband contractors employed by states enter into proprietary agreements on GIS-level coverage data. Restrictive agreements can make it difficult for federal agencies to review that data. (Federal Government)

One challenge is making sure that federal programs are not just focused on wireless technology. There has to be a hybrid model, so that users can transfer the massive amount of data that's either going to be generated by precision technologies or consumed by the technology on the farm. We need to have sufficient wired and wireless bandwidth wirelessly so that advanced agriculture technologies are scalable. (Telecommunications Sector)

Our agency is trying to support fiber builds deep into the heart of rural America. But no matter how far you go, there will be a point where you have to link that fiber to a wireless solution. (Federal Government)



Hybrid wired and wireless solutions are definitely a long-term need. Even though the demand for fiber might not be a deep need currently, it is better to invest in a good solution upfront than to deploy a limited solution that doesn't promote future opportunities in rural America. (Federal Government)

We realize we can't get everywhere with fiber. Some places you're going to have a wireless component, but at a certain point, no matter what technology you use, it must connect to a fiber backbone. (Federal Government)

It is difficult to run a modern electric grid without a robust communications backbone. (Energy and Electricity Sector)

We have seen electric and telephone cooperatives utilizing each other's skillsets to quickly deploy fiber into unserved areas. It is then possible to leverage the other cooperative's workforce and technical assistance in providing the broadband service itself. We have seen a lot of positive collaboration between cooperatives. (Telecommunications Sector)

We need to be working together as a broadband industry to invest in technologies that make it easier for various technologies to be deployed on the farm. (Telecommunications Sector)

The COVID-19 pandemic has highlighted how critical broadband is as society has moved everything online. (Local Government)

Everyone is learning from home and working from home due to COVID-19. This shines a light on what is critical infrastructure. When people aren't on roads or at schools and libraries, what's the next critical infrastructure? Broadband. (State Government)

Teachers are moving to online learning, but some students aren't able to access that education. This highlights the haves and have nots around broadband connectivity very significantly. (Local Government)

States need to serve as organizing bodies and provide technical assistance for rural communities who are pursuing improved broadband connectivity. (State Government)

We've worked to bring local partners from a variety of sectors together with Internet Service Providers to discuss connectivity needs and the why of broadband investment and to work through strategies collaboratively. Solutions are going to look very different across communities. Everywhere the solutions are going to look different. (Local Government)

Anchor institution investment is the unintended consequence of good intentions. We can't let providers just walk away without expanding access past these institutions into the more rural areas. We as states must start thinking about that in a more focused way. (State Government)

We have been struggling to figure out how to put the connectivity puzzle pieces together for areas without community anchor institutions, especially rural areas with lots of farmland. (Local Government)

We try to stay technology neutral. We look at the needs of a community and what each technology could provide, including scalability of the network. Thinking about the end goals for users drives smart investment. (Local Government)

We need to stop funding programs at the state and federal levels that don't build scalable infrastructure. (State Government)

We don't know the capacity that we're going to need so we need scalable networks, instead of focusing strictly on current speed. (State Government)

Scalable networks are those that allow you to continue to grow throughput as the network requires it. For example, copper is a tough infrastructure because it has a capacity limit. We need to invest in infrastructure that will allow networks to grow capacity for future needs. (State Government)

I'm disappointed that the FCC is using a reverse auction format for the Rural Digital Opportunity Fund. This will fund lots of satellite, which isn't scalable and, in my opinion, is bad practice. Federal agencies shouldn't be thinking about who the lowest bidder is, but who's going to do it best. (State Government)

The FCC should provide states block grants, so we can spend the money on the issues we know intimately well. Let states be the technicians. (State Government)

It's one thing to build a network. Once it's established, the next part of the conversation is maintaining them. Ongoing maintenance and operation funds for networks is crucial to maintain integrity. (State Government)

You've got some faster broadband in rural communities than you do in urban communities right now. In many ways our rural communities already know how to solve this problem, it's through cooperatives. We wouldn't have electricity if the cooperatives didn't do it, we wouldn't have phones. North Dakota has had great success in this... we've got successful models all over the state. It's not everywhere but again we have this narrative of a digital divide when it's not terrible everywhere, and those places that don't have broadband can learn a lot from the places that do. (Academic Sector)

It's really cost-effective to aggregate anchor institutions onto a shared network, that way you reduce the costs for everybody. Education Networks of America and FatBeam are great examples of building networks with economies of scale and you can bring on all of the anchor institutions. Federal policies are a bit ossified and don't allow for a whole lot of cross-pollination between the e-rate program and the rural healthcare program so they're stuck in these silos; we're trying to break down those silos so the money flows in a more economically efficient way to these shared networks. (Telecommunications Sector)

E-rate restrictions really should be lifted especially during this time of emergency but perhaps going onwards as well. We've got high capacity networks being built to serve the schools, libraries, and healthcare providers and a lot of that capacity is dormant when they are closed. For example, there is a lot of capacity running to schools and library buildings that aren't using them today, so it would be great if the e-rate rules could be loosened up to leverage that network investment. (Telecommunications Sector)

Some states piggy-back off the FCC's e-rate policies and they adopt their own state universal service funds that sometimes mirror the FCC regulations. It would make sense for the states to be more creative than the FCC when adopting their own universal service programs at the state level and they may find more funding and investment in those states if they were to loosen up some of those rules. (Telecommunications Sector)

A lot of these [e-rate] rules are 20- 30- 40-years-old, and the marketplace was very different when they were adopted. You now have a lot of competitive and wireless providers so the rules need to be adjusted so we can take advantage of these new opportunities being provided by these newer technologies. (Telecommunications Sector)

We do our due diligence before entering a market using an anchor tenant strategy to build out a network allowing connectivity to neighboring data centers facilitating internet opportunities...The anchor in a community will typically be a school district... once we provide those services, we will build additional fiber at our own expense to then expand into the community where we deliver dedicated internet access, dark fiber point-to-points and wide-area networks. This will help increase the economic development within the community by providing competitive symmetrical broadband access that these communities may not have had access to it before. (Telecommunications Sector)

Regulatory challenges we face when we enter new markets...It often times seems like cities or counties are re-inventing the wheel when you have a new provider coming in, so any sort of advocacy or changes to the demographics via WGA or SHLB or other advocacy groups would be appreciated. When we come into new markets, we run into significant time challenges as we know other providers do to. (Telecommunications Sector)

We built out a network for the Coeur d'Alene school district, about 20+ schools that historically had some connectivity issues. It was a dark fiber network, allowing them to improve their connectivity for student offerings. This has also allowed us to continue to build to other school districts in the northern part of Idaho which is historically rural and have always been serviced by wireless providers. On our dollar, we've been able to connect all of these school districts and give above-average connectivity. (Telecommunications Sector)

With building our network out into the North-Idaho region, we are just on the Canadian border, so we are looking at new opportunities and ways to provide service internationally as well. (Telecommunications Sector)

We are an open access provider, so we work with other carriers, both incumbent and regional, and allow them utilize our fiber network through a lease or long-term IRU and we partner with other carriers regional providers because we don't do long haul between markets, we focus on the metro and last mile, so those partnerships are important to deliver services in and out of the markets. (Telecommunications Sector)

When we provide dark fiber to anchor institutions, typically we are responding to bids requesting lit or dark fiber under a lease or a special construction option. What we do that's different than other provider is: if it is a lit service that a school district is providing, we give them the scalability and option to convert to dark fiber... at no additional cost. This gives them a scalable, unleashed accessibility to speed... that the school can set... we don't set any caps or restrictions on our speeds. (Telecommunications Sector)

When we build for the schools, we provide them their own dedicated fiber. We are typically fiber-rich in the markets that we serve, so we have a lot of extra strands that we drop in when we are building out the school network; we don't share those intended for the school, but the extra fibers added can go towards serving the community. (Telecommunications Sector)



We try to leverage the best available local assets and provide engineering and financial methods to overcome some of the barriers and connect those anchor institutions... today we partner with 120-125 partners nationwide to serve those anchor institutions and get them back to cost-effective meet points to get them the internet access that they need. From the Nez Perce Tribe to some of the large carriers, we try to find creative ways to provide the connectivity in markets that are underserved. (Telecommunications Sector)

With the COVID circumstances that we're facing, a lot of what we're trying to do today is to increase the mobility for students who are not able to be in school and help those schools adjust to this new world of offering digital education to students in their homes. (Telecommunications Sector)

In the West, we have pockets of good connectivity and pockets that need more. We always try to tell anchor institutions or state policy leaders is: when looking at ways to solve this problem, be relatively agnostic to the different technologies that exist in the market, and to the different providers that exist in the market. Some of our best successes have been in partnerships with electric co-ops; a lot of those power providers often have networks to manage their smart grid... and we have helped them pivot their services to those who need that level of connectivity. (Telecommunications Sector)

Having more collaboration amongst different associations that are working to solve some of these problems and more transparency across the states, counties, and cities to overcome some of these limitations in the market is a good thing. (Telecommunications Sector)

[Our success] comes from a lot of things. We use a variety of services to serve our anchor institutions; For us it's been a focus on the people we serve rather than trying to be everything to everybody- knowing our limitations is what's kept us successful over the years. We began serving schools and libraries years ago, and we try to pivot to their new needs and adapt to their new environment. (Telecommunications Sector)

Regulations typically stand to benefit the regulated over time. Innovators in new markets have hurdles to overcome. I would challenge the Western Governors to look at those regulations that limit growth in connectivity whether it's permitting franchise agreements or some of the other rules that limit our ability to enter into a market. (Telecommunications Sector)

Where states have to change is, they have to break down silos of the assets that are in the market and leverage access from private provider to serve those anchor institutions. Just breaking down some of the regulatory barriers and the political and cultural norms that agencies operate under can foster a lot of collaboration within the market to serve those underserved areas. (Telecommunications Sector)

Primarily for our low-income developments, we hold [digital] literacy classes so the parents can understand what their children are doing, they can get into the 'infinite canvas' system that has all the grades and classes. We try to look at the problem of the digital divide not just through the students but through the families as well. (Local Government)

When looking at the digital divide, we realized this wasn't about doing the same thing for every student, it was about equity and finding what individual students needed when they got home in order to be connected. Some students needed a boost in their internet, and some students didn't have any internet at all; it was about finding ways to get those students connected through programs like comcast internet essentials or LiveWire. (Local Government)

In Colorado, there is a law [SB 152] which says government agencies using their own broadband infrastructure cannot compete with the private sector. But there is a provision that says if you take this to your taxpayers, and they approve, then you can take your infrastructure to provide internet. In 2015, our board of education authorized that going to the voters and it passed overwhelmingly to override the provisions in the bill. (Local Government)

One of the first hurdles I ran into was the Colorado Law that prevents government entities from providing internet to anybody other than the school district itself. It was put in place for the private sector which makes sense, but it is a barrier and we've seen municipality after municipality take it to the voters who have overwhelmingly started to approve the overrides... my first message is don't pass laws that restrict the ability to use assets to get internet, especially to those in need. Second is... when the intent of getting internet into places using e-rated facilities is to help students in need, we've got to find ways to get those laws adjusted so we can actually serve those in need. (Local Government)

We don't fund or finance broadband, but we do fund and finance the anchor institutions. We offer direct loans, loan guarantees, and grants. Our goal is to bring the services that urban areas enjoy to rural areas so quality of life can be equal. (Federal Government)  
We do require that you show reasonable repayment ability, but we are not like a bank that is just profit motivated- we really try to see that we are helping communities grow. (Federal Government)



Our Rural Community Development initiative Grant is kind of a ‘train the trainer.’ This one is a defined application period and is very popular. It can fund salaries and travel but it’s mostly to build the capacity of rural communities. (Federal Government)

We have about \$500 million in the [community facilities] guaranteed loan program. The grants are usually pretty small, under \$50 million, but we do have the \$150 million grant in disaster relief funds. Last year we only obligated about \$750 million in direct loans and \$5 million in guaranteed loans... our staff is shrinking so it has been hard to get the money out, but we have a lot of money available so I welcome everybody to come in and talk to us. (Federal Government)

There is a connectivity challenge in tribal areas in the United States based on builds of fiber networks that happened 20 years ago. There was a race to build fiber from east to west and north to south, and in doing so, companies were valued by the number of feet of fiber they could put in the ground in a day. They were not concerned with the people in middle America – they were looking to get from the population densities on the west coast to the east coast. So they built around large geographic obstacles like the Grand Canyon and the Rockies, and they also built around tribal reservations because it was an obstacle for them to work with a sovereign tribal government and try to understand their rights-of-way and easements. After doing research, we came up with 8,000 missing middle miles connecting tribes to the national grid. (Tribal Government)

There is a great amount of value in getting our voice on the record, and the FCC has told me repeatedly that they are required to read every word and take it into account. This is an opportunity at the state level that can influence the federal level and that is one of the most powerful tools that we are afforded. (Tribal Government)

When you think about Indian country, the issue is that we have no connection to the major pipelines. Any connections that we build to connect us to middle mile infrastructure or larger pipelines really are tribally led endeavors requiring great effort and expense because nobody else is coming to us. (Tribal Government)

We found a back-door way to get access to the spectrum for the Havasupai Tribe. There is a tribal priority window during which tribal communities can claim unlicensed spectrum over their land for free when auctions usually go for billions of dollars. The problem is that it takes a long time to educate folks on what spectrum can do for them, but now the Havasupai Tribe can participate in distance learning and take real-time math classes from boarding schools without having to leave their home. Telemedicine is finally going to be possible. (Community Service/Nonprofit)

I do think that if governors of the western states who have tribal nations as part of their constituencies and who see the potential of working with tribal nations in these sorts of opportunities in this entire neighborhood of areas... if they let the FCC know that they would like tribal nations afforded more time and opportunity it would be in everybody’s benefit and it would resonate at the FCC. (Financial Services Sector)

A lot of rural America was overlooked not just because of population density, but because of relative affluence to other parts of the United States and other cities. The Lifeline program at the FCC was initially designed to help people pay and make low-income consumers middle-income consumers for their telephony dollars. When that program in 2011-2012 had its rules changed for broadband, it’s been criticized because now it is only completely unserved tribal lands that qualify as tribal lands. There remains this question of what the government should be doing in areas where the cost of services to the consumer is significant. How do we use the ethic that was behind the Lifeline program now for rural and tribal America? (Financial Services Sector)

Quality broadband data and mapping have become foundational to good broadband policymaking. We have seen strong bipartisan agreement that the National Broadband Map and the data used to inform it – Form 477 data – need to improve significantly to better support state, federal, and private efforts to close the digital divide. There have been a number of positive actions taken by Congress, the FCC, and NTIA this year to support the creation of a more accurate map. (Telecommunications Sector)

FCC Form 477, established in 2000, originally collected voice and broadband subscriber data from all facilities-based providers of service to end users. It was revised in 2013 to include collection of broadband deployment information reported by census blocks. (Telecommunications Sector)

Digital Opportunity Data Collection (DODC), established in 2019, is a new collection of fixed broadband deployment data separate from Form 477. Fixed Broadband Service Providers submit geospatial maps with locations of where they can, or could, provide broadband service, which is a much more specific way to collect information. Providers must also submit the actual speed in each place. Additionally, there is a crowdsourcing component where state, local, and tribal governmental entities and the public can submit information on their experience with service availability. They can provide data on what’s actually happening on the ground to factcheck and hold providers accountable. We believe it will be a big improvement over Form 477. (Telecommunications Sector)



The Digital Opportunity Data Collection will combine data from multiple sources into one source – the nationwide broadband location database – to improve our understanding of every location that could receive broadband. They can overlay that data with the information from providers to see which areas are or aren't being served. (Telecommunications Sector)

One focus of the Further Notice of Proposed Rulemaking for Digital Opportunity Data Collection was how to deal with the crowdsourced data from the public, including what information to collect from them and how to track and resolve disputes, and improving the quality of mobile voice and deployment, perhaps through applying technical specifications to ensure accuracy. Other issues concentrated on definitions, quality assurance, and whether to phase out Form 477 deployment collection. (Telecommunications Sector)

NTIA has broadband mapping back in its portfolio, although funding is much lower than it was previously – \$7.5 million and some rolling funds compared to \$300 million. Due to the lack of funding and data at the state level, NTIA is collaborating with FCC, working with states, and leveraging existing data on a mapping pilot project with eight states. The goal is to help federal agencies and states make better decisions when it comes to broadband policy and funding. (Federal Government)

In order to get a lay of the land in terms of broadband availability from the data and policy side, sub-census level reporting, mobile wireless data, data validation, and speed test and crowdsourced data are important. (Federal Government)

The National Broadband Availability Map by NTIA is a policy tool, exclusively for federal and state officials, using multiple datasets to identify areas of insufficient service. It will be used for analysis and reports to drive and inform better policy planning and investment decision-making. The use of private and public as well as federal, state, and commercial datasets makes the tool unique. There is a large diversity of data sources and we are constantly working with stakeholders to add and update sources based on what they need, such as Ookla speed test data and federal data on mobile. Broadband infrastructure data, including networks and where fiber is already located, should be informative as well. The next challenge is licensing in order to acquire some of that data. (Federal Government)

