

NWX-DOC-NTIA-OTIA (US)

Moderator: Scott Woods
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Coordinator: Welcome and thank you for standing-by. At this time all participants are in a listen-only mode. Today's call is also being recorded. If you have any objections, you may disconnect at this time. Now I'd like to turn today's meeting over to your host, Mr. Scott Woods. Thank you. You may begin.

Scott Woods: Thank you very much and good afternoon everyone. Thank you for joining us today for BroadbandUSA's monthly webinar on broadband topics and issues to the public. My name is Scott Woods and I manage BroadbandUSA's Technical Assistance Program and I will be moderating today's webinar.

Our topic today is Public/Private Partnerships Delivering Solutions for America's Communities. As we all know, broadband is critical to the economic development and vitality of communities across the United States.

Given its importance, state and local leaders are exploring how to expand the availability and adoption of robust, high quality and affordable broadband services in their communities

To reach these goals many have utilized public/private partnerships. While no partnership structure is exactly like another there are some common models and best practices that communities should research before embarking upon a broadband partnership.

The best approach to a specific community will depend upon several factors specific to each community. To help us navigate and discuss this topic, our presenters today are Kara Silbernagel. Sorry, Sibernagel, a management analyst with Pitkin County, Colorado and Evan Biagi, Vice President of Colorado Operations for Mammoth Networks, Inc.

We have Mr. James Fortune, who's the town administrator for the town of Cranberry Isles, Maine and Mark Oullette, the President of Axiom Technologies, Inc. and Dennis Gakunga, Chief Sustainability Officer, Economic Development Department for the City of Chula Vista, California.

Unfortunately one of our planned speakers had an emergency and will not be able to join us. But before we begin I would like to review a few governing instructions. First, we will open up the webinar for questions after the completion of the presentation.

Please use the question box on the right hand side of the screen to submit any questions or comments you may have. Second, the presentation along with the transcript and recording of today's session will be available on the BroadbandUSA website within seven days of this webinar under the events/BroadbandUSA webinar archives tab.

As a reminder, our BroadbandUSA website also provides you with information about our technical assistance program, guides, products and

publications and other tools that can assist you with the planning, funding and implementation of your broadband project.

As we begin, our first speakers, Kara Silbernagel and Evan Biagi have formed a public/private partnership for Pitkin County's broadband initiative in rural Colorado. Excuse me. Kara serves as a management analyst for Pitkin County and is responsible for the planning, coordination and implementation of a wide range of community and organizational projects.

She works closely with the county's leadership and the Board of County Commissioners to develop and maintain policy strategies and activities for local, state and federal issues. Evan is the Vice President of Colorado operations for Mammoth Networks where he is focused on growing the company by developing public/private partnerships and rural broadband expansion.

Prior to joining Mammoth Networks, Evan was the President of Resort Broadband LLC and was responsible for everything from supporting the technology to making daily operations; decisions. Please welcome Kara and Evan.

Kara Silbernagel: This is Kara Silbernagel. And I just wanted to give you a little more background on Pitkin County before we get started. As Scott mentioned, Pitkin County is located in rural Colorado, Western Colorado with Aspen as the county seat or traditionally known as rural resort area.

So 90% of our county is actually comprised of public lands and yet we have a population of just under 18,000 with over half of that concentrated in the city of Aspen. But our visitation numbers during peak season being a resort area can skyrocket to 30,000 daily during summer and winter seasons.

So in 2011 we received a mandate from our voters to begin exploring the expansion of broadband services primarily through the rural area. And through that we have established the Board of County Commissioners, the Pitkin County broadband initiative. Next slide.

So this map shows an area of what's known as the Roaring Four (Squatter) Sheds. Actually Pitkin County is just the bottom two thirds of that map but because of how you get to Pitkin County and I'm sure many people know that broadband doesn't recognize political boundaries.

So our Pitkin County broadband initiative has generally been focused on the Roaring Fork watershed. And as we've gone through this we've learned that we've had fiber cuts that have cut off the entire region as well as several rural areas with difficult trade and low population areas that have left much of the county that have left much of the county underserved or unserved.

And so as we went through this in 2014 the county completed a needs assessment which really highlighted the dramatic difference between the haves and the have nots throughout the watershed. The blue area on this map shows the main highway, State Highway 82 where we have fiber connectivity that really connects us to the rest of the state.

The red area shows all the various drainages and population areas throughout the rest of the region at have little to no access to broadband connectivity. And so as we went through this we really prioritized our efforts and said, let's focus on the underserved and unserved areas as well as building up some resiliency along that high corridor so that when there are those fiber cuts that we've built-up a redundant, resilient back-hall that can support the entire region. Next slide.

So through the needs assessment Pitkin County established the following goals and objectives, the main one being we do not want to overbuild any kind of project.

We wanted to establish a middle-mile network that can facilitate private investment. Pitkin County did not want to be a broadband provider but how could we leverage the existing infrastructure with the assets that we owned to really bring in the private investors, the private providers to feed those underserved areas?

Along those lines, we also established and heard from our constituents that with any network we needed to maintain affordability, abundance, redundancy and resiliency. And have kept that as kind of our mantra throughout this entire project. Next slide.

So as you can see this is a rough schematic of our Middle Mile Project. The idea is that we would lease backhaul from the main, existing fiber network and provide it up to our tower locations and establish a microwave middle mile network that again enhances the redundancy built into the entire middle mile network.

From that microwave middle mile that the county owns, we would then use a network operator to help us provide those last mile services and reach out to the ISPs to provide end of services to the homes. Next slide.

So the county's approach was that we were looking for a four layer approach where there's the network owner, we would be the owner of all the infrastructure.

But we'd work with a network operator to really help us manage the middle mile network but even more importantly being a government that having a partner through this as a network operator can help to facilitate those partnerships and relationships with the private market and the ISPs.

So Pitkin County went to RFP last fall, in August I believe, and we had a few responses for a network operator and through that RFP process we selected Mammoth Networks. And from there I'm going to hand it over to Evan at Mammoth to speak a little bit more about the approach since we've gone in through the RFP process.

Evan Biagi:

Thank you Kara. Everyone my name is Evan Biagi with Mammoth Networks. And as the network operator in this project, we have gone through quite a great deal of work to develop a model that we feel is going to be sustainable in the long term and also meet the goals and objectives for Pitkin County.

And while we're on this slide I'm just going to touch on a few more details of what the four layer approach is. Starting with the network owner, this obviously is Pitkin County and they made a determination that they're not in the broadband business but they wanted to play a role.

The network operator as we've talked about, our main focus is really running and building this network. We're responsible for the installation, provisioning, daily operations. And really we're doing this in such a way that it creates an open access network for other service providers.

The network provider's role is the folks that really bring things into the network, the middle mile providers. They could be things as well as voice providers or IP television services so there may be additional network

providers that come into the network to utilize this open access network to get their content or their services out to the areas outside Pitkin County.

And then finally the service providers. These are the last mile service providers, the ISPs, if you will that are going to have the direct relationships with the residential and business customers. They'll be the face of the project from a public perspective and they're going to play a vital role in the overall project.

Next slide please. So in order to make this work for everyone involved, we've decided to work out a revenue share model for compensation for all of the different stakeholders. Starting from the right-hand side of this graphic you've got the end-user. They're going to sign a contract and sign-up for service with the last mile provider.

That last mile provider is then going to take a portion of that revenue and move it along to the network operator who will then carve out a piece for the network owner. This network or this revenue share model we feel is a good way to incentivize all of the different parties for their respective roles in the project.

The numbers shown here are just preliminary but represent how this model would work and at the end of the day the goal, the underlying goal in all of this is to have the most customers as possible to bring in the most revenue. That's really going to be the true tell-tale sign of a successful project.

Next slide please. As we began to engage with Pitkin County on this, we had some high level strategic ideas of what we wanted to accomplish. But we really needed to get down to a tactical plan. And internally we've been referring to this tactical plan as a project blueprint so to speak.

And there have been a number of phases that go along with developing this blueprint. The first stage and one of the most important stages is really data analysis.

And good plan starts with a good amount of data. And we've crunched a ton of data in this project and looked at things like coverage maps and correlating that information to GIS address points to develop a comprehensive financial analysis for the project.

The financial modelling has also been, there's been a great deal of time going into the financial modelling. We've got detailed modelling for both capital expenses and operating expenses and we've broken that out based on which capital expenses are the responsibility for the network owner. Which expenses are the responsibility of the network operator.

And through that process we have worked collaboratively to ensure that both needs are met to come up with a financial model that is sustainable for the project as a whole but also meets the needs and objective for each of the parties involved.

After we've come up with that we're actually right now in the funding phase of this project. We're looking at various funding sources, grant funds, loan programs, you name it, as well as determining labor and support expenses.

There are a number of funding sources that are available both at the federal and state level and we are looking to leverage dollars as best as we can to help again make this financial model as successful as possible.

Finally once all of that is done we move onto the deployment phase which is the fun part and at that point we look forward to finalizing a network operator agreement and begin service deployment here this summer and into the fall. Next slide please.

So this is just a quick map that shows some of our coverage analysis that we have done throughout this process and as Kara mentioned before, if anyone knows this area, it is quite rugged.

The terrain that we're trying to cover is very difficult and there are a ton of these drainages as we've been calling them where it's very difficult to provide access. And certainly with this project we've focused on wireless as being the technology best suited to accommodating the most number of folks for improving their broadband service.

And our projections are currently showing around 90% of all addresses in the area will be covered with our phased plan in our initial approach. We are continuing to work on building out secondary and tertiary towers to further improve these projections but that's where we are right now from a planning perspective.