Broadband is a top priority because current maps overstate coverage and all states have funding available for these efforts. (Federal Government)

The Broadband Deployment Accuracy and Technological Availability (DATA) Act (S.1822) would require more precise data collection and the use of that data in maps that federal agencies would consult for broadband deployment funding decisions. Along with information supplied by providers, it would allow states to do their own broadband mapping to contribute to the data collection and maps. The FCC would have to set more stringent standards on mobile broadband availability to remedy grossly overstated coverage. Additionally, state and local governments, consumers, and other entities would be able to challenge the data and maps and provide feedback through a crowdsourcing function. (Federal Government)

Broadband Interagency Coordination Act (S.1294) would require the FCC, NTIA, and the USDA to enter into an agreement that they will share information about funding projects and use common data and maps to ensure that they're not duplicating efforts. (Federal Government)

The House Energy and Commerce Committee is very motivated to build out broadband, especially in rural areas. (Federal Government)

The House has introduced the LIFT America Act, which would create a \$40 billion reverse auction program to reach 98% of the US population with high-speed broadband access. (Federal Government)

It is critical to have accurate broadband maps in order to target the correct places. (Federal Government)

The creation of a broadband serviceable location fabric, a map of every place in the country that is capable of having broadband, is key to everything else. This fabric can then be overlaid with where providers can serve. (Federal Government)

The Broadband DATA Act, HR-4229, the companion bill to S.1822, would create a broadband serviceable location fabric. The data and maps would be public and open, inviting stakeholder input. It also ropes in other federal agencies that have expertise in testing where there is broadband service, such as the Census Bureau, to ensure that data is accurate. Metrics would be reported for quality of service and latency in areas, not just whether service exists. (Federal Government)

The Broadband Mapping Accuracy Promotes Services (MAPS) Act, HR-4227, states that a carrier who knowingly or recklessly submits inaccurate data to the FCC has committed an unlawful act. (Federal Government)



Access Broadband Act would codify the technical assistance work of BroadbandUSA and expand their role to help them better coordinate broadband deployment across the federal government, including by collecting data from supporting programs such as USDA ReConnect. (Federal Government)

We're optimistic about broadband data laws being passed and that we'll have a broadband data law at some point during this Congress. (Federal Government)

The reason why legislation to fix the national broadband map is such a bipartisan priority is because every state has unserved areas and it's so important to every member of Congress that we bridge the digital divide. With all the money at stake from funding programs at different agencies, we must have the best data and maps available to make those decisions. It's an easy issue for members of both parties to get behind. (Federal Government)

It's very likely that the broadband bills currently in Congress will get across the finish line, even by the end of the year. (Federal Government)

Members of Congress have cared for quite some time about broadband and closing the digital divide because it's something that's easily understandable to the folks back home. (Federal Government)

The current interest in broadband and an accurate broadband map is due in part to the RAY BAUM'S Act, passed in 2018, which reauthorized the FCC and required the FCC to improve maps relating to mobile broadband after the Mobility Fund Phase II auction. The auction still hasn't concluded due to issues with maps and the FCC's ongoing investigation of carriers that may have submitted inaccurate data. In the wake of that experience, members have pointed out that the problem persists. (Federal Government)

Maps are an integral part of any broadband deployment infrastructure program for the federal government. We need to make sure we have the right map so we can connect every American in the country. (Federal Government)

We're working hard to implement the aspects of the Digital Opportunity Data Collection order. There are some issues that need to be addressed, and we're trying to resolve them as quickly as possible. We don't have a specific timeframe for when there will be a new National Broadband Map but it's very important to the FCC. (Federal Government)

States are a key part of the broadband data discussion, which reinforces the value of the state broadband leaders. The FCC has a public-facing map of fixed broadband deployment and NTIA map is a map for policymakers – they're different but complementary efforts. The NTIA brings state, federal, commercial, and FCC data all together for comparison and analysis. The NTIA plans to incorporate any changes to FCC data and continue to compare it against the other datasets. (Federal Government)

We're very aware of the lag time between provider reported data and the release of that data for policymakers and our goal is to improve this issue. There are aspects of the Digital Opportunity Data Collection that should help with this problem because filers must submit data on a rolling basis. As a result, we should get a more continuous flow of data, instead of all at once like with Form 477, and be able to release it more quickly. (Federal Government)

NTIA will roll out Ookla data soon. Additionally, states with their own grant programs collect provider data that's more current. All of this information will be available at a sub-census block level through NTIA's tool, which will hopefully remedy some of the challenges that exist as we compare newer data to Form 477 data. (Federal Government)

The Digital Opportunity Data Collection program and legislation currently in Congress both aim to modify the data collection process at the FCC. The FCC asks questions that arise from the Digital Opportunity Data Collection program about other things it can do, such as create a broadband serviceable location fabric, that the bills resolve. The bills also take steps that will require other federal agencies to use the data that the FCC collects, ensure that the data is accurate, and set clear technical parameters about how mobile broadband providers should submit data to the FCC and how the FCC should represent that data in maps. The House bill authorizes additional funding for the FCC to carry out some of these actions. (Federal Government)

The biggest similarity between the Digital Opportunity Data Collection program and broadband legislation in Congress is the shift from census block reporting to shapefile reporting by providers. They both include a crowdsourcing requirement where the public can submit their own data on an ongoing basis. Beyond what FCC touches on in the Digital Opportunity Data Collection program, the Senate has provisions on mobile broadband data collection, a challenge process, and involvement from state and local governments. It's important that information is codified in statute in addition to the FCC's rules. (Federal Government)

If bills S.1822 and HR-4229 pass, they would prevent the FCC from delegating the new mapping program to USAC. We're moving forward based on the current landscape, but we will follow the law once it's in place and make decisions from there. (Federal Government)



NTIA's mapping platform won't be publicly accessible because it includes public and non-public data, some of which could be business sensitive. We can't afford to purchase a license for some data that would allow us to provide national access. However, while the tool is closed, users can share and publish derivatives such as maps and analytics of aggregated data. (Federal Government)

NTIA has MOUs with states that it's working with for its mapping tool which allows data sharing between the entities. (Federal Government)

The biggest challenge in mapping broadband and validating data on tribal lands is the extreme rurality and remoteness of some locations, such as locations without addresses, that make it difficult to know if you're accounting for all locations. The Digital Opportunity for Data Collection program places an emphasis on engagement with tribal entities to ensure the accuracy of data filed by providers. Tribal input will be an important part of the challenge process. (Federal Government)

Digital Opportunity Data Collection deployment data and challenge data will be fully public in order to ensure transparency with public funding decisions. (Federal Government)

NTIA will build out capabilities in its mapping tool to support the investment and funding decisions of federal and state partners. In areas that are eligible for state and federal funding, we can acknowledge the overlap with this data and take a collaborative approach to addressing the need. Derivatives from the NTIA tool can be used to justify and illuminate action and funding decisions. (Federal Government)

We want to ensure that all agencies in the business of awarding broadband funding are using the same data, so we don't have overbuilding or duplication problems. Due to limited resources, funding should be going to places that are truly unserved. (Federal Government)

State participation in broadband mapping and data collection is a priority for Congress so that states and the federal government can coordinate and work as partners. (Federal Government)

States bring an interesting mix of broadband data to the table. Our guidance to states in their data collection efforts would be to gather sub-census block data, as that's the most informative. States with grant and loan programs can ask service providers for more of this data. (Federal Government)

The FCC's challenge process for broadband data envisions a significant role for states and other stakeholders. The FCC has also discussed the possibility of accepting bulk filings, which may be a way to integrate state efforts and the products of their efforts into the challenge database so that they're working with us as partners. (Federal Government)

We recommend that states get their own crowdsourcing data. Point data from surveys is especially powerful. When you go street by street to collect information on connectivity, you get a great comparative data source. If states are looking where to put their money, that's an extremely beneficial resource. (Federal Government)

Connecting state broadband offices is valuable, because they can share best practices with each other and leverage those practices in their respective states. It moves us closer to data standardization. (Federal Government)

States have a wealth of great data which is why it's so important for them to be a part of the process and why we've carved out so many areas where they can participate in submitting data and in challenging and validating it. These efforts are a partnership. (Federal Government)

Federal broadband efforts should run in tandem to everything states have done. States have been able to really explore where broadband is and isn't in a way that the federal government can't. Data coming out of the State Broadband Initiative was granular well before data at the federal level. We continue to think through innovative ways to collect and display this data. (Federal Government)

There are two methods to advance rural communities: from the ground up, building a community network and connecting it to the rest of the world, and from the top down, utilizing some of the best companies that we have in the US to add new data centers in these smaller communities, which brings industry, jobs, and connectivity. (Tribal Government)

Connecting a community from the ground up is a difficult thing to do in terms of funding. You need a multitude of funding sources because the opportunity is great for the people, but the funding is sparse. State-based funding organizations, private companies, and USDA Rural Utility Service Distance Learning and Telemedicine funds are good places to start. It requires a collaboration of effort to get everything lined up and headed in the right direction. (Tribal Government)



We must rebuild, redevelop, and redeploy broadband in some areas based on changes in the wireless system. (Tribal Government)

We need champions on the ground who are driving community broadband needs. We can't connect the nation without them. Heavy community involvement is crucial for coordination and sharing updates. (Tribal Government)

TV whitespaces are a chunk of spectrum that is available for wireless communications formerly used in TV reception. Those of us who remember running up to the TV and hanging onto the antenna so that you could see better – it's that spectrum space. With the transition to digital, TVs gave up that space. It's currently evolving but the spectrum can be used for home connectivity, last mile, and deployments for emergency services. Any time there's the opportunity to open a section of spectrum to the public to use for communications, especially in these rural communities, it's extremely valuable. There isn't enough spectrum available, so whitespace helps supply more. (Tribal Government)

Tribes didn't necessarily choose the reservation spot that they were going to live on. The federal government chose, and the areas are often lacking in services, especially connectivity. (Tribal Government)

Companies avoided reservations when they were building out telephone and connectivity because it was a different easement, and everyone was trying to build fast. (Tribal Government)

Reservations and small, rural towns all fall into the same disconnected and "left behind" category. (Tribal Government)

Connectivity allows tribes to function in this century and survive. (Tribal Government)

Originally, I thought that technology could erode the strong tribal culture and community, but I realized it can actually save some of that culture and preserve language. It allows us to be part of the larger ecosystem of the US, be relevant, and compete for economic development opportunity. (Tribal Government)

When you get connectivity into a community, you can open sales from the cottage industry, crafts, wares, and services, and attract outside people to tourist attractions. (Tribal Government)

There is a multitude of changing policy that is helping connectivity on the ground. (Tribal Government)

With COVID-19, it's important that rural communities have the same access to basic needs. The situation has reinforced the critical nature of broadband efforts. We are doubling down on broadband due to its significance to COVID adaptation efforts like distance learning. Water and wastewater programs will continue to receive priority as well. We need to give those communities the same chances that our urban communities have. (Federal Government)

There has been a big change in the people who are engaging in recreation. People don't want to do outdoor recreation in places where they don't have internet services. (Federal Government)

When working with health centers in rural communities, access to broadband is an obstacle, and the capacity to get federal subsidies is severely limited. (Healthcare Sector)

Whenever you're thinking about power, you should also be thinking about the capacity for fiber. (ID Governor Little)

As rural cooperatives are upgrading systems, they are upgrading fiber. All programs have the ability to add fiber when they're upgrading. (Federal Government)

Communities can't do smart meters or microgrids without broadband. (Energy and Electricity Sector)

Libraries are essential partners in rural communities because many of these communities don't have broadband. Libraries that have broadband are a life support for small businesses. (Business Sector)

Access to technical assistance and broadband are essential to growing small businesses on reservations. (Financial Services Sector)

One of the most important investments for small businesses is broadband. Businesses can't be as agile, innovative, or flexible without it. A lack of broadband cripples businesses and their ability to sell their goods and services. (Business Sector)

Rural colocation centers for remote work should be a professional environment with reliable connectivity. (Academic Sector)

The common enabler that we're seeing of technology and people in the 21st century is broadband and high-speed access. This access, which is traditionally wired but is increasingly wireless with LTE and 5G coming online, makes telework possible, which has



long been used as a job accommodation for people with disabilities. Real connectivity barriers along with imagined barriers, like whether people can actually be productive in a remote work situation, have limited its adoption. But I think we're finding out with the pandemic that we're able to do a lot more work remotely than we ever thought possible. (Telecommunications Sector)

One area we've seen enormous growth in is income generated in communities through non-traditional work environments, such as working remotely. Investing in broadband is key to unlocking this growth potential. (Financial Services Sector)  
Transportation

Transportation investments can work for or against a community's vision, goals, and future. (Federal Government)

It's necessary to have a real, earnest discussion about how to distribute federal DOT dollars. In my experience, the biggest challenge is the fight between rural and urban areas for these dollars. Unpredictability is detrimental to both. With transportation planning, you need to reasonably predict what kind of revenue you have to work with for the next five, ten, and twenty years, and then you can develop a formula of set percentages to go to the major cities and everywhere else. (Local Government)

Grants historically have been awarded more to urban than rural areas, but we know the critical role that rural communities play in transportation. The Secretary's first job was to correct that imbalance. Through the BUILD program, we have been able to direct dollars to communities that haven't had the opportunity to get grant money. (Federal Government)

There is \$900 million appropriated for BUILD this year. Applicants requested a total of \$9.7 billion and the maximum amount for a grant is \$25 million, which illustrates the critical need for infrastructure projects. (Federal Government)

State DOTs must have strong partnerships with local communities because some bridges are operated locally and not by the state. (State Government)

One role of state DOTs is working with communities early on to help them make the right economic and infrastructure decisions. We educate and collaborate with these communities as they make difficult decisions about where to grow next, and communities have done a great job partnering with us and USDOT. (State Government)

We're excited by automated vehicles, especially because of the potential for greater mobility and safety. (State Government)

We call the integration of technology into infrastructure the third component, or the third infrastructure of transportation. With the internet of things, sensing technology, and our ability to move data around, we can now tackle the last 37,000 fatalities we see on the roads. (State Government)

Many states have increased their own infrastructure revenues over the last five years due to the dismal shape of the system. (Local Government)

It is important to create communities, even in rural areas, where you can walk safely on a regular basis. It establishes a sense of mobility and a healthier community. You don't always need a mechanism to move around. (Local Government)

We have advocated for an infrastructure bill that is ten years in length so that it can provide communities with longer term stability, but the challenge is how to fund it. We rely on Congress for money. (Federal Government)

State DOTs have the opportunity to work with local communities on redeveloping their urban cores and looking at returns on investment and main street initiatives because we have State Transportation Improvement Plans (STIPs), which require us to have long-term strategies for the USDOT to give us dollars. (State Government)

Transportation agencies are getting substantive feedback during public comment periods, and they're getting feedback from parts of the population that they don't traditionally get feedback from. In rural areas, we're starting to see local entities reach out online and through social media. (Local Government)

In redeveloping Fargo's main street, we reduced the five lanes we were planning to three in order to provide an active, safe, and convenient environment for pedestrians while maintaining an efficient transportation corridor. The public drove this change, and if we hadn't listened to the public, this opportunity would have been missed. The purpose of the project transformed to something much more than a regional traffic route. (State Government)

A lack of public or private transportation makes it difficult to get to grocery stores and for residents to travel outside of food deserts. Cost of food is also an issue given the remoteness of many communities. (Community Service/Nonprofit)

With the 30th anniversary of ADA upon us, we must look at how encouraging the self-sufficiency of disabled people where transportation and other issues are concerned poses additional challenges. Significant obstacles remain in remote areas. For example, there are no meaningful choices to get to a hotel from the airport in a power chair. (Federal Government)

Typically, when we talk with DOTs across the country, we talk about partnerships. One of the most important partnerships is with our federal partners in the USDOT and the US Congress. Over the years, Congress and USDOT has been a remarkable supporter of State transportation systems which continues today. We currently are operating under the FAST Act which is a funding bill that States utilize for Federal funding and matching State money with Federal money. Recently the Environment and Public Works Committee proposed new legislation called America's Transportation Infrastructure Act which refunds and reimagines transportation by bringing together a bipartisan bill that not only focuses on improving surface transportation infrastructure, but also starts to bring in innovative concepts for things like connected vehicle and safer transport of freight and improved routes to schools and more. The bill has bipartisan support, so it has both regulatory reform and the increase in funding helps with the resiliency of the infrastructure. It's a great balanced bill and those kinds of bills really help states do the day to day work of transportation and improve safety and really help us do our work. (State Government)

A part of what DOTs across the country are trying to do is to work with our local communities, cities and counties and helping them understand the implications including financial, logistical and services, both short-term costs and long-term costs to help them make the right decisions moving forward. Communities will come to us very early, often five-years before the start of the project, because of the way the rules are written with federal and state funding, so that we can educate: it's a big part of what we do. We need to have all western states, not just predominantly rural states, working with local communities and focus on return on investment and not just the short-term capital expense. (State Government)

Post WW-II we went through a massive infrastructure investment in the creation of the interstate system, and it's now 60-70 years old; it wasn't built to last forever. On top of that, the demographics in the country have changed. States like Arizona where no one lived in the 50's, Phoenix is now the 5th largest metropolitan area in the country. The need for new routes has also played into the consequences of lack of funding. It's important to point that out because of the magnitude of the shortfalls. (Local Government)

Arizona just updated its 25-year long reach transportation plan and found there's a \$30.5 billion shortfall. If you look at the rural parts of the state, the DOT is going into a mode of maintenance because they can't afford any new construction. Even throwing everything at maintenance, we can't satisfy all of the needs. (Local Government)

When metropolitan areas are experiencing under investment, their communities also tend to be more parochial. During rush hour their priority is going to be make my rush hour commute better. But the roads outside that metropolitan area are the lifeline as far as that economy goes; manufacturing and even food grown in the rural areas of that region is going to be trucked in and out on those roads. (Local Government)

In Wyoming, we rebuilt commercial air service and now have secured air service for the next 10 years. We had to do some creative things with the carriers and the rural communities. Air service is not only important to recreation and emergency services, but also to having a basic economy and a normal life. This service is needed to bring rudimentary services to communities. (State Government)

There is an awareness now in DOT and FAA about the importance of air service in rural communities. It is a little different in rural places than it is in places where it is profitable. (State Government)

Air service is critical to strengthening communities and improving quality of life. (State Government)

One of the most important trends in the airline industry is consolidation, and a decline in connectivity as a result. Two-thirds of states saw a decline, a vast majority at medium, small, and non-hub airports, making it more difficult for travelers to get to those areas and for those communities to be connected to the national and global economy. Cost increases because travelers have to go farther to find a suitable flight and take more connections, causing them to spend more time and money on airfare and gas to get to their final destination. (Tourism and Outdoor Recreation Sector)

Lost connectivity leads to money going to communities around larger hubs as opposed to smaller, more rural areas. For example, the airport in Colorado Springs saw a 41% decline in passengers, amounting to \$22 million in total diverted passenger costs, which is now spent in Denver instead. (Tourism and Outdoor Recreation Sector)

The total cost of travel has gone up, making it harder and harder for people to travel across the country. Small and mid-sized communities are suffering the most. (Tourism and Outdoor Recreation Sector)



Terminal space, runways, and other airport infrastructure play a critical role. Two-thirds of infrastructure needs are at large hub airports. These airports are the workhorses of the system because most flights connect through them. Infrastructure constraints at big airports ripple to small and medium cities, causing challenges across the system. (Tourism and Outdoor Recreation Sector)

The aviation system is an entirely different world now with COVID-19. The first week in April, there was a significant drop in domestic flights by 42% and a drastic increase in cancellations by 45%. The typical cancellation rate is between 2 and 3%. There is financial assistance in the CARES Act so the industry can access grants and loans to stay afloat. International travel is the most profitable for big carriers, but that will take longer to recover than domestic travel, which will have an impact on partner and regional carriers as well. (Tourism and Outdoor Recreation Sector)

We need the right set of actions to start on the long road to recovery for the airline industry. When we allow airports to set user fees, modernization happens at a faster pace and it spreads out costs to everyone that uses the airport, which can reduce overall rates and fees. Breaking airline domination of gates and facilities will also encourage competition at the airport level. (Tourism and Outdoor Recreation Sector)

We need to allow innovative partnerships between destinations, airports, and airlines. Instead of marketing the airport itself to attract or promote a new service, airports should be marketing the destination. Such a partnership would be one way to enhance tourism. (Tourism and Outdoor Recreation Sector)

Infrastructure challenges at large hubs affect small communities because the system is so interconnected. Gate constraint challenges at big airports have implications across rural areas. (State Government)

Companies with large commercial airports that are far away use local general aviation airports to get everywhere they need to go to maintain their footprint and achieve what they need for their business. It's how they remain connected. (Business Sector)

Business aviation connects communities. Companies represented by business aviation are spread across fifty states and 5,000 airports, not just big hubs or where airlines have their operations. It serves as a network to get in and out of communities, especially Hawaii, Alaska, and other remote communities in the west. This service is a lifeline to these places, whether they need food, medical supplies, or access to other goods. It links rural areas to the state and bigger cities throughout the country. (Business Sector)

Business aircraft is a tool that gives companies the most efficiency to accomplish their mission and their business needs. 85% of our members are small and mid-sized businesses that use small aircraft to get around. 45% of the companies have less than 500 employees. They access resources and provide services that are necessary and beneficial for their local communities in an emergency and on a general basis. These companies are the backbones of rural communities. (Business Sector)

Business aviation can also be used as a way to get supplies into communities, especially during crises. There are 15,000 humanitarian flights a year. (Business Sector)

Business aviation creates jobs and helps small areas and businesses remain productive and competitive. It is an economic driver in communities. (Business Sector)

General aviation airports have high value. They are the life of our rural communities. (State Government)

The Essential Air Service Program has a significant economic impact on rural communities. A 1% increase in traffic in an Essential Air Service airport results in a 0.12% increase in income for the entire community, and an 8% increase in traffic results in a 1% increase. The benefit is clear, but those results shouldn't be surprising. Business needs connectivity to the national and global economy to succeed. (Federal Government)

Companies in communities require reliant, affordable air service. Vendors need to reach facilities to do business and negotiate contracts. To attract a quality workforce, businesses need to provide a high-quality life. Part of that is providing air access to the country and the world. (Federal Government)

Linking a rural market to a hub provides the community more than just access to the hub – it gives them access to the world. (Federal Government)

Of the 100 communities that participate in the Essential Air Service Program, 63% are in the west, illustrating the rurality of these areas and their need for connectivity. (Federal Government)



Air service started by the Small Community Air Service Development Program often continues without further funding once the grant is over, exemplifying that the service proves itself to be commercially viable beyond its value to the community and the public. (Federal Government)

America's rural communities are an important linkage in the nation's transportation network. Rural transportation systems connect our country and transport food, fiber, and manufactured goods, most of which come from these rural areas. (Federal Government)

In order to receive CARES Act funds, carriers must agree to maintain minimum air service to retain essential connectivity. (Federal Government)

A mile of highway will take you a mile. A mile of runway will take you anywhere. This sentiment underscores the importance of rural airports, airport investments, and the benefit to the regional economy. (Federal Government)

Attract private capital by providing the right infrastructure at an airport and then selling to private companies who can put in hangars and facilities. (State Government)

It's helpful for general aviation airports to work with local businesses and other stakeholders such as the local chamber of commerce. Have an open and direct dialogue about their needs and their projected needs. (Business Sector)

For air service, build a public-private partnership through a capacity purchase agreement. Have a number of communities come together and work with the state to contract with a regional carrier to provide service to all of the communities. Long-term contracts help maintain service. (State Government)

The pipeline for pilots will continue to be an issue and will impact small and regional airports disproportionately. There will be a slight reprieve in the immediate focus on this challenge due to COVID and the low level of flights during this time, but it won't disappear. Other trends in the sector will likely include reduced connectivity, whether that means reduced frequencies of flights, smaller airplanes, or reduced seat capacity. Service to small and mid-sized cities is less profitable, so it will be difficult to bring this service back to the same levels, especially if airline consolidation progresses. Connectivity will remain a front and center concern as the industry recovers. (Tourism and Outdoor Recreation Sector)

Before the pandemic, there weren't enough pilots or mechanics in the pipeline for the need. This problem is a big concern and will be dictated by what happens within airlines and what happens with consolidations. (Business Sector)

With COVID, business aviation operations are down 75%. The reality is that we have so many small businesses connected to these operations, so we need to ensure that they survive and that we keep the industry alive. (Business Sector)

Congress sets the federal limit for user fees at airports. Airports could use these funds in a way that benefits all passengers and make improvements across the airport instead of airlines dictating where the money goes. When revenue is spread between every passenger, the infrastructure improvements can lower the cost for carriers to use the airport and can make it more competitive for carriers to come in and lower prices. (Tourism and Outdoor Recreation Sector)

## Community

Community is the core of the rural west. At the end of the day, people are choosing what communities they want to live in, which means we must build great places to live, prosper, retire, and raise children. (ND Governor Burgum)

How do we market our communities? How do we change the perception? After a trend of people moving from rural areas to cities, we have the chance for there to be a reverse migration. (ND Governor Burgum)

Westerners are renowned for their resilience, their optimism, and their willingness to work to make their communities a better place. (ND Governor Burgum)

51% of people would prefer to live in rural areas. Why don't they? The narrative is so negative they think they can't. (Academic Sector)

The narrative we use to describe our small towns is terrible. And it's dated. The narrative is written about us, not by us. (Academic Sector)



The brain drain is when your high school kids graduate, and they leave your community. It is a measure of success when your children go out in the world and succeed, but they've got to know that they can come home and make a life in their hometown. Are you giving your young people a narrative of hope, that there's some place for them to come back to? (Academic Sector)

When asking newcomers why they moved to rural areas, the top three answers were for a simpler pace of life, safety and security (especially for folks with kids), and low housing costs. It wasn't jobs first. Do jobs bring people or do people bring jobs? Right now, it's a mixed bag, especially with technology and with contract workers who can live wherever they want. When people are moving for nonjob reasons, they are exploring a region first, and then they start looking for a job. (Academic Sector)

We're not trying to "develop" rural America. We're not trying to make rural America not rural. We want to focus on quality of life and features that are also enjoyed by more densely populated areas, such as infrastructure, housing, medical services, and decent communities. Even small communities should be able to meet these needs. It may not mean that every small community has an art center, but that they have arts in their community. They may not have a university, but they have access to education. (Federal Government)

A way to do economic development differently is to take an asset-based approach. With this approach, communities think about capital, including social, intellectual, and cultural capital, and about what assets they have. One term for this approach is wealth works, because it focuses on building wealth through assets, which does not necessarily equate to growth. Many communities are sitting on assets that are untapped. Once they think about what they have, they ensure that they capture that value based on where the markets are. (Community Development Sector)

In our local rural communities, we're finding that people are choosing a place to live and then looking for jobs. (Local Government)

Reimagining the rural west is about thinking first in terms of attributes rather than challenges. (NM Governor Grisham)

Stakeholders should focus on building a community that kids want to return to. They will leave for a while, but if they come back, they will likely attract other young people as well. (Academic Sector)

Rural Development Initiatives' experience is that tribal and Latinx populations are disproportionately low income and not as well represented in the economy, and they feel disconnected from their community. As we deliver the programs, we try to make sure our outreach efforts are really inclusive and focus on communities who we don't think are involved as they should be. It's not just about having a seat at the table, which sounds sufficient, but is not. We have to make sure these folks feel like they are thought partners and are part of the community where they live and where their interests are represented. (Community Development Sector)

We need to provide an opportunity to lift up the voices of new people in our small towns because in many ways these new people have the best narrative of their community. (Academic Sector)

While our rural communities may have gone through significant negative changes over the last 100 years, they have really been stabilized for the last 30 years. When we start to look around we see all of these people that don't look the same... the composition and complexion of our small towns has changed so significantly, yet we still have these loud voices that remind us of when our towns used to be [fill in the blank]. (Academic Sector)

History changes, society changes, we are in a continual aspect of seasonal and episodic change that dominate and have impacts in all of our small towns. (Academic Sector)

A lot of people bundle rural and frontier together, but if you think about a continuum of remoteness, frontier is probably one of the most remote next to wilderness, then you slowly move towards rural. There are certain things we look at, one is time and distance to key services and one of those could be very basic services such as a grocery store or a clinic; you could be rural by certain definitions and be ten minutes away from a service center; to distinguish between rural and frontier is because those issues that impact frontier or I should say rural in terms of access is going to be that much more pronounced in a frontier area; if you're two hours one way to a clinic or a hospital, you're going to be much more vulnerable to various issues that impact both rural and frontier, it's just more pronounced in frontier communities. (Community Development Sector)

We really try to flip the bill on the sense that young people are a hindrance or a problem. Young people should be seen as assets and we work to bring the best out of young people. We work with communities to show all that young people can bring to their community. (Community Service/Nonprofit)

By and large the young people we are working with want to stay in [their rural] communities. Generations of their families are from there and place is an important thing for them. They might leave for college but then want to come back- they will sacrifice career because place is so important to them. (Community Service/Nonprofit)



We can't [reimagine a community] alone and a lot of times youth is overlooked in that regard; selfishly they're a great volunteer base. Why do we need to wait? Let's engage with them now. (Business Sector)

I don't like when I hear people say, 'you better get out of here to get a degree, so you don't have to stay in [a rural town];' I got a graduate degree to end up in [a rural town]. It's a great place to live you just have to embrace what makes [your rural town] special. (Business Sector)

We refer to ND as a small town with really big blocks. We have so many communities that are small that are juxtaposed to one another, and we encourage them to look regionally: how do we elevate all of our communities' quality of life and economic opportunities by taking that regional or partnership approach? The Main Street Initiative is a great platform for communities to come together and discuss shared goals and capitalize on strategies and opportunities that are provided. (Community Development Sector)

We sometimes get caught up in the comparison game of 'my community isn't as good as the one 15 or 50 miles down the road.' It's important as individuals to look at all the great assets or circumstances that we have going on right now: how does our community bloom where it's planted? Maybe we don't have the best manufacturing sector, but we have a great agricultural sector- how do we lean into our community's strengths and be the best community we can be? Support and accelerate what you already have going on in your community. (Community Development Sector)

If we want to be healthy, vibrant communities, we need to listen to the people within our communities and assure that all their voices are being heard whether they are 80 or 18 or 5. We want to place equal value on what every citizen is saying. (Community Development Sector)

Idaho is the fastest growing state in both population and income, and that's a good problem to have. It's better than having people out of work, and the things we want to do we can get done because we've got better opportunities- people want to create jobs, quality of life is going to go up and you're going to have increase in incomes; but it's all about managing it, managing the growth in schools, roads, challenges to natural resources. Managing growth, a lot of times, is a local government issue that we need to be a resource for local government to manage growth. (ID Governor Little)

Especially in urban areas, people talk about rural being 'underserved' and that provides the connotation that it's maybe less-than, and I want to provide that access not only for people in rural communities to urban ideas and models, but also vice-versa, how can urban learn from rural, where it is all about relationships and community building, and that's really unique and special to rural communities. (State Government)

We have found that the economic development system in Oregon is comprised of a set of loosely networked organizations with different functions where nobody can tell anybody else what to do. The challenge is getting everyone aligned and moving in the same direction, but we've seen an unprecedented level of coordination in the early weeks of the [COVID-19] response. (Academic Sector)

There is a silver lining [in the COVID crisis] that we are working together differently than ever before, taking a much more integrated approach to things. There is an opportunity in rural areas to accelerate forward their economies. For example, accommodating location independent workers; we're learning very quickly how to do remote work in these communities so trying to pick up on some of those things that might help us accelerate our futures in these communities. (State Government)

When we first started operating, we felt that what we really needed to do was build businesses that were going to buy our electricity. But in spite of those efforts, during the last 28 years, 47 of our 53 counties have lost population. Over the past decade we have focused a lot more on quality of life. What keeps people living in rural places? What is it they need to live there comfortably and stay there? (Energy and Electricity Sector)

Universities are a great way to attract a more diverse group of people in areas that have historically been very white and homogenous. We've also made efforts in marketing materials and on boards and committees to have a more diversified representation. It's easier to get women to move to these communities than people of color, but that's changing. It's not something we can force, but something we must remain open to, continue to talk about, and be cognizant of when we make decisions. That conversation is indicative of a larger conversation - how do we grow (and expand the job market and increase yearly salaries) without losing our identity, especially considering that many people move to these areas because they want to be in a small town? (Local Government)

I love where I live, but the stories I was being told about my community were not indicative of the experience that I was having. All I ever heard about was opioid addiction, crime, suicide, and depression; we were on top of all the bad lists, so I didn't think we were doing a good job of telling our story. We needed to reframe the narrative. (Local Government)



There are three goals of reframing the narrative about rural areas: inform people about the community, foster pride, and encourage engagement. Storytelling is important. (Local Government)

For adults, the issue in getting people to stay is improving primary and secondary education so they feel comfortable raising their kids in rural areas. (Local Government)

We've tried to quantify what quality of life really means; for us, it means that when you're spending less of your income on your home, and more of your off-time enjoying yourself with easy access to the outdoors, you're a happier and more productive employee and you stay in your job longer. These factors help recruit companies as well. (Local Government)

Retaining and attracting workforce and talent, especially young people, is a challenge. We have the jobs, but how do we get people to move here and how do we get them to stay here? Outside of creating jobs, the component we focus on is community development. What are we doing to ensure that all the pieces of the puzzle are coming together? (Local Government)