And this map does show household addresses as well as proposed tower sites. A number of these proposed tower sites are already in existence. They are Pitkin County owned towers that are also doubling as public safety sites and utilizing resources that are already in place is a great way to help push a project like this forward.

Next slide please. Finally this slide does show just a high level logical diagram of what this network would look like. We have gone through a bunch

of the existing Pitkin County sites have been identified for what we've considering primary towers.

Primary towers would then need secondary towers that would also be Pitkin County owned sites. But those secondary towers are going to be much smaller scale, will not have other services on there, such as public safety and even translator services and what not.

And a big portion of this project is in identifying sites that could be used for secondary towers that meet land use and are, you know, technically in good locations for RF propagation.

So the important thing to know here on this slide is really this plan along with the phasing of how this network would come together was truly a collaborative approach.

You know, very important to get down into the trenches and sit down in a room together and work out the details to get down to this level of detail. And let's move onto the last slide.

At the end of the day I just want to close here with saying that we're really excited to be working with Pitkin County as a private partner in this project and look forward to a successful deployment and feel that the comprehensive planning that we've all entered on is going to help get us there.

We are big proponents of the public/private partnership here and really feel that this is a project that will be very successful. With that, I'll send it back to Scott.

Scott Woods: Thank you very much Kara and Evan. As a reminder, we will have time for questions at the end of the session. Please use the question box on the right hand side of your screen to submit questions and/or comments and we'll do our best to get to all of them at the end of the session.

Also as a reminder, copies of this webinar and the presentations therein will be available on our website within seven days of the webinar. Our next speaker, Mr. James Fortune and Mark Oullette have formed a private/public partnership for Cranberry Isles broadband project in Maine.

James or Jim Fortune is the Town Administrator for the town of Cranberry Isles where he oversees all of the town's management functions, in particular the construction and deployment of the town's broadband project.

Mr. Mark Oullette is the President of Axiom Technologies and his chief responsibilities are overseeing growing Axiom's internet and wireless businesses. Mark has held a number of senior leadership positions in the state of Maine.

Most recently he served as the Executive Director of Mobilize Maine where he worked with the regions across the state to help develop and implement a measureable project sector economic deployment and development strategies. Please welcome James and Mark.

James Fortune: Thank you Scott. I'll start for myself and Mark. I'm James Fortune. I'm Town Administrator for Cranberry Isles. And some facts about the community, coastal community of Five Islands across the coast of Maine.

And we have a year round population of around 140 people with a summer population that can be of around 800 during the peak season. And we're a

little isolated between a very small geographic area but quite isolated in terms of and remote in terms of our location, about three to four miles off the coast.

Next slide please. What the town did two years ago is it felt a need to improve the internet and broadband service that we had available on the islands that were, well actually they were on only two of the islands, the two that have year round populations.

The other islands have only a summer population of about 25 to 30 homes really didn't have any type of service at all for internet service other than telephone service. So there was a need felt in the community that we needed to improve over the wireless service that we had at the time.

While we were in this process we had an unfortunate situation where the wireless company which was housing its equipment in a private residence in a tower didn't have come to an agreement about continuing the use of that, had been I think about seven or eight years.

So the equipment had to be removed which was going to leave a large portion of the town not all but a large portion of it without any service at all for internet service. So the town certainly felt there was a crisis and certainly a sense of urgency around that we were going to be without service after about a year.

So we had to sort of speed up our process with this committee of town residents and ended up, it turned out that we really couldn't find a provider who could step-in primarily due to our remote location and the fact that we really don't have a large number of homes out here that could support that service.

So we, what the town did is it supported a process to develop an RFP to find a service provider to provide us what we felt we needed for service and we wanted to build something, we wanted to go beyond the antiquated wireless service that we'd been using and was becoming less and less helpful and beneficial to the residents over time.

So we wanted to build something for the future so we put out an RFP for a system that would be built for the future and we decided on a fiber to the home network which is the, we felt that was the way to go that would get us down that road where we wanted to be.

And the reasons for that, I mean there was a lot of support in the community for that. There was overwhelming support actually. After we went through this process we ended up, we got three responses ultimately in our request for proposals. And only one which was Axiom met all of the criteria that we were looking for.

Others sort of met it halfway or really were offering something different. That we didn't feel it was a stopgap measure that we would have to revisit this at some point. But with the overwhelming support with the community once we went to vote to approve funds to actually do the project.

But, you know, out here in a remote location like this it was felt that there was a need to preserve the island way of life. We do have a fairly stable population but we do want to attract new island residents and families.

We're actually close enough the mainland that you can commute back and forth but it's not an easy task so we wanted people to be able to live out here and work out here and felt that this connection with this broadband service would be that lifeline to the mainland.

And, you know, it was also a way of preserving our economy and helping not necessarily to grow the economy but to preserve and to sustain what we have in long term. It definitely was an issue for summer visitors and residents.

They were, a lot of these residents were really interested in getting the service up and running primarily because they, many people will come here they'll bring their work here and try to work here through weeks or a few months in the summer and that was becoming more and more difficult.

And if the island lost service all together, it would be impossible to do. So we embarked on that effort to, you know, find a provider that could build a system for us. Went through a process. Selected Axiom and you'll hear from Mark in moment. And ultimately that's who we went with.

And we're in the process now of building out this fiber to the home. We've done one island already and starting in the spring we'll do the other two islands, one with the year-round residents and also the one with summer residents.

And with that Mark, I'll hand it over to you and you can talk about some of the processes that you guys used for our buildout in working with the town.

Mark Oullette: Great. Thank you Jim. Next slide please. So just briefly, this was the process that we used. This is a process that we use with rural communities across Maine and actually now beyond to help them work through a process of assessing, defining the goals and implementing.

And that's where we are in the process with Jim and the community of Cranberry Isles. Next slide please. So really I wanted to just really do a little

bit of a dive into the public/private partnership that we developed with Jim and with the community because I think really this speaks to the heart of how a public entity like the town and a private entity like ourselves can really come together.

And as Kara and Evan were describing in their project, we went through a process where this is really defining what each side of the partnership would look like. What would we commit to on the private side and what would the public side commit to?

So from our perspective it was very important and I think somewhat unique although I think this happens in other places that we create a, we commit to the town of returning some gross revenue back to the town over time on a yearly basis to really show our commitment to the community and show them that we're in for the long haul, that we want to support them and that they would control a fund that they could do something with as they moved along.

Second, that we really wanted to commit some percentage of our labor, of our time and effort to this construction to try to keep costs down and to work very, I think very uniquely in how we delivered the construction to a portion of our efforts to the communities. Very important that we work very closely together on that.

And then several other things here that we can talk about in the question and answer period, if you like. Next slide please. On the public side of course the easy thing to say is, hey, they committed \$1.3 million to build this system. A very, very heavy lift for a small community.

And really to Jim's point, really showed their commitment to getting essentially world class fiber broadband to their community. That was going to

have a life, a shelf-life of well over 20 years and that's what we're committed to building with them.

And so from their perspective beyond the money piece and figuring out how we were going to pay and there were several iterations of trying to figure out how to pay for this.

Ultimately the town is bonding \$1.3 million and that bonding mechanism, I think you looked at our interest percentage of bonding of less than 3%. Correct Jim? I can't remember, 2.5 to 3%. Really the cost of the money is almost free from an interest rate standpoint.

So, and has been a very, very, obviously helped us building out the network. They also worked very closely with us on making sure and I think for every project understanding utility rights of way, where the property boundaries are, how sensitive people in communities are to pole and cable placement.

Making sure that the town was a really a deeply true partner throughout the process. Was especially helpful. Jim talked a lot about putting together a broadband committee that started talking about this two years before and I think that ended up being, really paying off as we went through the process.

Next slide please. So just to mention a couple of issues. You see a picture of a tower there. I don't know how other people are in other parts of the country and Mammoth and Evan can speak to this directly also.

People are getting sensitive to the tower builds and certainly on this island the tower and the placement of where the tower was a significant issue that needed to be overcome. This tower that's being, that you see being built here is being built finally after a couple of sites were looked at on town land.

And ultimately, so one issue was really making sure that we had sort of the all of the permitting and all of the public actions that needed to take place to build a tower. Secondly we put up a number of new poles. And a lot of new poles in the utility right away.

And those placement of the poles were very sensitive to a lot of residents that we wanted to, we had to overcome and do a lot of community outreach to make those, to make that process work.

I've already mentioned the placement of the tower. And then lastly Sutton Island, the third island which is a completely private island, summer island, we originally proposed a point to multi-point wireless RF system for them. And they came back and said, we really want fiber. What a surprise.

So we ended up having to change our project scope a little bit to accommodate the folks on Sutton Island and we're not moving towards essentially equal access for all. Everybody on every island is going to have access to the same levels of speed and the same type of technology being used.

So just very quickly I'll end with, next slide please, some ingredients for success from our perspective and we've been dealing with a lot of communities, a lot of remote communities.

And for those of you who want to ask me a question at the end of this about whether or not the New England Patriots are cheaters or not, you can certainly do that.

But I wanted to mention first, rule number one, that you need to have a champion and it's extremely important that the community be heavily involved to make these public/private partnerships work.

And Jim mentioned and I'll mention it again and now put an emphasis on it, having a broadband community really committed and really coming to the table on a weekly, monthly, bi-monthly basis to talk about how to be successful and the kinds of goals that they were trying to attain is extremely important.

Next slide please. Number two. Rule number two I call my Lady Gaga rule. New song by Lady Gaga, "I've got a Hundred Million Reasons to Walk Away. I Just Need One Good One to Stay". You know, good goals will carry you through the negativity.