We are focused on building rural communities that will bring prosperity for generations to come. (Federal Government)

Our community has bonded together in the face of the crisis and in showing our appreciation for frontline workers. (Local Government)

We are building communities from the ground up. (Federal Government)

How rural responds to change is critical. Until recently, the economies of rural places have not been stable. They've been evolving, but they've been so closely identified with a certain culture, skills, and identities that change has been difficult in recent years. One of the key explanatory questions is, what is the response to change in a place? What does a productive response to change look like? And what does an unproductive response to change look like? Rural communities need to adopt the notion of simultaneously respecting the past while facing forward and trying new things. (Community Development Sector)

Restructure community and economic development assistance programs to focus on other aspects of livability rather than just large-scale business recruitment. Small communities need support to enhance quality of life and create attractive, livable places. Not every town will attract manufacturing businesses, but every place has assets to promote. (Community Development Sector)

## Local Leadership and Capacity

Many proposals for rural economic development out of Washington, DC emphasize investments in hard infrastructure, transportation, housing, and broadband, which we need. But we also need to emphasize investment in people and civic infrastructure, a concept that is different from what conventional wisdom focusing on strictly jobs and economic growth suggests. We must take a systems-wide approach and reengineer programs and strategic plans to fit this approach. (Community Development Sector)

National philanthropy is an area of funding growth for rural areas. 21% of the population is rural, but only 7% of philanthropic giving is rural. (Community Development Sector)

Many obstacles, including need for TA and grant writing expertise, regional planning, assess caps on city and county loans. Federal match requirements are huge barriers for rural and frontier. Disinvestment by philanthropy. Other obstacle are minimum requirements of people served or jobs created to apply for funding. These need to be adjusted or waived for rural/frontier. (Community Development Sector)

Capacity is a huge issue. Many federal HRSA and SAMHSA grants are hard for small organizations to get and then manage. Resources are already stretched. (Healthcare Sector)

Alignment of federal funding opportunities with local needs; restrictive eligibility requirements; local capacity to apply for and manage funds are all challenges we hear communities dealing with. This includes access to and understanding of federal contracting guidelines as well as communications with federal agencies about what types of contracts make for viable opportunities and which do not. In addition, having a sufficient number of trained and dependable staff for a workforce is a challenge, retention, recruitment and skill development in rural areas, etc. Local capacity to apply for and manage grants has been helped in some cases by organizations based locally that can provide such support, essential be a resource to the area. (Academic Sector)

Flexibility is needed for small communities, there need to be models for health system of the future which allows for reimbursement of non-medical care related to health stakeholders addressing social determinants of health. Some federal agencies need to understand that block grants don't get to rural areas - maybe governors can have input to that - also some federal funders do not write grant guidance with small numbers of rural population in mind encourage and advise target agencies on understanding small numbers. (Healthcare Sector)

Rural communities lack the capacity to apply for and manage federal funds, and some of the federal programs such as USDA-RD have restrictive eligibility requirements. Regional planning and development organizations can assist with this, but also often do not have enough staff to assist all of their members with all of their needs. Federal agencies need to communicate with rural communities to ensure that funding program guidelines are realistic and manageable, and include grant/loan administration as an eligible program expense so that communities can contract for the grant/loan administration. (Local Government)

In order for a community to compete for grant and loan funds to make infrastructure improvements and attract economic development, they must be able to keep their finances in order and maintain the infrastructure they do have. Rural communities tend to lack qualified staff, and have trouble keeping the staff they have. More funding and opportunities for staff training would help, as would more funding for regional planning and development districts that assist these rural communities with finding and applying for funding. (Local Government)

Many rural communities lack knowledge and access to certain programs in different sectors. Another problem is eligibility. Depending on the grants, our rural community of 1,500 has to compete with Seattle for grants in geographic locations. We cannot compete with finances and the teams put together in these locations for grants. (Local Government)

As state leaders, we have to work together with our tribal nations. We have a responsibility to help tribal members in our rural communities and on reservations in rural areas, and to partner with the sovereign neighbors with whom we share geography. There is outdated and misguided federal policy in place. (ND Governor Burgum)

It's up to the people to say we want change, and we want something different. Community development must be community-led - it's necessary to think about community engagement and how you go to the community and ask what they want. (Community Development Sector)

How many people do we need to lead our towns? We should look at this question from a supply and demand perspective. Organizations demand people and people provide the supply. The US has 90,052 governmental units, and city councils need leaders to serve in positions. There are also nonprofits - the number of nonprofits goes up 10-15% every five years. Based on the amount of work it takes to create a nonprofit, this gain should be encouraging. Social life isn't dying; there are more opportunities for civic engagement than ever before. (Academic Sector)

In small and rural communities, we frequently hear about isolation and not having peer groups to support some of the work being done. Leadership trainings can help. (State Government)

Some places don't have the organizational infrastructure to apply for funding, let alone the capacity to write grants. We need to do a better job of reaching out to those places. One idea we have is to work directly with county commissioners in these underserved areas, set aside funds, and ask them to tell us how the community will use them. (State Government)

Solutions have to be place-based. Many regional or national organizations talk about having a model, but it's essential to consider the leadership of a community and what their priorities are so that we don't impose something they don't want. (Community Development Sector)

When we went into communities to do economic development work, we found that we needed to focus on leadership. There is a sense of complacency when it comes to leadership. People think you don't have to cultivate it or consciously nurture it, but you do. Growing emerging leaders is a conscious effort. (Community Development Sector)

In redeveloping Fargo's main street, we reduced the five lanes we were planning to three in order to provide an active, safe, and convenient environment for pedestrians while maintaining an efficient transportation corridor. The public drove this change, and if we hadn't listened to the public, this opportunity would have been missed. The purpose of the project transformed to something much more than a regional traffic route. (State Government)

In order to solve regional problems, it's important to have communities that have trained leaders, are connected, know how to talk to each other, and can work together. (Community Development Sector)

Civic sector institutions are essential innovation infrastructure in rural areas and are critical to creating rural development hubs. (Community Development Sector)



In any community, there's a lot more talent than you think there is. In any community, even small towns, there are people that have a lot more money than you realize. And in any community, people like to volunteer. (Arts Sector)

One role of state DOTs is working with communities early on to help them make the right economic and infrastructure decisions. We educate and collaborate with these communities as they make difficult decisions about where to grow next, and communities have done a great job partnering with us and USDOT. (State Government)

What differentiates success and failure now is social capital and how well you work together. (Academic Sector)

When I hear about what people are doing in rural areas, they talk about supporting businesses, helping organizations learn how to use software and comply with regulations, and aiding communities in thinking systematically about how to rebuild their economies. It's human centric. But the money we have in the federal government for rural work is typically for hard infrastructure and service. There is very little flexible funding that can go towards people and institutions, to help communities move forward. For example, USDA money goes out as loans and grants for housing, business development, and broadband. We don't see technical assistance or investment capital for people and institutions. We are missing the opportunity to tap into the brilliance, passion, and resilience that is widespread in rural communities. (Community Development Sector)

We want to make it easier for communities to have leadership on lands, buildings, and other areas that are owned or funded by the federal government. We own and manage a lot in rural America, and we've made it difficult for there to be community ownership over things, so we're working hard to unwind ourselves where we can and let community leaders step up. (Federal Government)

With USDA, regions are split up in different ways, which restricts coordination on funding. (Local Government)

We are trying to bring the region together to look at economic development by getting local communities to work together and understand that they all have a role. It is a shared challenge. Our economic development organization doesn't recognize boundaries. We have shopping and entertainment throughout the area and build on these connections to forge partnerships. (Local Government)

We work through the Counties Association and partner with other coal counties. Instead of having an Economic Development Director for our county, we hired someone to work on behalf of the region. We have achieved some success with this approach. (Local Government)

For economic development and coalescing the community around a shared vision, there needs to be at least an ad hoc group that meets, whether formally or informally, to bring partners together. Place an emphasis on continuity and meeting people where they are. Maybe they'd come to a brewery instead of city hall. It also helps to have a champion that represents the vision. (Local Government)

Every community has challenges. When people get together and talk, they begin to recognize that they have common challenges, priorities, and even projects. A lot can happen collaboratively once people start talking. (Local Government)

Bring a diversity of perspectives into the conversation, including industry and local businesspeople. Engage young people and make them part of the solution. It will ensure that the vision is forward-looking and educate them on current challenges that they must face. (Local Government)

The biggest piece of the puzzle is building the relationship and trust between communities and counties. Communities have to see that the whole is stronger than the sum of its parts. With this approach, we're seeing results in broadband, the petrochemical industry, and commercial food projects. It shows even small businesses that they can be part of a bigger picture, and participation is really starting to spike. (Local Government)

Nothing binds people like a common challenge. (Local Government)

Capacity is needed. We must figure out how to build human capital and nurture the leadership development of local communities and the people that live there, so that they can strengthen their own communities. (Community Development Sector)

It's better to have ten strong part-time leaders rather than one strong civic leader. Engaging with USDA Extension can be a successful model to build capacity. By sponsoring leadership trainings, we can try to develop a culture of leadership and an environment where there are robust mid-level leaders. (Local Government)



When it comes to leadership, look at both the community and within individuals. Think about niches. Everybody has a role to play. As each person becomes successful in their role, you'll begin to see benefits for the community. For example, you're playing in a basketball tournament, but you only have a small team, so you look up into the bleachers and find a few players from the audience. The first quarter, the team plays lousy because you don't understand each other. As the game progresses, you start to see the individual skills of the players and the team plays well. The same is true for communities, once you figure out the roles individual communities can take to strengthen the region. (Local Government)

Tribes work with the federal government, but hardly ever the states. Not many states have Indian Education State Offices and Indian Affairs Departments. Opportunities to discuss issues with the state are important, along with opportunities for government-to-government relationship building since we are sovereign nations. (Community Service/Nonprofit)

Communities have many resources, in the form of people, programs, and partnerships. Intersections between these resources are important, as is policy. Policy can either connect the dots between resources or isolate them. (Agricultural Sector)

One of our goals is to create a permanent program in an agency where those dollars include a person on the ground. That person would be able to understand what is happening across the state, so funding would be more strategic and comprehensive. Money would tie school districts together and we could identify gaps more readily, connect efforts, and keep programs going. (Agricultural Sector)

Encourage states that have federally funded, state-operated programs not to add barriers to funding processes. USDA is already pretty rigorous. We need to remove as many barriers and compliance requirements as possible for small communities. (Community Service/Nonprofit)

Land grant institutions are great tools for WGA to achieve its goals. They provide a powerful network across the entire country, and partner with various community organizations. (Academic Sector)

Cooperative Extension Services possess a tremendously powerful network because they have a presence in every county in the country. This network can be leveraged to address community's needs, both in and outside of agriculture. (Academic Sector)

The trust that exists between Extension and the local community can be very useful in times of crisis like during the COVID-19 pandemic. (Academic Sector)

We kind of see ourselves as a regional intermediary, rural communities can feel isolated geographically and for other reasons, and we can help them communicate with one another and connect with one another in a way that raises all boats so to speak. One of the big challenges in getting rural represented at a state level is their physical distance from the state capitol. Rural Development Initiatives testifying is no substitute for having people from the community there advocating for themselves, on a regional basis, that is a real barrier to us and can make rural feel marginalized as a state-wide community. (Community Development Sector)

Through our experiences, we've learned that a critical mass of leaders is an essential foundation for anything that a community wants to do to move towards community vitality; we have found that we need to layer programs in order to build those leadership skills. (Community Development Sector)

it is something of an uphill battle, leadership is 'fuzzy' and it's hard to get people to fund it. It is much easier to get people to fund entrepreneurship and economic development. But we've found if you go into a community that hasn't done that basic foundational training, it's much harder to get the momentum going. Sometimes people think that leadership is just going to emerge organically, but it really takes some work to identify who those people might be, it's not just some innocent bystander. (Community Development Sector)

We have created a tremendous network of rural leaders, but we have kept our head down for so long just doing it, we are now starting to ask ourselves how are we going to use it? We have just started dipping our toe into the policy arena in Oregon: a project to support rural entrepreneurship was designed to be cut, but we mobilized our rural network and were able to be effective in getting that money put back in the budget- we were surprised at how our network had allowed us to mobilize people so quickly and are now looking at how we can develop a more formal platform of a 'rural action network.' We want people to understand that they belong to something and they can be effective. (Community Development Sector)



In NM we've been looking at our smallest, most remote towns and villages and colonias and seeing what... not only keeps them alive but grow and thrive, and it's really looking at community well-being; economic development is a piece of that, but especially in rural and frontier communities where you have a larger aging population we need to really look at community health and one of the things we've discovered is that it's really multi-sector work; you can't just say "ok economic development this is your issue" or "department of health this is your issue," it really takes bringing those multi-sectors together to figure out how do we build the community well-being; there are several different models that are happening and kind of popping up across the nation looking at this issue- the advantage of the smaller communities like rural and frontier communities is one of their assets is they are used to collaborating and so there's a lot of collaboration, strong leadership; it only takes a few leaders to motivate a community to know what they want and it's obviously driven by the community, very grassroots. (Community Development Sector)

Leadership capacity is an important component of rural development because we need to work within our communities to lead projects and foster and support the next generation of leaders. Leadership development supports community and rural development to be able to lead and make connections within our communities and supports equity. You set up the future for a community by ensuring there is a leadership pipeline. (Community Development Sector)

Starting at square one [when helping a rural community reimagine itself], you have to find that local champion that bleeds community and support their capacity. You never want to do things for or to the community, at Strengthen ND, we meet people where they're at and do things with the community. We work with them so they can continue to identify potential leaders, and we pass tools and strategies to them so they can cultivate their own hometown leaders. (Community Development Sector)

Economic development professionals need to become familiar with how emergency operations work within those centers, and that there is no economic development component to that. There is often 'analysis paralysis', a lot of information to be worked through, but the environment is going to be changing so rapidly it's important to have agile strategies to keep up with the changes. (Academic Sector)

[In an emergency], how do we prioritize to have the most meaningful outcome? A part is local, state, and federal governments working in a coordinated effort, and entirely localized efforts have to be part of the planning process. (Academic Sector)

What we're seeing at the local level right now is communities are learning from each other really rapidly and trying things because we all don't have the perfect answer. (State Government)

'Resilient communities' has become the hot new buzzword, and those communities have a few characteristics that enable them to rise to these challenges. They are really socially connected, they have good social capacity, where the city has really good relationships with its business community, they are in constant contact with the community where there is a lot of transparency particularly within local governments and everyone understands how the local government operates... those places are seeing more success and response when beginning to think about recovery. These are traits that still prove to be true through any disruption, local governments that are able to be responsive and nimble and leaders across organizations who know their roles and are able to step up in these scenarios. (State Government)

In the west and in rural places economic development is closely tied with culture and identity and because so much of transition challenge in literature focuses on crisis, ruptures, volatility, we spent a fair bit of time thinking about notion of community resilience in addition to thinking about economic development. Notion of resilience focuses on idea of being able to absorb impacts and reorganize with a new understanding of competitive positioning. (Community Development Sector)

Our region has a long history of working together, this pandemic shows how closely this region is tied together and shows how collaboration across county and state lines is really better for everybody. (Local Government)

Our regional resiliency team is a model that Oregon Governor Brown has rolled out, and the different regions in Oregon benefit from having a Governors' staff person who's a link to the Governors' office and has been helped communities interact with the State agencies. (Local Government)

In Oregon, we're fortunate to have a Regional Solutions structure, which is an interagency collaboration focusing on economic and community development established by executive order several years ago. The idea is that state agencies work together, and we can respond to specific needs in the region and be a resource to leaders in those communities as they establish priorities in their local communities. Housing, land use, economic development, transportation, and environmental quality agencies all work together to respond to priorities established by local advisory committees. (State Government)

Trust Montana was established in 2010 after a statewide feasibility study found that rural areas needed permanently affordable housing but that the capacity in those communities wasn't built up enough to have their own community land trust. Trust Montana was created as a way to provide that. (Housing Sector)

One of the big lessons was that people by and large do not want the federal government to come in and solve problems, but they want a framework, a toolkit, and support. That makes a difference. There is a lot of benefit in helping community members, cooperatives and businesses navigate the federal bureaucracy. (Business Sector)

Cooperatives can solve a lot of things in rural spaces. Less than 10% of our population can articulate what a coop is. They don't know it's a solution, or they don't know how to go about doing it. Funding for research and development is important. In the early stages, when a group of people are developing an idea in a rural space, it's not because they are going to work there. It's because the community needs something essential. They have a different full-time job and are trying to develop a cooperative. They need people on the ground to walk them through the process and to help them get the funds they need to pay for a business plan, market study, feasibility study, so that they get a really stable startup for the cooperative. (Energy and Electricity Sector)