And for every project there are going to be people who come out of the woodwork and have a hundred million reasons why something's not going to work.

And I think the committee and the town and Axiom did a really good job of really pushing through that negativity and really emphasizing all of the positive things and the goals that the town was trying to reach.

So establishing those goals were an essential ingredient. Next slide please. And ingredient number three was really not to muddle and bog down the project by talking about money first, about how expensive it was going to be.

And really getting through setting-up that broadband committee, getting those goals set and really trying to understand what it is we're trying to achieve as a

community and how are we going to partner with the private partnership. And how are we going to move this forward.

Once you do that I think then you could talk about money and how to achieve those goals and by doing that I think not just in this project but in many other projects we work with, by putting money aside and just really focusing on what you want to do, you're going to be successful in the long run.

So next slide please. So there we are, our contacts. And the picture is from the tower that you saw being built and you can see the wireless microwave link. This is on Islesford looking out over the bay. And that little dish is the wireless link that you see in the back left hand, top left hand corner.

Thank you and I'll turn this over back to Scott.

Scott Woods: Thank you James and Mark. Really appreciate that. Last by not least, our final speaker is Dennis Gakunga. Dennis is the Chief Sustainability Officer for the city of Chula Vista, California and leads the city's Office of Sustainability and Smart City campaign.

His responsibility includes managing the implementation of a wide range of sustainability programs and smart city initiatives. His previous experience includes serving as a department director and assistant director for multiple municipalities and public agencies in both Texas and California. Please welcome Dennis Gakunga.

Dennis Gakunga: Good morning. For those of us on the West Coast, good morning and those on the East Coast, good afternoon. Very excited to get this opportunity to share with you about our Smart City Strategic Action Plan.

And then have that serve as a backdrop to talking about what we're doing around public/private partnerships. So before I begin, let me give you just a quick overview about the city of Chula Vista, a city of about 268,000 people.

And we're the second largest city in San Diego County. We're the 76th largest city in the United States. And we're located 15 minutes from downtown San Diego as well as 15 minutes from the busiest border crossing in the world between the United States and Mexico.

Next slide please. So a smart city essentially is defined as, you know, about leveraging technology and data analytics and techniques to improve smart city operations, better serve and engage our residents, advance sustainability goals and promote economic development.

And it begins with a robust networking and communications platform which will allow us to deploy state of the art sensor networks and data tools that we can take advantage of. Next slide please.

So why is this important? We see our smart city plan as a huge opportunity to maximize taxpayer dollars when we increase the efficiency and effectiveness of city operations and services including public safety.

Smart technology will allow, will also help facilitate ground work for economic development and also new revenue generation opportunities that didn't exist before.

As the Chief Sustainability Officer a smart city is a sustainable city and a sustainable city is a smart city. So in many ways, Chula Vista's smart city goals and sustainability goals complement each other and there's an opportunity to leverage both to greater results.

And finally through our smart cities, we will be able to really open up the walls of City Hall and engage our residents in ways that we could only have dreamt of two years ago. Next slide please.

So there are many drivers that led to the adoption of our Smart City Strategic Action Plan but one of the main ones was the recent ten year house and sales tax measure that was approved by the voters which would allow us to upgrade our outdated traffic signal system in IT infrastructure.

Next slide please. So in September of last year we developed our Smart City Strategic Action Plan as I mentioned and it was adopted by City Council. And this was our roadmap to help us get to accomplish our vision.

The plan is built around 25 objectives organizing (24) broad overarching goals and each objective has a number of initiatives or action steps. Next slide please.

So it's really important as we're, you know, as we're talking about public/private partnerships that we also articulate that our plan requires us to focus on regional collaboration and partnerships in order to accomplish our vision.

To quote this proverb, "We don't want to go fast. We really want to go far". So we need to make sure that we're relying on these regional partnerships to ensure that our smart city's initiatives are sustained by stakeholder engagement across our region.

Next slide please. So our first goal is to become a connected city. This goal has two ideas. The first, that the city has a municipal fiber link that connects all city facilities.

And second, that the public is also connected. And this is where we'll be focusing on the digital divide by making sure that everyone has access to the internet. We'll also be incorporating smart city philosophy into our policy documents to make it clear that the city is committed to being a smart city.

So what are we doing with regard to these goals around private/public partnerships? Currently we're working with GE on a pilot program for adaptive lighting. And we've deployed 18 locations over the past five months. In early April we'll be launching another smart lighting pilot project.

We're also very excited about our partnership with Cisco and NIC Partners on our citywide network upgrade project where we anticipate that the city will save approximately \$900,000.

This includes Cisco providing ROC state of the art sensors to the city to begin testing various platforms. Next slide please. Our next goal is for Chula Vista to become a responsive city and this is important to highlight that it's not just about working for our residents but also working with our residents.

The key objectives include community engagement, stronger inter-governmental relations and economic development. And we're looking to establish a regional smart city working group to identify opportunities in the region as well as continue to engage local businesses to identify smart city priorities.

The city recently launched our think bit lab innovation station in collaboration with Qualcomm who as you may know are headquartered here in the San Diego region in the Chula Vista elementary school district.

This innovation station located in our central library creates a space where Chula Vista students and residents of all ages could collaborate on projects, invent, explore and help to discover.

In addition as part of our smart city's efforts the city established an innovation council consisting of several industry leaders including Qualcomm, Cisco, (unintelligible) to help with our efforts.

This innovation council was coordinated by Cleantech, San Diego which is an organization that brings together ROC vendors and businesses in our region. I also represent the city by serving on the Board of Cleantech, San Diego. Next slide please.

Our third goal is to become a transparent city and a key goal for this object is to use data and analytics to improve city services as well as increasing public access to city (KPIs).

The city is spending hundreds of millions of taxpayer dollars so it's important to be able to open up the hood and see how we're performing with regards to our taxpayer dollars.

So we recently partnered with Results for America under the (unintelligible) cities to develop and open data program. Right now we're focused mainly on public safety and we hope to expand that across the city.

We see a huge opportunity here for public/private partnerships because city data is valuable. So one of the things that we'll be focusing on is how do we package this data in a format that is attractive and useful for businesses? Next slide please.

Our final goal is to be an innovative city. The Chula Vista Bayfront is one of our biggest opportunities. This is the largest fully entitled waterfront development opportunities on the West Coast of the United States.

And the vision is to use this Bayfront as a test bed for smart city applications and then scale that up to other parts of the city. So there's also an opportunity here to think about sensors and smart technology as a way of facilitating our sustainability efforts including, you know, smart irrigation controllers, building management systems, air pollution monitoring devices and so forth.

We recently have partnered on a smart risk management pilot program where we've deployed sensors on most of all our trash cans in city bus stops and the idea is to provide us, use the technology in data and analytics to help us optimize and maximize on our route, collection routes.

We also received a grant and developed a water stewardship plan to help address some of the critical challenges around the drought this region and our city has experienced.

And we also worked with our Park and Rec and some partners to deploy a smart irrigation system on two of our parks which was very well received by the community.

And finally Chula Vista will continue to be a leader in using technology to advance public safety through our efforts on the autonomous vehicle proving grounds that was launched by the USDOT. Next slide please.

So in conclusion, as a city we're very excited in the direction that we're heading and we're really looking forward to maximizing and taking care of, taking advantage of all the opportunities that present themselves for private/public partnerships.

Scott Woods: Thank you Dennis. And thank you all for your time and presentations today. We will now open the webinar up for questions from our attendees. The first question, I'll ask this to the group and we'll go in order.

What was the biggest mistake or obstacle that attendees can avoid within the partnerships' election process? Evan, sorry Kara and Evan, you want to start with that and then we'll go down the line.

Kara Silbernagel: Sure. I can start and I think Evan can speak to this as well. But when we started down this path through the RFP process, we had envisioned, we as a country had envisioned that we were going to RFP for a network operator.

As we went through the proposal process and really had some follow-up questions specifically with Mammoth on their proposal. I think we both came to an agreement that the assumptions that we had, the information that we had at that point in time, neither one of the parties felt comfortable enough entering into an agreement given the risks and the assumptions that were still at play.

And that's actually how we came to agreement that we're going to go through this tactical planning process rather than just signing a contract and agreeing

to a network owner/operator relationship and that really the assumptions that you know, it's hard to be able to dive into further without already having, without having more information.

And maybe Evan can speak a little bit about how we kind of came to that idea of using this tactical plan before you're actually getting to contract.

Evan Biagi: Yes, I think we had an idea of what Pitkin County wanted to accomplish and in the RFP, you know, RFPs are very difficult from a responder's perspective because you have a general understanding, you know, of what your response should be but getting down to the details of putting a number to what our compensation should be in a situation like this was very difficult to do without having all of the details in front of us and having developed a very comprehensive financial plan.

And within the, you know, 30 day RFP window, for us to develop that entire plan and present that without, you know, any sort of formal engagement that we would ultimately become the network operator is a daunting task. It's a lot of work and it was beyond what we thought we would actually provide.

So we feel that this intermediary step of working collaboratively as the chosen person to become the network operator has worked really well for us to iron out the details and really hone in what that business plan is going to look like so that we are both covered from a monetary and commitment model.

Scott Woods. Thank you. Thank you. Jim and Mark, do you want to address that in terms of the stakes or obstacles attendees can avoid in the partnership election process?

James Fortune: Sure, you want me to go Mark?

Mark Oullette: Yes, go ahead Jim.

James Fortune: From our perspective, we were fairly small geographically small. So we had, you know, some limitations regarding that. But we, from our perspective in my presentation, we've been working towards something for about a year. And then, maybe a little less than a year.