Not to harp on needing funds for technical assistance, but the rural cooperative development grant program through USDA is only program on federal level that pays for consistent technical assistance. There is a group of us that apply for that funding every year and there isn't enough for everyone. The program is consistently on the chopping block, so support for that program is really crucial. The cooperative business is the hardest business structure there is to develop. We have to take a group of people and develop consensus on how to build and run a business. Without technical expertise, in for disaster. (Energy and Electricity Sector)

We've consistently seen how increased coordination leads to quicker recovery. We believe the same will be the case with economic recovery. (Federal Government)

We need to focus on state-federal relationships, especially with the amount of federal land in the west; policymakers in DC may not always understand what life is like here, particularly in rural areas, which can lead to unintended consequences. The states created the federal government, not the other way around. (ND Governor Burgum)

Find people in your communities who are the champions of the good things that are happening, rally behind them, and provide them with the support they need. Share a vision of the future and work to foster those ideas. (Local Government)

Growing an entrepreneurial ecosystem is a regional effort. Communities must coordinate needs across geographies. (Local Government)

In working with small, rural communities, the biggest advantage is to show up across the region, to city council meetings, chamber meetings, and community events. We have found the benefit of being there for these communities in-person and building those connections, especially for regional initiatives. Showing up and being present is the best form of outreach and I can't overstate the value of how that helps get things done. (Local Government)

There is strength in numbers and in sharing resources. (Tribal Government)

We need champions on the ground who are driving community broadband needs. We can't connect the nation without them. Heavy community involvement is crucial for coordination and sharing updates. (Tribal Government)

With the current public health crisis, rural Americans are stepping up to the plate. Leaders play a special role, and partnerships will help us get through this time. State, local, and federal partners are all essential. We're in this together and we will get through this together. (Federal Government)

In the face of emergency, we're seeing companies and communities stepping up and giving back. A 3D printing company is printing 100 face shields per hour. We're seeing valuable equipment being put to important uses. Small, independent business owners are adapting. Distilleries are making hand sanitizers and providing the product to police, doctors, fire departments, and stores. (Federal Government)

Homeless service providers are on the frontlines. They need personal protective equipment and other equipment to care for populations, so they must coordinate closely with state and local officials. (Federal Government)

Recovery is more than simply repairing damaged structures. The restoration and strengthening of systems and assets are critical to long-term sustainability. (Federal Government)

At a regional level, we're starting to form interagency coordination teams in response to the crisis to provide decisionmakers at all levels with awareness, ensure effective communication about national policies and programs, and elevate stakeholder concerns to the federal government. (Federal Government)



After an initial disagreement between towns about whether to issue stay-at-home orders in a county hit hard by the virus, we involved the governor early on to issue a statewide declaration due to community spread. Despite the initial lack of consensus, local governments have now all made disaster declarations and have been in lockstep on decisions. The consistent messages from these cities have resulted in less confusion for communities. (Local Government)

In areas with high spread, we removed construction as an essential service. We limited and closed as much as possible and as early as possible to contain the virus. (Local Government)

In order to get information out about the crisis to all communities, state and local governments need to focus on translation. (Local Government)

We are finding ways to reach out to vulnerable communities during this crisis and make sure they have the resources necessary, especially Latinx communities that might be afraid to seek government support. Governments can explore working through nonprofits, task forces, or other channels. (Local Government)

Schools continue to deliver lunches at a high rate and communities have been very giving during this time. In order to support populations like seniors, we have to factor these considerations into our budget decisions. (Local Government)

With some of the decisions we made in response to COVID, there were unintended consequences. For example, messaging about stay-at-home orders coming out at the state level before we were able to announce it in our communities caused people to rush to grocery stores. It's best to be proactive but in some situations, you'll have to be reactive. (Local Government)

In each community, think about who your trusted messengers are. In a crisis, it may be the fire or EMS departments, government officials, or hospitals. Have them share stories because people have a hard time understanding statistics. Once you have identified your trusted individuals and storytellers, set up a unified communication system. Utilize these voices and be consistent will your messaging. (Healthcare Sector)

In a public health emergency, be quick to act, follow medical advice, and coordinate action for a unified approach between all elected officials. (Local Government)

In order to act quickly in a public health crisis, plan ahead. When that tsunami hits, you need the staffing to do investigation and contract tracing. Have a strategy for how to quickly double or quadruple the workforce, through temporary staff or volunteers. Watch for burn out among the workers because the community will be hit hard. (Local Government)

This crisis will continue for the next year or 18 months until there is a vaccine. Communities must plan for that and discuss how to have a sustained workforce and maintain capacity while accomplishing everything they need. (Local Government)

It's important to have a strong relationship with stakeholders, including first responders, hospital preparedness management, commissioners, and other local leaders, as well as constant dialogue with these groups. When the groundwork is already laid, there will be a collaborated, coordinated response in the event of an emergency. Get information flowing so everyone is on the same page and start engaging the public early when the emergency strikes. (Local Government)

Capacity is a big hurdle for communities trying to access federal grants. (Tourism and Outdoor Recreation Sector)

In an emergency situation, give more support and guidance to smaller counties that might not have as much experience and take best practices learned and apply those to other localities. (Local Government)

There are 55 million Hispanics in the US and we need to engage them in the outdoor industry, both in recreation and in stewardship. Tree planting is a way to bring in this group and begin the education process. (Tourism and Outdoor Recreation Sector)

Successful communities recognize that change is coming, embrace that change, and become a part of the transition so that the change works for that community. (Federal Government)

Success in reimagining rural communities is found in unique partnerships; we're going to have to get creative. For example, healthcare can partner with waste management to do wellness checks on the elderly in small towns. There are many funding opportunities. (Healthcare Sector)

Even as timber sales increase, litigation can be a challenge that causes areas to lose mills. We have had success in partnering together and having the governor, counties, and communities intervene on our behalf. (Federal Government)



When partners work together, accessing funds is easier. The funder sees that money is extended farther than just the one entity. (Business Sector)

In areas where local governments have adopted an aggressive strategy of disseminating information about burns, it's making a big difference. (Academic Sector)

Fire and other disasters know no boundaries, so collaboration between localities is essential. (Federal Government)

Changes that are violent, quick, and significant have the advantage of bringing focus, but the disadvantage of giving us very short lead time to respond. On the other end of the spectrum is the slow change that is almost invisible. Less tangible and harder to build political will around. (Community Development Sector)

Key response variable is leadership and whether individuals in a community who are respected and willing to discuss and explore new pathways in their networks. Rare rural community that is thinking about what next? What can I do to anticipate changes? When leadership can be less reactionary and more open to think the big ideas before narrowing down on a set of executable actions, I see more success happening. Leadership has to then develop a vision for the future and ideally that exercise of crafting a vision is something the community as a whole works with or at least diverse interests are part of crafting. The very exercise of crafting that new vision energizes the community. (Community Development Sector)

In Sheridan, WY, they have enough assets in the people, the built environment and the natural environment that they are able to both lure entrepreneurs and scale businesses and attract talented employees in ways that a lot of places can't in today's market. None of that would have taken place if they hadn't gotten their business acumen in order and righted their fiscal house and their infrastructure and relationships with the state to be able to spend money effectively. (Community Development Sector)

Capacity is a huge issue. Many federal HRSA and SAMHSA grants are hard for small organizations to get and then manage. Resources are already stretched. (Healthcare Sector)

Alignment of federal funding opportunities with local needs; restrictive eligibility requirements; local capacity to apply for and manage funds are all challenges we hear communities dealing with. This includes access to and understanding of federal contracting guidelines as well as communications with federal agencies about what types of contracts make for viable opportunities and which do not. In addition, having a sufficient number of trained and dependable staff for a workforce is a challenge, retention, recruitment and skill development in rural areas, etc. Local capacity to apply for and manage grants has been helped in some cases by organizations based locally that can provide such support, essential be a resource to the area. (Academic Sector)

In order for a community to compete for grant and loan funds to make infrastructure improvements and attract economic development, they must be able to keep their finances in order and maintain the infrastructure they do have. Rural communities tend to lack qualified staff, and have trouble keeping the staff they have. More funding and opportunities for staff training would help, as would more funding for regional planning and development districts that assist these rural communities with finding and applying for funding. (Local Government)

Many rural communities lack knowledge and access to certain programs in different sectors.

Another problem is eligibility. Depending on the grants, our rural community of 1,500 has to compete with Seattle for grants in geographic locations. We cannot compete with finances and the teams put together in these locations for grants. (Local Government)

Federal resources are cumbersome to access and requires a lot of local capacity to be able to attain. The level of planning and time to get a little money is often not worth the investment. (Community Development Sector)

The application process for federal funding -- and the subsequent reporting requirements -- are very daunting for small communities with limited staff. EDA and SBA are particularly onerous. USDA RD has some programs that are easier, and some that are very difficult to apply for. Small communities also have difficulty in coming up with matching funds. (Academic Sector)

Yes, and a primary one may be lack of staff or expertise and experience at the local or regional level and a lack of capacity to manage and expend external funds from federal or state governments, foundations, etc. Making them aware of external expertise and making that available could be helpful for this. (Academic Sector)



Most federal government grant programs are hard to navigate even for organizations that work with these grants on a yearly basis. We work primarily with NRCS Farm Bill programs and the administrative burdens demand significant attention. I also think one of the main obstacles is that the programs and the rules are often written by people in DC that have very little practical experience with the impacts the program administration has on folks in rural communities. Improvements in my mind could include developing a grant liaison that can work with rural communities to ensure grant applications are completed and administered properly. I would also recommend that states have more input in how the programs are administered to tackle local nuances that cannot be captured at a federal level with a one-size-fits-all program. In essence, block grants would be more effective, but I realize that block grants are also not well thought of in Congress. (Agriculture Sector)

The application process for many federal funds is very difficult and most small communities don't have professional grant writers to help them. Systems of technical assistance for rural communities, and projects scaled to rural capacity would be helpful. I used to work for a rural development organization, and we spent much of our time helping small communities apply for and manage federal and state grants - I think that is a very helpful solution. Also, the Federal Office of Rural Health Policy is a good example of a well-run federal agency that targets funds to rural communities and understands rural issues. (Healthcare Sector)

Small grants are sometimes very effective, but many federal grants are too large for communities to manage. Grant and loan opportunities offered by federal agencies that work in rural areas (USDA RD, EPA, HUD, Commerce, Health, Fish and Wildlife) are not cross referenced or cross indexed. You have to go to each agency website and try to find grants. In addition, they are not organized by project. For funding for a trail project for example, all the federal agency grants for projects that deal with health, mobility, lower carbon emissions, preservation of natural lands - all the benefits of a trail - all should pop up but they don't. Many federal grants don't provide money for planning - USDA RD does, but most grants are for bricks and mortar, not for scoping, planning or design nor for capacity building around community engagement and grants management. (Community Development Organization)

It is very difficult from remote rural to acquire the funds needed to actually change the wellness outcomes in their communities. For example, USDA RD funds require planning grants. However, there can be only one planning grant per jurisdiction and many of the planning grants are allocated to water and other major infrastructure making it challenging for small communities to access any of the needed funds. There is a need for a focused effort to define these hurdles and identify opportunities to target resources in a meaningful way to better meet the dynamic needs of communities. There is a need to coordinate these efforts with federal entities as well as NGOs and other funding bodies to eliminate hurdles to sustained funding sources. (Academic Sector)

There is not enough funding and there is a lot of waste. Don't fund programs - when the funding stops the program stops - nothing changes. Fund capacity building that will carry a community into working together in new ways. And fund public infrastructure. (Academic Sector)

One of the biggest obstacles is rural people do not have the time or expertise to complete complicated funding requests and follow up with onerous reporting requirements. There continues to be an agenda focused on limited resources for programs that do work, such as USDA's Rural Development programs like the Rural Business Services. Many small towns no longer have the tax base to support local community development professionals, nor do they have the tax base to support their declining infrastructure or matching funds for federal grants or the tax base to repay federal loans. (Energy and Electricity Sector)

Consistently I hear from small communities (less than 2,500) that they simply cannot compete for funds against "rural" communities of 30,000-50,000 people. There is little local capacity to write, much less administer, government grants, and even less ability to raise large amounts of matching funds. Block grants designed for very small communities make much more sense, especially if regional economic development entities can administer funds on their behalf. (Business Sector)

Rural communities don't have the capacity to plan/vision their futures, develop priority lists, and do strategic infrastructure planning. We need local capacity assistance. They also do not know about grant programs, grant administration red tape, and lack local match. (Local Government)

Local capacity to apply for and manage funds is probably the largest obstacle. Local agency staff is small and struggles just to maintain operations and meet state & federal mandates for services. Recently we have been considering an economic development grant through EDA. While the regional EDA staff has been helpful, understanding grant requirements and having resources available to put together an application is a struggle. Staff also do not have the time to research upcoming and available grant opportunities that might fit our needs. (Local Government)

We need to allow local communities to decide what is needed at their level, which means they need the tools/technical capacity to do that, and then have funding to implement solutions that move toward those goals. (Academic Sector)



Federal funding is difficult to get, track and report. Small towns often lack the expertise to complete the application/reporting process, if a project can be found to meet eligibility requirements. In many cases, project development is too costly to get funding-ready. Most sources of federal funding are very restricted and focus on the wrong metrics for small communities. Resources are mostly not available to assist rural towns with much-needed maintenance of infrastructure, or develop cultural assets, or assist with downtown redevelopment, to name a few. Broadband grants -- such as those offered by USDA -- are too restrictive. EDA programs are focused on large-scale job creation rather than building healthy, robust communities that could be attractive to entrepreneurship. Disaster planning and mitigation should be a much larger focus for all agencies, but most programs wait until after a disaster hits. Community facilities in small towns can provide real results but are difficult to fund. Local communities also lack the knowledge of how lending programs can provide capital at a low cost to accomplish priority projects. The inability of small towns to calculate return on investment for projects is a barrier for progress. (Community Development Sector)

Yes, there are obstacles. Who will fill out the applications and do the legwork necessary to pull together information for grants, loans, and other sources of funding? Small communities are limited in capacity to pursue federal and state assistance and if awarded, administer the funds, and oversee the project. Regional planning districts are good options to turn to for technical support however their capacity varies from state to state and region within the state. Bureaucratic obstacles are another challenge. Red tape prohibits needs from being met by USDA, HUD, and other agencies. In many cases, good projects could be developed but certain benchmarks have to be met including per capita income, population, and community conditions. Match dollars may be required as well but smaller communities lack resources to meet the match in many cases. (State Government)

Some federal programs do not understand that outcomes look different in rural communities (especially in very large, very rural western states) - performance numbers are vastly different (that is, lower) than in urban communities or even the rural areas of states with large cities. It helps having programs housed in USDA-Rural Development (even if they could fit in other agencies) because USDA-RD is focused on rural communities. (Business Sector)

One of the biggest obstacles to accessing many federal funds - both from USDA Rural Development and the Economic Development Administration - is the requirement to have matching funds secured. In most of the communities that I work in, local discretionary money is not available to match federal funds. State funding is often not available to support these federal grant requests. Having some state money available to match federal funds could leverage more federal funding. In addition, supporting grant writing and grant management capacity could also be helpful. (Economic Development Sector)

USDA Rural Development programs are not being utilized on Indian Reservations primarily because of their match requirements. (Community Service/Nonprofit)

Yes, federal grants are often too specific and of the wrong kind to help small and remote rural areas that have different needs than the rural areas that border urban areas. The application process and record keeping after receiving a grant are difficult and cumbersome for many rural areas who have limited staff that already wear too many hats. (Local Government)

Unfortunately, basic infrastructure is lacking, including wastewater treatment facilities, water pipelines, bridges, roads. Broadband is also an issue, but these basic needs are more pressing in the communities where we operate. The challenge to fulfill these needs is both a lack of funds and a lack of leadership to figure out how to get these funds. As a result, the biggest social infrastructure gap is leadership. (Mining Sector)

Local leadership and lack of skilled expertise. Economic and community development are treated as volunteer activities in rural communities rather than skill-based positions that should be paid. Government programs that assist small communities focus too much on planning and not enough on implementation. Help should be offered to assist communities in creating sustainable systems to maintain progress on actionable priorities, rather than always seeking grant capital that is sporadic and highly competitive. (Community Development Sector)

Leadership development. In many rural communities, initiatives are lacking which address healthcare, infrastructure, business development, and other needs. Capacity building is a key part of responding to these conditions. Hopelessness sets in and instead of fighting the tide of population loss, economic downturn, and other negative conditions, small communities tolerate the situation without working towards change. An expansive leadership development program that supports engagement across public and private sectors would bring people together to engage residents and build around local strengths and assets. (State Government)

A lesson learned from wildfires that we can apply to COVID is to support your emergency manager. The more people handling those responsibilities, the more prepared you'll be. (Local Government)

The Forest Service coordinates constantly with state and local partners. Partners have to be on board for us to be successful. Success is determined by the local public's perception and understanding of our work, which is why we collaborate so closely with communities. (Federal Government)



Like using community scale collaboration to overcome barriers to conduct fuel reduction, some of the areas that are most effectively increasing prescribed fire are going so through interagency and multi-scale collaboration. For example, land managers who want to burn are working very closely with air quality regulators to divide up airsheds and get higher quality information into the system to allow more burning on more days. There are also many resource challenges. Communities are solving those by expanding local capacity and the number of people who are on burns. They are developing partnerships between land management agencies, NGOs, and other local organizations to garner capacity and get fire on the ground at the right time of year. (Academic Sector)

If you're a local government, you have information about where vulnerable populations are located. You need to build relationships so that you can let them know about prescribed fires and other actions. (Local Government)

Planning is a process. Not all planning departments, especially in the rural west, have multiple planners. Some countries have one planner and one emergency manager and sometimes that's the same person, so capacity is limited. We try to bring a lot of people to the table so that we can capitalize on their expertise, but it takes a while. Other responsibilities, such as updating fire safety standards and launching community wildfire protection plans, get pushed to the back without a designated hazard planner. (Local Government)

Partnerships with universities can help communities that don't have the planning staff and capacity to develop multi-hazard plans. Planning students can assist with this work, which gives them experience and stretches dollars for rural communities. (Academic Sector)

In the wildfire space, federal agencies interact very well with state, county, and municipal players, especially compared to where we were ten years ago. Shared stewardship agreements between agencies and governors are the next step. (Federal Government)

## Food

For Governors to help address tribal food insecurity, they must garner partners across the reservation and put an emphasis on listening to and understanding tribal communities and their cultures. Resources are scarce in Indian country, so the key is collaboration and attacking the problem in an interdisciplinary way. (Community Service/Nonprofit)

A problem that we have discovered in rural communities is that seniors take food from food banks and feed their pets first. We developed a pet food program in response, to ensure that people are still getting the food they need. (Community Service/Nonprofit)

In order to develop a system of food supplies, look within your community. Find your local food bank. Food banks do the work of getting food in and stocking it. They can help other organizations and small nonprofits by distributing the food they've collected. Food waste is another resource. Labels are often misleading, and food is often thrown out before it is bad. Efforts have included redistributing school food waste to kids in need and gleaning on farms for produce that would otherwise be left in the field because it's not economically feasible to pick. These options help states without big food companies source local food for food banks and provide more fresh food. (Community Service/Nonprofit)

The need is great in rural and isolated communities, but they are harder to serve. We have adapted the model so that we can bring food into these communities. Mobile food pantries provide the structure of a food pantry from a truck and take away the need to store food, which is often a problem in small communities that don't have the capacity or infrastructure for cold storage. All the community has to do is mobilize volunteers and spread the word to the people in need. Mobile markets, refurbished from used bookmobiles, serve a similar purpose. People can go in and choose the food they want, free of cost, which gives them a more dignified shopping experience. (Community Service/Nonprofit)

Rural communities with their own food programs are very challenged from a lack of funds and the capacity to raise money along with an aging volunteer force. (Community Service/Nonprofit)

A lack of public or private transportation makes it difficult to get to grocery stores and for residents to travel outside of food deserts. Cost of food is also an issue given the remoteness of many communities. (Community Service/Nonprofit)

Food service distributors often don't find rural schools attractive. Creating a collaborative effort within an entire region or school district can help. Local procurement of meals improves the quality and stimulates the local economy. (Community Service/Nonprofit)

Stigma is a barrier – pride and self-reliance prevent families from participating in available food programs. (Community Service/Nonprofit)



When discussing solutions, cultural relevance and family preference of food programs are important to consider. (Community Service/Nonprofit)

Connecting local agriculture to as many people and parts of the community as possible, such as schools, seniors, local grocery stores, and underserved populations, builds out the agriculture economy in a robust way. For example, figuring out how WIC recipients can shop at farmers' markets and providing them with matching funds from the state increases clientele for local products and access to fresh food. These types of efforts have expanded farmers' markets and school food programs dramatically. (Agricultural Sector)

A grocery store is one of the most important pieces of infrastructure to have in a rural community. Support local food retail, whether it's a cooperative or a store. Look at co-buying between schools, senior centers, and stores. On the policy front, design cross-sector initiatives, such as providing annual funding at the state level for schools to buy local food. Investing in these areas has a huge impact on the local economy. The coordination that goes into getting programs and organizations to purchase local food requires policy changes, even up to the national level. (Agricultural Sector)

The Summer Food Service Program through USDA is site-based, meaning it requires kids to get to and from a program site each day when school is out so that they can still receive meals. This program works well in densely populated areas but isn't effective in rural communities due to distance and other challenges. The Summer Electronic Benefits Transfer Demonstration Project works much better in a rural context and ensures access for kids that the Summer Food Service Program doesn't reach. It provides cash benefits to families instead of site-based food. (Community Service/Nonprofit)

States can implement requirements around alternative models for school breakfast. With Breakfast After the Bell, where schools integrate breakfast into the class or the hall, we see a significant increase in participation. States can also incentivize this approach with their budgets. (Community Service/Nonprofit)

There is a straight line from food security to school readiness and success and workforce development. (Community Service/Nonprofit)

We employ a junk food tax on the reservation to raise a significant amount of money to invest in our communities. So far, we've gathered \$4 million. (Community Service/Nonprofit)

We should encourage state governments to reduce restrictions on government building use, so that we can utilize these buildings for food distribution. (Community Service/Nonprofit)

Having recess before lunch is an additional way to mitigate hunger. It has been shown that kids eat better when they have physical activity before eating. (Agricultural Sector)

States administering food programs are so important. Federal money makes the programs tick, but states are a vital component of these critical safety nets. (Community Service/Nonprofit)

There are numerous food challenges in rural area, and barriers for addressing those challenges. For the Food Depot, we serve an area of 26,000 square miles which is bigger than a lot of east coast states. The challenge is not only for the very small, isolated communities, but there is a challenge for us to go into all of those communities and really identify what their needs are and access tools to mitigate those needs. (Community Service/Nonprofit)

Food banks serve every county, so if there is a rural community not being serviced, they should contact their local food bank and they can find out who that is by going online. (Community Service/Nonprofit)

## Water

Grants through USDA's housing program can provide money to replace wells for homeowners, which can be a very expensive and prohibitive feat. (Federal Government)

If we are going to improve the livability of rural communities, I believe the biggest hurdle we face is at the federal, state, and local level to change the narrative regarding the true value of water for the communities we serve. If we're not on the same page and the systems are not maintained or improved, there are some communities that are not going to make it. Water is at the heart of daily life for every Oregonian, and that statement is never truer than right now as we respond to the effects of this health crisis. I'd like us to consider what are we doing to educate our communities about the value of this precious resource. (Water and Wastewater Sector)



If we can get ourselves to think about water as a more holistic resource, I think we will be much more successful as a country at maintaining health and prosperity in rural America. Some of the most successful places in Indian country in the west aren't on a reservation; They're on private or state land just off reservations. Towns like Gallup or Albuquerque - they're close to reservation territory, but the difference is that they had access to centralized infrastructure that was invested in by federal and state government which allowed them to build industry and tourism and trade. (Water and Wastewater Sector)

In our funding, if loan dollars are involved typically there's a little more flex for a community to build excess capacity. For grants, we try to allow for reasonable growth, but we don't want to build infrastructure that will sit unused. A good example is Little Big Junction where Sherman County made a commitment and invested some of their own resources to fund a rural waters system with fire flow. It's basically a business community but the lack of fire flow and the lack of a central community water system was impeding growth. They stepped up and we were able to put together a funding package. (Federal Government)

Dig Deep is the only water, sanitation, and hygiene organization (WASH) operating in the US. Hundreds of organizations working on that abroad, but only one here. Americans tend to assume this is only a problem in low-income countries, that communities without access to water are in places like Sub-Saharan Africa or Southeast Asia. But more than 2 million Americans don't have any access to running water or a flush toilet at home. That figure is based on some federal indices, which tend to underreport in the communities most affected. (Water and Wastewater Sector)

Race is the strongest indicator of whether or not you have running water at home. Native Americans are 19x more likely to lack running water than white households. Black and Latinx households 2x as likely. (Water and Wastewater Sector)

Predominantly a rural problem but not just in isolated areas where people live far off the grid by themselves - this happens at the community level. Communities that have gone through cycles of disinvestment and communities that have never had investment in infrastructure at all. Now they are trying to play catch up. (Water and Wastewater Sector)

We think it's not happening in the US, but it looks just like what is happening in Namibia or Kenya - women and girls grabbing a bucket, walking out of their house a few times a day to pull out a gallon of water, and often it is water that they know will make their families sick. (Water and Wastewater Sector)

We use incredible untapped community resource, school bus drivers, who know the community like the back of their hand and have big chunk of free time between morning and evening bus routes. In between routes, they grab a water truck that we help communities buy and outfit and they pick up water at water access points, which are public water system wells that Dig Deep and our partners own or operate and maintain. And it is delivered in these trucks to off-grid water systems which our team of water and solar techs install in people's homes. They are 120-gallon underground cisterns with solar power that pumps water into the house. These communities that have never had access to running water in rural America are getting it and are getting the same hot and cold water that you and I enjoy. (Water and Wastewater Sector)

We are going to have to get creative in these places where traditional water and sanitation systems won't work or have stopped working. (Water and Wastewater Sector)

The need exceeds the funds that are available for communities around the nation. We are always looking to partner, not only private lenders through our guaranteed program, but also often a small percentage the applicants have saved up themselves through rates and they put money in. Sometimes when we do projects that include new connections, might be connection fees that help. And roughly 17-18% that could be in the form of other loans from states, state RLFs, or other grant funding on state or federal level. (Federal Government)

We provide technical assistance through technical assistance providers like the National Rural Water Association and RCAP. And that's a critical component. One of the things we've seen is you can invest the dollars in infrastructure but if you don't have qualified staff to operate and maintain facilities, they won't be sustainable over a long term. (Federal Government)

One set aside is our SEARCH program for rural communities of population 2,500 or less, with low income, that can help with development and predevelopment studies and costs. For these types of projects, there is some planning that has to occur. Without a local spark plug that's really driving the project, it's difficult for these projects to move forward. Most of the successful projects are not imposed from the top down, they're community driven. (Federal Government)

None of these projects are completed without that local community or system working and then working again with federal, state, and private partners. Really a team effort when these projects move forward. (Federal Government)

Critical nature of having access to water and sanitation for handwashing. If we're going to tackle the COVID crisis, water plays a key role. (Water and Wastewater Sector)



At RCAC, we are a nonprofit organization. We provide technical assistance and training in 13 western states. We provide assistance for water, sewer, affordable housing, economic development, and also have a loan fund to make loans to move critical projects forward. We're a partner with USDA. Often when we think technical assistance, we think of someone going in and turning the wrench in the water system. That is one piece of what we do, but more importantly, we strive to build human capacity and human capital in the communities we work with. (Water and Wastewater Sector)

Our focus is not so much on solving the immediate problem a water system has, but really building their capacity to solve it themselves and solve future problems as well. (Water and Wastewater Sector)

In many states there is a contract set up for technical assistance and training out of the SRF set asides. In numerous states, we've seen some variety of water operator certification training, technical assistance targeted at specific water systems, a lot of times its compliance focused, and also helping access SRF dollars. (Water and Wastewater Sector)

An estimated two-thirds of water workforce and certified operators are going to be retiring in the next 5-10 years. How are we going to prepare the next generation of workers who will be able to work in those small communities and ensure that water continues to flow. SRF set asides are one opportunity to do that. DOL also has some programs on workforce development. We are also looking at partnering with community or state colleges on workforce development programs to make sure we have that next group of operators to make sure we can run these systems. (Water and Wastewater Sector)

There is now a joint application for state SRF and USDA funds. For a long time, there were slightly different requirements for different programs. In small, low-income communities, the water system is run by 1 or 2 volunteers. They aren't necessarily good at navigating the paperwork so the fewer times they have to fill out an application, the better. (Water and Wastewater Sector)

We are also seeing more regionalization. That runs the spectrum from informal collaboration among utilities all the way to a full physical consolidation of two utilities. Recognizing that small water systems don't have capacity on their own to operate but partnering with other nearby water systems can provide economies of scale to provide their communities with safe drinking water and sanitary sewer access. Again, not a solution in every case and certainly a whole spectrum from really informal to really formal, but we're starting to see it in a lot states and it's a long-term solution that can enhance sustainability for a lot of small systems. (Water and Wastewater Sector)

The Mid-Coast Water Planning Partnership is a grassroots, place-based planning exercise recognized by Oregon legislature. Work with several municipal water suppliers in mid-coast region. All struggle with the same conditions of meeting the needs of our communities with limited access to water supply or failing infrastructure. We appreciate that the state of Oregon water resources department is funding place-based planning so that we, as a community along the mid-coast region, can work together to plan for the future water use in our communities. (Water and Wastewater Sector)

First approach to any municipal funding is to reach out to Business Oregon and the infrastructure finance authority. They currently have a program called a one-stop program. What is unique about that program is instead of your community or entity reaching out to several funding sources, Business Oregon will schedule a finance summit where you get the opportunity to present your project or your problem and/or solution without any preliminary engineering, in most cases, and have that discussion with funders in the room. Funders from Business Oregon, USDA Rural Development, Oregon DEQ, and several others work collectively to map out a funding strategy to help you accomplish the mission of completing your improvements. (Water and Wastewater Sector)

Some states, as long as you reach out to one agency, they'll all collaborate. Nevada and California do funding fairs where all funding partners, federal and state and some private sector banks and CDFIs, will all present on financing options and then have time for communities to come and share their potential projects and start making those connections. (Water and Wastewater Sector)

Every state is set up a little differently, but the thing to keep in mind is get the funding agencies involved early and often. It is really important to reach out prior to completing the engineering studies - the whole idea is that you want your engineer to do one study. Keep in mind that in most states, the funding agencies are not only participating in the funding fairs, but also working behind the scenes amongst ourselves to strategize how we can put together the best package with our different programs for the community that results in reasonable rates. . (Federal Government)

Most federal programs are loan programs. A few are grants, specifically tribal set asides. In most cases, these small community water systems need not only a local champion who can complete the application, run the program, find the certified public water system operator, but they also have to do the math to prove these systems can become self-sufficient through billing. Basically, that the end users will support through rate payment the repayment of the federal loan or the continuing operation of the system. Right now, federal programs do not support operations and maintenance on small rural water and sanitation systems. That is a key weakness. Need more unrestricted funds for these systems. Without them places that once had full and well-functioning water and sanitation systems are losing access. (Water and Wastewater Sector)



We need to think more creatively about what we're willing to fund. And we need to think more broadly not just about how these systems can self-sustain through billing, but how these systems, by providing people water and sanitation access, sustain entire communities and how investing in these systems whether or not they are self-sufficient creates other economic benefits like decreased health burden, increased access to education. (Water and Wastewater Sector)

A lot of communities we work with don't have running water. Thinking about that a lot with COVID. Imagine what it would be like if you couldn't even wash your hands or if you had to break social isolation every couple days to go to a crowded place to get water and if on top of that you lived really far from a health facility. (Water and Wastewater Sector)

Hearing that the application burden is so onerous for many programs that it seems more difficult than just doing the work themselves, so they don't even apply. One of the most successful strategies is in the state of Montana – single online application for multiple agencies. (Water and Wastewater Sector)

We have a really advanced local political infrastructure for the way we deal with water in America. In most places we have water boards that govern water districts and utilities. They're democratically elected. But in a lot of places in rural America not many people know that these water boards exist. Seats go empty or uncontested for decades. People sitting on boards are not representative of the people most impacted by failing, noncompliant water systems or systems that have gone completely offline. (Water and Wastewater Sector)

We have an incredibly complex, robust and successful water system for a country of our size with our geographic spread. Key to making it continue to function the best for the most people is to take these mechanisms that already exist and make them more representative of the people they serve. (Water and Wastewater Sector)

With COVID-19, it's important that rural communities have the same access to basic needs. The situation has reinforced the critical nature of broadband efforts. We are doubling down on broadband due to its significance to COVID adaptation efforts like distance learning. Water and wastewater programs will continue to receive priority as well. We need to give those communities the same chances that our urban communities have. (Federal Government)

Residents can't follow COVID hygiene guidelines if their water isn't turned on. Local governments must ensure that communities have those services and maintain them. (Local Government)

We're working on projects for gravity-fed pumps that save tremendous amounts of energy. A lot of work is being done on the landscape that can help on efficiency in water pumping. (Federal Government)

Water is the most valuable forest product there is. We should work on monetizing the value of forests' impacts on water quality. (Forestry Sector)

Updated critical infrastructure like water, sewer and roads is the foundation of economic development as it ensures an updated and viable community. Many small communities will not apply for Federal Funding for infrastructure (like broadband and streets) because of the added requirements and the added cost for the single audit. All cities and towns need to invest in their critical infrastructure to entice business and jobs to their communities. (Local Government)