And then we're suddenly faced with sort of an ultimatum in a sense that we had to do it very quickly. And we hadn't seen a lot of assistance from not necessarily state organizations necessarily.

But we have access to an organization called the Island Institute which supports various projects to sustain island communities off the coast of Maine. There aren't too many left that have year round populations. And they were a big help in that.

So I think enlisting, if you have a broad bay community, we're all lay people. A couple of people have some familiarity with how this stuff works. Most of us did not. We were learning with how we went along on how this should work.

But we sought out technical assistance and other assistance through other organizations and it was all very helpful to us. But ultimately we had to do this in a very tight timeframe to get it all ready and get it out and get responses back, tabulate what that was and figure out how it's all going to look and work and what the budget's going to be.

We had a very short window to do this but it was a pretty big effort and a lot of heavy lifting. I know it took up a lot of my time over the winter last year

into March. Anyway that, you know that's I think it's having, for small communities like ours having outside assistance was very important.

There was another community, another community in Maine was actually ahead of us in doing, in this effort. They have started this on their own. I think a year or two earlier. So we had some framework to work with and some experience on their part.

But yes, I think it's getting that outside help with understanding what we were dealing with, you know, and sort of present this to people to make a decision about do we want to spend this kind of money on this particular project? Is this the right way to go? And ultimately the community made the decision to go in that direction.

Mark Oullette: I'll just briefly say Scott, typically RFPs throw in the kitchen sink and echo Evan's comment, you know, we as a provider or a responder to an RFP typically are very challenged to be able to respond because most communities want everything and they would like it for nothing.

So we have a provider, and, you know, we really need to balance out and I comment Kara and Evan for doing what they did. It's clearly a trust, you know, it becomes a trust issue between the provider and the community to work closely together

And that's really what happened in the Cranberry Isles when we responded. You know, so I think it's very important to think about the key things, that you're very careful about what your expectation is through that RFP process.

Dennis Gakunga: And if I can also add to that. When you're thinking about a litmus test when you're trying to identify the right partners, it's really important to have a

different frame of mind in terms of how you're looking at, you know, whether it's smart cities or deployment of various technologies.

It's probably not only about what the technology can do but really what do stakeholders want. So you're really not seeking technology partners You're really seeking folks who are uniquely ;positioned with end users and understand their needs because that's really critical as you move forward to ensure you are successful in your initiative.

Scott Wood: Okay. Thank you all for those responses. I have a next question. And it's specifically for the Pitkin County/Mammoth Network team. The question is, why are there four layers instead of three layers particularly when you have a 50/45% revenue split?

Evan Biagi: Sure, this is Evan. I can answer that. There are a number of three layer models out there and I don't think there's a problem with a three layer model. We introduced the fourth layer and really the fourth layer is the network provider layer.

So the three layer model would be network owner, network operator, service provider. The fourth layer is adding in that network provider. And the network provider at least in this case, they're getting their revenues based on the middle mile that they're providing to the network.

So they're going to get paid as in a flat fee for whatever services the network is purchasing. Part of the process of figuring out is the network owner paying for it? Is the network operator paying for it? But at the end of the day they're not necessarily cut into the revenue because those services are provided on a flat fee basis for that service as opposed to being part of that revenue split.

Certainly there may be another model where a revenue share might include that network provider but in the case for Pitkin County, we've decided not to include that.

Hopefully that helps answer that question but happy to answer further questions on that topic if needed.

Scott Wood: Okay. Thank you. Our next question is for the broadband projects. And then if you could probably, would appreciate your insight on this question as well from the city's perspective, from a large area perspective.

The question is, how do you deal with inaccurate coverage maps and the references to the (FCC) data and how do you document and present accurate data to potential funders and/or partners? Can we start with the Cranberry Isles? Mark and Jim, can you take that on?

James Fortune: Sure, I'm going to have to ask you to repeat the question, if you wouldn't mind.

Scott Wood: The question is, with respect to inaccurate coverage match, how would you present accurate coverage data to potential funders and/or partners?

James Fortune: Well ...

Scott Wood: For Cranberry Isles, I'm sure it's the minimal homes per Isle and it was fairly easy. But for you generally, what were some of the sources that you looked at? Did you do any sort of pre-deployment planning? Any studies? Anything that would show coverage beyond reliance on publically available data? I

James Fortune: I would say in our case, no. Our geography is fairly limited. It's three islands and there is a great deal of local knowledge around mapping and our own local knowledge of where things are.

And so we actually didn't have to do any pre-engineering and I'll let Mark speak to this, did all of that on their own. We just gave them parameters of what we were looking for.

And Mark said that can prove difficult for the provider to respond to because we're asking for a lot and but we didn't have to go out and do a great deal of pre-engineering of this. We just had to get a basic plan in place of where things were going to go.