Unfortunately, basic infrastructure is lacking, including wastewater treatment facilities, water pipelines, bridges, roads. Broadband is also an issue, but these basic needs are more pressing in the communities where we operate. The challenge to fulfill these needs is both a lack of funds and a lack of leadership to figure out how to get these funds. As a result, the biggest social infrastructure gap is leadership. (Mining Sector)

Water and wastewater continue to be a top priority in rural communities. Water systems suffer serious neglect across urban and rural, however the problem is more prevalent in rural areas. With lack of local revenue and more area to cover in supporting improvements, rural communities have to rely on federal grants and loans such as USDA Rural Development and HUD CDBG. Federal resources are scarce though. Part of the solution is to encourage small communities in proximity to enter into a regional agreement. Fewer costs would be incurred in supporting one entity as oppose to several and savings could be applied to system improvements. (State Government)

Residents can't follow COVID hygiene guidelines if their water isn't turned on. Local governments must ensure that communities have those services and maintain them. (Local Government)

## Health Care

Telemedicine can be used for a number of purposes. In rural areas without certain types of doctors or specialists, hospitals can set up a system where they communicate with the necessary doctor or specialist in a city and transmit the data that they will need to treat the patient. For example, hospitals can have a patient use a treadmill that sends the information to a cardiologist at a different hospital. (Federal Government)

When people have life-threatening emergencies in rural areas, they must be transported to the closest big city. Many die on their way. With USDA's Community Facilities program, communities can get funds for critical care infrastructure for the region and save patients. (Federal Government)

DOJ has made an effort to work on elder care and elder abuse; a substantial portion of rural America is aging and isolated and ripe for abuse. (Federal Government)

Telehealth isn't just important for connecting rural communities and families – it also helps reduce costs across the board in the healthcare system. (NM Governor Grisham)

We should explore regional healthcare models, especially for behavioral health. No state is doing behavioral health sufficiently because all states have been ravaged by opioids. We are currently building infrastructure and a Medicaid investment model, and as we're learning, we need to share the costs and outcomes with other states. (NM Governor Grisham)

Telehealth is a great modality for recruitment and retention of healthcare professionals in rural communities. For example, psychiatry is drastically needed in [rural areas] as mental and physical health are intertwined. If there is only one psychiatrist in town, there is sadly still a stigma attached to treatment so patients avoid those visits because word could spread around a small town. Tele-visits reduce the likelihood of someone being seen attending an appointment. From the physician side, providers want to live in rural areas for quality of life and community, but to staff someone you need 4-5 psychiatrists in that community which is unrealistic. Telehealth can work to supplement that need by recruiting psychiatrists and letting them know that there are telemedicine workers supporting them on their off-hours. (Healthcare Sector)

Healthcare facilities are facing challenges with COVID-19, but many rural hospitals were suffering even before this. (Federal Government)

1 in 5 Americans live in rural areas. These communities aren't as close together. Sometimes in a region, citizens must drive five hours to see a doctor. (Federal Government)

Waivers we've issued in the context of COVID-19 have given flexibility to providers and reduced regulations and administrative burdens for them, which increases capacity and allows them to focus their priorities on patients. They are able to send patients to localities, care for patients across state lines through telephone and video and provide in-home care through occupational therapy. (Federal Government)

When this crisis is over and we move into recovery, our experience needs to provide us with lessons. We must build out good healthcare in rural areas, because good healthcare is key to economic health. (Federal Government)

In our county, we hired additional transport to help divert COVID patients to other hospitals in the state so that the system was not overwhelmed. (Local Government)

In order to act quickly in a public health crisis, plan ahead. When that tsunami hits, you need the staffing to do investigation and contract tracing. Have a strategy for how to quickly double or quadruple the workforce, through temporary staff or volunteers. Watch for burn out among the workers because the community will be hit hard. (Local Government)

This crisis will continue for the next year or 18 months until there is a vaccine. Communities must plan for that and discuss how to have a sustained workforce and maintain capacity while accomplishing everything they need. (Local Government)

Most rural areas have a small epidemiology and healthcare staff. When the COVID pandemic hit our community, they had to work, day and night, to deal with the crisis. It's necessary to have support and reassign and move staff to handle associated workload surges. All efforts go into answering calls, contact tracing, and anything else to meet the needs of the public. (Local Government)

Across localities, it's important to coordinate supply needs and surge planning. (Local Government)

With COVID, we almost reached capacity and we caught it early. In a pandemic situation, healthcare workers must actively be looking for cases instead of letting it come to them, because by then it'll be too late. (Healthcare Sector)



The benefit of a small rural community is that there are one or two degrees of connection between everyone. What healthcare workers were saying about COVID was consistent with what people were hearing. It was helpful to have people sharing their stories and personal experiences. (Healthcare Sector)

The healthcare sector in rural areas can benefit from having partnerships with universities along with other professional connections to stay abreast of developments and contribute rural care perspectives to the conversation. (Healthcare Sector)

Destination locations have to be very cognizant of emergency plans, especially for disease outbreaks, because there are many out of state and international travelers. Quick and effective responses in these communities can prevent further spread and minimize catastrophe. (Local Government)

Patients traveling hundreds of miles to reach clinics sparked the telehealth model in some areas. (State Government)

Telehealth allows for actual doctor involvement. (State Government)

Centralized care coordination – having someone helping to coordinate appointments associated with follow-up – is important. This is an often-unaffordable function for rural health providers. (State Government)

The inability to get medicine impacts healthcare delivery. Rural communities have been losing pharmacies, so remote pharmacies are popping up. The supervision of drug dispensing is done by a pharmacist and sites are managed by a technician. Visits assure controls are being taken care of and every prescription is checked with a video system. (Academic Sector)

The technology is the simplest part. Everything else about telehealth is complicated. (Healthcare Sector)

We've seen some interesting partnerships between outdoor recreation and the medical community where they prescribe people to hike and utilize other strategies. (Federal Government)

Challenges for remote pharmacies include bandwidth, space, staffing, payment models, and inventory. They need higher bandwidth for downloading and uploading to achieve their functions. There are limited buildings in rural areas, so that poses an issue as well. Additionally, they must have trained technicians which can be difficult to find in remote communities. Many of these places don't have physical pharmacists because pharmacies are volume businesses, but there are still difficulties with technology in terms of fulfilling volume needs. Rural sites serve around forty prescriptions per day; generally, pharmacies need 200 per day to cover a pharmacist, and it's also costly to maintain inventory. (Academic Sector)

A patient's health and access shouldn't be dependent on where they live. (Healthcare Sector)

We helped design and open the first virtual hospital, with virtual ICU, stroke, ambulatory services, and remote patient management in the home, which helps people with chronic illness from having to stay in the hospital. There are opportunities but also repercussions: what happens when we start to move care into homes, and can rural communities support that? (Healthcare Sector)

When working with health centers in rural communities, access to broadband is an obstacle, and the capacity to get federal subsidies is severely limited. (Healthcare Sector)

We have archaic rules about healthcare for health centers. The government needs to remove regulations from the law that stop the industry from innovating. Before adopting a new technology, the main questions should be whether it helps patients, whether the providers will get paid, and whether it will work. (Healthcare Sector)

The challenges with telehealth are the policies, not the technology. The biggest issues surround licensing and credentialing of providers. There are questions about what an originating site is. The legal liability for providers comes into play. (Healthcare Sector)

The CONNECT Act takes away a lot of originating site issues, and there's more clarification coming from HHS to help give more comfort on the liability front for telehealth. (Healthcare Sector)

The STAR Act, which has been introduced, would give health centers the ability to innovate by funding them to incorporate more telehealth. Saying that a center "uses telehealth" means they have to drastically change practices and workflow. Providers may now be seeing a patient every eight minutes. It takes time and ability to innovate. (Healthcare Sector)

The lack of tolerance for innovation in health centers is the greatest impediment to the deployment of telehealth. (Healthcare Sector)

Pharmacies are under state law, and each state has different practices and regulations as it relates to telehealth. Regulatory issues they encounter aren't so much related to payment or federal law as they are to the state law approach to pharmacies. (Academic Sector)

Nothing precludes states from updating Medicaid statutes to help promote telehealth. Feds often watch what states do before they try to take it on. (Healthcare Sector)

The major challenges we have experienced in telehealth are licensure, credentialing, geographical barriers, and reimbursement. There have been some encouraging steps taken at federal level to help remove barriers. The federal government is getting creative in creating CPT codes that don't have telehealth behind them, which is beneficial to patients. It's important to see what barriers states are putting up and try to switch the conversation to how we can move forward. (Healthcare Sector)

One critical improvement to make in terms of regulation would be to remove geographical barriers. We need to rally around programs that provide health to everyone. Rural communities struggle if they have to carry weight. Allowing others in will help everybody, including rural areas. (Healthcare Sector)

Physician shortages make it impossible to see patients every eight minutes, with staff doing charts at night. However, the telehealth model could increase the capacity for this type of workflow because it would open the door for lots of part-time or older physicians, which would dramatically increase the number of doctors. (State Government)

The industry doesn't have to wait for the feds. There are interstate compacts for doctors, nurses, and other healthcare workers that streamline licensure and credentialing. (Healthcare Sector)

Physician compacts help streamline processes for telehealth, but they're not as flexible as what is needed. There are lots of issues around licensure and real concern that there is balance – that patients need to be safe but need to allow doctors to come in when there is an emergency. When they have these compacts, there are very high standards to ensure patients get good quality care. (Healthcare Sector)

A lot of doctors are putting thought into taking the rulemaking away from policymakers and getting their peers to help set standards for telehealth. Having providers with experience and expertise guiding policymakers at the forefront is important. (State Government)

Reimbursement is a charged topic. The government had a parity bill all set to pass, which would get providers the same charge rate for in-person care and care through telehealth. The bill was modified and passed, with the conditions that if patients were reimbursed for a live visit, they had to be reimbursed for telehealth, but that could be negotiated. It became a big problem and chilled further expansion of telehealth. (State Government)

The reimbursement issue drives inequities between payers. States that have advanced policies to open up for commercial payers but aren't doing the same for Medicaid get innovation in the wrong place. If there isn't payment comfort, the health clinics and vulnerable populations suffer. (Healthcare Sector)

39 states have parity policies for telehealth reimbursement. Many of the states that don't have it, probably won't ever adopt it. We have to figure out how to work around this reality, partly by having conversations to show the value proposition of telehealth and its tremendous impact. There are the cost savings and financial aspects, and then other benefits like having someone close to home in their last days of life. It's why we need to come together and figure out how to pay for these services. If we're talking about it from a critical access or rural access standpoint, these providers aren't looking at large, value-based contracts. They're still operating on a fee-for-service model. In this model, telehealth doesn't make sense and is a big concern for rural communities as we talk about reimagining healthcare. We need to be mindful that individual community assets in these areas aren't supported by large systems or corporations. They will struggle to adopt telehealth if we don't figure out how to help them get there. (Healthcare Sector)

E-asthma clinics are efficient cost-wise. Certified asthma managers and technicians do the initial work before the patient ever gets to the physician. This reduces the amount of billable time allotted to the doctor and dramatically cuts down costs. (State Government)

With telehealth, we have to take both patients and providers, who have been raised and trained on physical, in-person care, on a journey of change and acceptance. (Healthcare Sector)

States can innovate, update policies, and pilot programs within the school-based health settings space. Looking at changing modalities of care and helping reach kids in a different capacity will help address the opioid crisis, trauma, and other health concerns. (Healthcare Sector)



We have started to work with some school districts in small towns to look at ways to get students into pharmacy technician roles as a first step before going on to college for a pharmacy degree in order to build more capacity in the field. (Academic Sector)  
Maintaining pharmacy technicians is tough because it's a bit of a transient career. (Academic Sector)

With residency programs, imagine that you are a physician wanting to relocate to a rural community. It would be frightening to be the only provider in town. Telehealth in rural areas can attract additional medical personnel to these places. (Healthcare sector)

Mail order is already a tool for pharmaceuticals, but there could be potential for pharmaceutical locker systems. Each state is different in terms of storage and security policies, but vending machines could be an option. With the right connectivity back to pharmacies, such a solution could be possible. (Academic Sector)

Success in reimagining rural communities is found in unique partnerships; we're going to have to get creative. For example, healthcare can partner with waste management to do wellness checks on the elderly in small towns. There are many funding opportunities. (Healthcare Sector)

If there are power or connectivity challenges, none of these healthcare innovations work. We need to think about redundancy and a multi-pronged approach to provide care in these areas. (Healthcare Sector)

Flexibility is needed for small communities, there needs to be models for health system of the future which allows for reimbursement of non-medical care related to health stakeholders addressing social determinants of health. Some federal agencies need to understand that block grants don't get to rural areas - maybe governors can have input to that - also some federal funders do not write grant guidance with small numbers of rural population in mind encourage and advise target agencies on understanding small numbers. (Healthcare Sector)

## Housing

Oil and gas are critical to the economy, but there aren't enough workers for the industry. USDA Rural Development has been working with oil and gas companies to buy hotels so that workers can be housed. (Federal Government)

Reservations are known for cluster housing and our community wanted something different. We wanted this to be somewhere where people live, work, play, and eat, with a playground for the kids. (Community Development Sector)

If rural America is going to thrive, people need affordable places to live. About one-third of houses are occupied by people over 70, and another 20 to 30% are occupied by baby boomers, so many of these houses are not being well maintained. We must rehabilitate these residences, which will require a tremendous need for people in the trades. (Academic Sector)

USDA Rural Development has several housing programs. For home ownership, we have direct loans for people with lower-than-average income levels, and loan guarantees for people with average income. There are some benefits over the private mortgage market, although we don't want to compete with this market. Additionally, we have the 504 program. If you have a health condition that makes your house unsafe, you can apply for a grant up to \$7,500. (Federal Government)

Having multifamily housing is another approach to make housing in rural areas more affordable, because in many small towns, housing costs 30% of people's incomes. (Federal Government)

Individuals living in rural communities are three times less likely to get clean, affordable housing than they would in an urban area, so USDA Rural Development housing programs provide housing opportunities for these people. Our housing programs are more affordable because there's no down payment, no mortgage insurance, and longer-term payment options. For very low-income parties, we have a subsidy as well. (Federal Government)

Oil and gas are critical to the economy, but there aren't enough workers for the industry. USDA Rural Development has been working with oil and gas companies to buy hotels so that workers can be housed. (Federal Government)

Self-help housing through the USDA housing program is the same kind of idea as barn raising. There's a group of people that come together in the community to help build a house or another type of building. One community built a grocery store that now sells mostly local produce and meat. (Federal Government)

With the energy boom, the first people that came were single energy workers. Now that growth has been established, more families are coming, impacting schools and housing. Housing is a big challenge. Apartments are full and single-family housing is limited, and FHA Loan amounts aren't meeting construction costs. Local government is working to subsidize the difference. (Local Government)

Builders are afraid to bring construction workers to the community because the energy industry will pass out materials offering \$5 more per hour if they go work for them instead. (Local Government)

We use a county subsidy for housing if the builder will commit to building a single-family home on a smaller lot in order to increase the housing supply. At closing, we incentivize the process to make it worthwhile for both parties. The loan is forgivable after five years. If they sell the home for a profit before the five years are over, we ask them to pay it back. (Local Government)

75% of houses in the rural west need to be rebuilt or rehabilitated and many people in those communities are older. There is a tremendous career opportunity to rebuild towns. (Housing Sector)

There are 375,000 unfilled construction jobs, which is a trend that is expected to continue for the next 10 to 15 years. The aging population of the current workforce will keep driving that. Schools are starting to reach out to builders. The main factor moving kids to consider construction is salary. (Housing Sector)

The recovery from the housing crisis has been particularly weak in rural areas for single family homes. Prices per home are about one-third less than in metro areas, and more are purchased for cash. (Housing Sector)

We have a limiting factor here and that is the percentage of homes, about three quarters, in rural areas that are owned by people who are baby boomers and older. It's easy on one side to say 'we should welcome in diversity' but where are they actually going to live? Many of the homes in our rural communities are all filled to the point where most of the homes available are almost dilapidated. (Academic Sector)

There are some pretty interesting questions about how congress responds, I wouldn't be surprised if there is an infrastructure bill to emerge out of [the COVID pandemic] and strategies for federal investment to create jobs- there's clearly going to be a state and local government fiscal crisis, there wasn't a lot of support for State and local governments in the first round of the CARES act, and we've seen the inability of local planning offices to process permits and there has been a housing crisis, part of which has been a supply issue. (Academic Sector)

Governor Brown asked us to collaborate to figure out different strategies and solutions for workforce housing. Not an area that housing agency had focused on in the past given priority to focus on lower-income and vulnerable populations. The need for middle housing was not something we had been able to address due to constraints on resources. So we partnered with other agencies to see how we could all work on different parts of the puzzle. (State Government)

We formed a partnership and convened developers and employers to understand the facets involved in lack of workforce housing. We did a request for information to give us baseline understanding. Responses varied from land use and land availability to market dysfunction and lack of developers. Wanted to try to put together a process where we could put together pilots and learn about these facets. (State Government)

Trust Montana was established in 2010 after a statewide feasibility study found that rural areas needed permanently affordable housing but that the capacity in those communities wasn't built up enough to have their own community land trust. Trust Montana was created as a way to provide that. (Housing Sector)

We separate land from the housing or improvements. Homeowners businesses or farmers purchase the improvements but not the land. Trust Montana holds the land in perpetuity which keeps the value of the land out of the purchase price. Have to ensure there is some amount of subsidy invested in the project to begin with to bring the initial price down. Work with partners to do that. Ground leases cap equity so that the buildings are sold at an affordable price into the future. (Housing Sector)

Centers like Northwest Cooperative Development Center do a lot of work with resident owned communities, particularly manufactured homes. Converting privately held to cooperative ownership is a way of keeping affordable housing in the communities. (Federal Government)

Resident owned communities, or ROC. ROC USA took their model to the national level about 12 years ago. Specifically, a manufactured housing limited equity coop model that focuses on long-term preservation of manufactured homes where the land and infrastructure is owned by the cooperative. (Housing Sector)

Lift up the reality that manufactured housing communities can be great affordable housing models if they are managed in the right way. Work to pull the stigma out of manufactured housing community and get message out that working people are living in these communities and doing so because homes and lots of rents are cheap, but in the traditional land leased private community, rents can be raised at any point and there is the threat of redevelopment. (Housing Sector)

We stick with community as technical assistance provider for 10 years, typically the length of the loan. That is part of the success of the ROC model. Don't just convert and move on. Provide technical assistance service, offer training, show up at board meetings. (Housing Sector)

Problem we are facing and that I think the entire country is facing is that the market to purchase communities is super competitive. Manufactured housing communities have become one of the top commercial real estate investments in the country next to apartment buildings and mini storage. In recent years, seeing a lot more equity investment firms buying properties with really high returns based on rent increases and the potential to redevelop down the road. (Housing Sector)

Last year we secured another 10 years of real estate excise tax exemptions for park owners selling to residents or nonprofits. Also secured property tax exemptions for ROCs in Washington state proportionate to the amount of very low-income people living there. Went the stakeholder route and worked alongside residents and owners to move those bills forward. (Housing Sector)

This year we pushed for an opportunity to purchase bill which was against the grain of property owners but very much in line with interest of residents who feel the insecurity every day. Opportunity to purchase laws are similar to a right of first refusal. Give residents a chance to respond, do some due diligence, make an offer. Some of those laws in other states go even further and give resident associations a right of first refusal, meaning if they can match the bid, they win it. Opportunity to purchase bills are not a new thing. Have been in place in northeastern states for decades. (Housing Sector)

APX1 was started as an answer to my own challenges and my peer's challenges which were, we have incredible working professionals scattered all over the American west, most in proximity to resort communities, and you see the skilled labor force pushed downstream as gentrification becomes so extreme that even if you are making 300% AMI you can't buy into the housing market. I went into this founder's mode thinking there must be a solution. There must be entities and organizations piloting things that work for middle income housing development. Moreover, why are no developers building this housing stock? Now, we are a research investment and development firm. Realized we had to vertically integrate those three things to meet our investors bottom line internal rate of return or IRR. (Housing Sector)

After 12 months of research we found that we needed to redefine deed restriction in resort communities. We pulled from what is called the Vail In Deed program, which pioneered something very clever for resort based communities. Drafted a deed restriction that was specific to resident only structures. Most mountain towns that are resort based have 10-30% occupancy rates. Everything else is a 2nd home. So, we went out and found that we needed to redefine deed restriction and also, we need to focus on full time residents and throw what they make out the window. We decided we didn't care. We build for certain income groups, but our intention was to get residents back in these communities that are drained because they are so popular due to their resorts or natural attractions. (Housing Sector)

Why weren't developers building this housing stock? Incredibly high land basis. If you have to buy property in these regions, simply can't make it pencil if you build something that isn't luxury. (Housing Sector)

Our program serves full time residents making up to 300% average median income. Workforce requirement - Need to work 30 hours per week for 3 years or more for an in-county employer. As a remote entrepreneur, trying to figure out ways to get around that caveat while serving our core group. Work with housing authority to qualify our tenants. Buildings have no appreciation cap. Federal HUD dollars align themselves with household size requirement - we scrap that as well. We get community back in these places and focus on what is needed in order to do that. (Housing Sector)

Private developer incentive is being piloted. It is a full-time employee credit system. If we think about carbon credit system, that's essentially what Aspen tried to do with a housing credit exchange. If I am a private developer and I build 400 sq. feet of full-time resident housing, I earn a credit. The credit is worth a dollar value and there are challenges around establishing that value. Most mountain resort communities have a very high fee in lieu system. We say, let's scrap the fee in lieu system. Instead if we develop a full-time resident housing community, a hotel developer then comes in and can buy from us at a pre-established price those credits that basically subsidize our bottom line. (Housing Sector)

In downstream communities, where people actually live, the fee in lieu is not as high so it doesn't work as well. (Housing Sector)

Mountain communities are loaded with people who own second, third, fourth homes and want to help and are very liquid, so this is a great match. High net worth private homeowners are very interested in investing in their local communities. We guarantee north of 10% return. So, they are doing good, investing locally, investing in a tangible asset, we build beautiful structures. Right now, it's a virtuous cycle that is working. My curiosity is how we scale this beyond resort-based communities. (Housing Sector)



It is important to understand that there are roles that multiple players can take. We need an all hands on deck attitude. What is the role of local government? Are there controls they might want to consider? Are there local resources that can be generated, such as a transient lodging tax? What different roles and responsibilities do we have and how do we pull those together to respond to unique situations in different communities? It takes drilling down and partnering more locally. (State Government)

We started the US Mountain Community Summit and we brought 50 private sector experts in finance, mortgage banking etc. together with 50 policymakers and bridged the gap between demand and resources. What we found is there is a good amount of capital and good will out there, it's just there's not an existing network to connect resources with need. (Housing Sector)

Important to remember that even in communities surrounded by open space, there's often limited development because you have park land or conservation easements. Make a plug for putting a certain amount of the land into a community land trust. Once it's sold into the market or if we don't take some land out of the marketplace and put it into a community asset, we're going to be in trouble. Because the gap between people who can afford housing and those who can't keep growing. (Housing Sector)

With COVID-19, we must ensure that the most vulnerable populations, such as the homeless and the elderly, are getting the housing support that they need and that community planning and development during this time addresses public safety for these people. (Federal Government)

There is and will continue to be a great need for affordable housing. (Federal Government)

No one should lose their home because of this virus. (Federal Government)

Homeless service providers are on the frontlines. They need personal protective equipment and other equipment to care for populations, so they must coordinate closely with state and local officials. (Federal Government)

While everything is shut down, lawyers are helping vulnerable populations with rent negotiations and other issues. (Local Government)

In rural areas, we have an affordable housing crisis. We need more assistance to help get manufactured homes (trailers mostly) into better shape. Most of the older stock was built without energy code, and thus have energy costs 70% higher than a stick-built home. Investments into upgrades and replacements are beneficial and can keep housing affordable. We could use more assistance in this area. (Energy and Electricity Sector)

An area for improvement at the federal level is affordable housing credits. Developers often must invest more than \$50 per square foot, making it frustrating and costly for them to meet the requirements for those programs. (Financial Services Sector)

The increasing standards of building codes encounter a lot of pushback from homeowners and homeowners' associations because it raises costs. However, if supplies used to retrofit houses for fire become more common than prices will decrease. (Local Government)

Many federal programs do not translate to rural mountain communities; the policies are designed with a different place in mind. For example, housing subsidies do not take into consideration that local rents are far higher than HUD's FMR. (Local Government)

Housing in every community is such an issue, with the stock of housing either deteriorating or just not being there. This is especially true on reservations. Most of the housing efforts on reservations have gone towards low-income housing, but really, finding housing for employees is such a big issue. (Community Development Sector)

Since we were doing a lot of the 502 loans in South Dakota, we formed the South Dakota Native Home Ownership Coalition. The coalition has been very effective and is getting inspectors and contractors trained and increasing lending in these communities. (Financial Services Sector)

Many banks participate in down payment assistance programs and affordable housing programs. By statute, banks must set aside at least 10% of their net income to go towards affordable housing, some of which can be used for construction and rehabilitation. As a CDFI, we set aside 20% for down payment products because they really do benefit individual homeowners or potential homeowners. We wish we could set aside a lot more because it gets used up very quickly and banks really like that product. (Financial Services Sector)

We value our relationship with Federal Home Loan Banks tremendously. They are a huge source of capital, especially for community banks who are focused on small business and rural lending. They are a lifeline in a lot of ways for providing capital access to the banks to fund those loans. (Financial Services Sector)



In my book, federal funding processes could always be easier, but the 502 loans are fairly seamless. Most banks that utilize that program have learned how to manage the regulations. (Financial Services Sector)

The housing sector is engaging groups that are re-entering the workforce, such as veterans and people who were formerly in jail. (Housing Sector)

## Placemaking

In a tight labor market, everything but the job matters more. You need to get people to envision what their life is going to be like in your community. (Academic Sector)

Our main stage theater productions draw thousands of people into our town and we put on other shows throughout the year, which has quite an impact on the community. At first, we wondered if anyone would come, but buses started showing up and streets were filled with cars. (Arts Sector)

Dilapidated buildings were donated to us to use for theater, and with the help of volunteers, we undertook a large renovation. Our work started a revitalization of the whole street, with everyone redoing their buildings. (Arts Sector)

Reservations are known for cluster housing and our community wanted something different. We wanted this to be somewhere where people live, work, play, and eat, with a playground for the kids. (Community Development Sector)

Art is a vital part of our culture, so we found ways to incorporate it into the redevelopment of our space. (Community Development Sector)

If we want to solve workforce issues in rural communities, then we have to build attractive communities. (ND Governor Burgum)

The arts should be part of any community development, redevelopment, or revitalization – not as an afterthought, but from the ground up. Arts and culture constitute 4.3% of the nation's GDP and contribute significant amounts to state economies. (Federal Government)

The National Endowment for the Arts partnered with the National Assembly of State Arts Agencies to create guidelines for rural communities to achieve prosperity through the arts and creative sector. (Federal Government)

The National Endowment for the Arts is the largest funder in all fifty states. 40% of funding goes directly to states, so decisions are being made at the state- and local-level. The Our Town grant, a creative placemaking grant program, supports partnerships between local governments or tribes to strengthen communities through art and design activities. It can bring attention to or elevate key community assets. (Federal Government)

Creative districts certified by the state are a component of placemaking efforts. They are areas with a concentration of creatives, a strategic plan, and a dedicated source of income and their creation is advocated for and supported by the local community or neighborhood. (State Government)

When communities try to be someone else, they give up the opportunity to be world class. They must have a unique sense of place. (Business Sector)

Spaces for art and culture, such as opera halls, act as community centers. (Arts Sector)

If you want to renovate a building in your community, emphasize its function. In our experience, people get on board and support you when they knew you have a vision and can articulate what you need. It's also important to hire professionals for the areas where you don't have expertise, create a formal nonprofit, form committees, and hold regular meetings. (Arts Sector)

Listen to community needs and focus on what a project can do for the community. (State Government)

In any community, there's a lot more talent than you think there is. In any community, even small towns, there are people that have a lot more money than you realize. And in any community, people like to volunteer. (Arts Sector)

When you put on community events and local performances with local talent, friends and family all come and buy tickets. Using local talent makes it easy to make money. (Arts Sector)



In many cases, it's two and a half times more expensive to develop outside of a core area like a main street than to redevelop that main street. (State Government)

Tell your story, the story of your community, and the story of your successes, and invest in rural journalism and media to amplify these stories. (Community Development Organization)

Once people start coming, the community must invest in quality of life, such as event centers and other placemaking spaces. (Local Government)

In coal-dependent areas, as the economy shifts, we can look to market these places on their cultural uniqueness instead. (Local Government)

Cultural centers create jobs for community members, both tribal and non-tribal, and community members spend time there along with tourists. (Tourism and Outdoor Recreation Sector)

The arts have an impact on tourism and engaging the community: 31% of an arts audience in a rural community is not from that community as opposed to 19% of an arts audience in urban areas. Additionally, two-thirds of rural employers say the arts are an important part of retaining workers; often arts centers are where the community engages. (Federal Government)

I like to use the term living in the middle of everywhere. If you handed someone a map centered on their home, going out about 3 hours, and ask them to draw a star where they live, an 'x' where they work, which in many cases may not be in the same town, then a circle around how far they go to shop or eat out or play... people will start to name off all of these things around them. We have shifted from towns being a one stop shop for a horse and wagon to having vehicles and living regional lives; this has some profound effects in how we talk about our place. (Academic Sector)

The reinvestment in downtown areas is part of an initiative that Governor Burgum and the State of ND has with communities to redevelop their main streets and refocus our energy, attention and fiscal resources to downtown areas to make sure they are thriving, they're safe and they're modernized. (State Government)

We have one arts council as a state agency, and several regional and local arts councils. There is something going on in every community. Mountain, North Dakota is a town of 100 people and they do an Icelandic festival every year. Even in the smallest communities that I've been in I have been able to find arts and people who really appreciate the culture and seeing it sustained; we believe that arts are part of healthy, vibrant communities. (State Government)

[The National Endowment of the Arts] has a couple initiatives specifically to help rural communities; annually approximately 300 grants go to rural communities totaling \$8 billion, specifically for activity within those rural communities. The Our Town grant is a creative placemaking grant program supporting a partnership between a local or tribal government and a non-profit cultural organization to strengthen their communities through the arts by bringing new attention and raising voices of arts sector workers. One Our Town grant project called HEAL to use the arts to promote wellness within the community in coordination with healthcare organizations. (Federal Government)

[Long term planning] can be super tricky because we've got low unemployment, high housing costs, and high wages, so it's hard to incentivize manufacturers or other job sectors to come here because there aren't low worker wages etc. As we let the economy play itself out, for example more teachers coming, they need places to eat and recreate, so as we continue to build out a vibrant community, we have to make sure our community is a place for people to live and where they want to live. We're also talking about what educational opportunities can we provide for people to pivot to "re-tool" yourself to fit into a different type of job instead of one dependent on the oil industry. (Local Government)

Everyone defines rural in a different way... I would define McKenzie as rural asterisk maybe. If you go down some of the streets, it still feels like a rural North Dakota town, but it depends on the event you go to... some attract all the new folks, and some are a small heritage dinner that feels like the old McKenzie. (Local Government)

It is a lot easier to relate or feel tied to a downtown district than a strip mall by the highway... people have a positive feeling associated with their downtown. Memories associated with growing up that are tied to the downtown- if you let that die, there's no real core or community gathering place, not just for shopping, but a place to gather and be your community. (Business Sector)



First thing a community should do is visit other communities, especially ones similar to them, and see what they're doing, and then don't do exactly what they're doing. The things that work well in Williston might not work at all in your community, and there's no way for me to know that- figure out what works for you and make it your own- find the thing that makes you different from us; it helps build ownership within the community as well. (Business Sector)

A community can determine what its overlooked assets are by asking and listening to the community. We don't engage in enough back and forth conversation with those in our community who have different perspectives. You might find in your community the overlooked asset is a dilapidated building that a person or group of people have a big vision for, or in another community it might be a nearby lake that if spruced up a bit could be a hunting and fishing tourism draw. But you have to listen to the people about what they think is special about their community and why they live there, and then you will be able to build upon that. (Community Development Sector)

In North Dakota, the arts provide \$1.4 billion to the state GDP and the arts sector employs over 14,000 workers. In Montana, those numbers rise to \$1.5 billion and 15,000 workers, and in Nebraska it's \$2.7 billion and over 27,000 workers. The arts economy is not 2 people sitting outside painting, it's a thriving workforce in the western region providing jobs from the artists themselves to the people who run the organizations, museum curators, museums also need budget directors and lawyers, so really any job you can think of within the business sector is also in the arts sector. (Federal Government)

What we're seeing with the growth of craft brewing and value-added agricultural businesses is a community and cultural shift. Breweries serve as a community point – people go after work and on the weekends. They're hanging out and having conversations and they're meeting with their neighbors, friends, and tourists, resulting in a huge cultural impact we haven't otherwise seen. In the past, if you wanted to get the scoop in a small town, you would go to a coffee shop. Breweries now serve that role. People can share what the town is about, which has transitioned well to the tourist economy. It has extended the season in towns that normally get an economic boom in the summer. State residents come year-round, and breweries are a very important part of that. (Local Government)

Places where community members can get excited and talk about all the things a community has are key to changing the narrative, encouraging entrepreneurship, and inviting investor dollars. (Local Government)

In communities that don't tend to support tax increases, it can be difficult to request support to renovate city-owned theaters or arts facilities. In our experience, it helps to frame it as an economic development project and talk about how it will bring people in from out of town and the direct impact of increasing downtown traffic. (Local Government)