And some of that, particularly because we had a very tight window of getting this underway on one of our year-on islands, some of it was a process we learned as we went. Along, we mapped out some things that we wanted to do. There were things where we had to make adjustments along the way.

The other two islands we had more time so we'll be able to learn from some of those mistakes that we made on phase one. And we'll avoid some of those in the other phase.

But again, a lot of it was based on local knowledge. We didn't have to do a lot of pre-engineering in our case. And probably due to our small geography we don't have, you know, we're not a large area.

Mark Oullette: Right. I'll just say from my perspective and we've done a lot of projects across Maine and not pertaining to, this won't necessarily pertain to Cranberry.

But very quickly I'd say working with your, understanding and working with your local providers who are already in the network or in your area and having them talk to you about where your coverage area is an important first step to sort of either testing those maps, those national maps and/or saying to them hey, this looks like a gap.

It says here that we can get 100 mg service but I don't think you offer 100 mg service. You need to talk to us about that. So really putting the providers on the spot or really inviting them in to be a partner is vitally important.

We've done that across Maine to sort of truth test those maps.

Scott Wood: Okay. Thank you very much for that. Next question Dennis is for you. And the question is, how does a public organization such as a public housing agency or authority which wants to gain broadband access for its residents but does not have the technical knowledge to assemble a team, what's the specific process or players who should be contacted to develop that?

Dennis Gakunga: So it begins really with trying to identify who are the key partners and players that potentially could help identify or fill in some of the gaps. When we talk about, you know, connectivity especially across a region such as Chula Vista to understand, you know, strength areas, weak areas, areas of opportunity in our region.

So start off by extending and reaching to whether it's you know, either the utility providers, other agencies such as school districts, water districts. In our case we have two water districts. And find out what is it that they have. What kind of existing assets do they have that can connect.

And then go a step further and benchmark yourself against those other agencies in those cities and then see essentially what are some areas where, you know, you're performing better than they are, they're performing better than you are. And then open up the channel of communication.

(Unintelligible) in a strategic way looking for specific wins that are mutually beneficial but are also helping you accomplish your final goal.

Scott Wood. Okay. Thank you. Folks are up against our allotted 60 minute time limit. I will have one more question for the group. Thank you all for the submission of your questions. We will do our best to get these answered offline and have them contact you.

Again, you can always contact the presenters individually with your questions if they're not answered during this question and answer session. The final question is regarding the pre-deployment phases. This will be for the broadband networks and how those were funded.

The question is, how were those funded? I know the Colorado project or the Cranberry Isles project, I'm sorry, made reference to the bond offering that was made but can you both speak to how each project will fund or has funded that pre-deployment phase for your projects?

James Fortune: Would you like me to start? This is Jim.

Scott Wood: Yes, please.

James Fortune: Yes, we are funding the project through a bond approved by town voters at an annual town meeting. We've bonded the project. We're doing it as we go in phases and so we're basically funding it ourselves.

We did seek a grant through the USDA. We weren't successful in getting that grant but we knew going into the whole project that that was certainly a possibility. We knew that we would have to fund it ourselves through local tax dollars, you know, through tax dollars.

And that's what we've chosen to do. We have a fairly, as Mark mentioned, a very low interest rate. I believe it's under 3%, between 2 and 3% which is standard for the community for any borrowing that we do.

We have a path (unintelligible) so that's what we chose to do to funding it through tax. And dollars. And we have I believe a ten year, it will be a ten year payoff on that loan from the bank.

Kara Silbernagel: And this is Kara from Pitkin County. So from our perspective, Pitkin County voters actually have a property levy that has traditionally funded TVSM translator system. And so when I referenced the 2011 projects, the voters, the electorate chose to expand the use of that new levy to not only run the translator system but also use it to expand broadband and wireless services.

That new levy's pretty minor in the scheme of things but what it did provide was that seed money to do, matching to state grant funds. So the state a few years back had earmarked funding for us for broadband services and we were able to use the funding from that new levy as matching dollars to the grant to receive the funding grant from the state.

And it was about \$150,000, the funding grant that we used for infrastructure, inventory, resident surveys to understand kind of what the actual landscape was out there as well as the conceptual model of the middle mile microwave network.

Scott Wood: Okay. Thank you very much. And thank you for your questions. Obviously with the time limit, we could not get to all of the questions but really appreciate your attendance today.

As we conclude I want to remind you all of BroadbandUSA's practical conversation webinars scheduled for the third Wednesday of each month at 2 p.m. Eastern time. Please join us again on Wednesday, April 18 for our webinar on Smart State Initiatives.

Finally BroadbandUSA is available to provide technical assistance to help expand broadband connectivity, promote digital inclusion and broadband adoption. For more information please email us at broadbandusa@mtia.doc.gov or you may visit our website for more information.

And don't forget to ask for our free toolkits, publications and informational resources. Thank you all and have a great afternoon.

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