Add Data Analytics to Infrastructure Dollars to Enhance Resilience:

Megatrends Video Series

Tom [0:08] Welcome, and thanks for joining us, my guest today are Gaurav Menon. And Eli Oberstein. They are both partners at guidehouse. And it's good to have you both with us today

Gaurav Menon - Guidehouse [0:16] Good to be here.

Tom [0:17] And our topic is community and infrastructure resilience and sustainability. That's a moving target in the modern age, because it covers a lot of areas of infrastructure and a lot of different aspects besides the physical infrastructure in the built environment, but there's a human environment here also. And also unprecedented as the amount of money that is available from the federal government. And he'll tell us about, you know, how that might flow from these two big bills, the infrastructure bill, the inflation reduction bill of a couple of years ago, and we'll tie this all together in such a way as we can maybe help people understand how this money can be used for these good values. So why don't we start at the beginning and maybe, in the 2023 context, maybe define those terms resiliency and sustainability, infrastructure community, I guess they tie together in some way, but they're not all exactly the same thing are off for.

Guarav Menon - Guidehouse [1:17] So resiliency is the ability to withstand and to recover quickly from any adversity. And sustainability is the ability to just maintain a state of being without depleting your resources. But if you look at it, these two are very complementary nature. So guidehouse, we look at this as one resiliency and sustainability as one because I think they complement each other. When it comes to what does this mean for the infrastructure and for the communities. I think the way you describe it kind of sort of fits there. So we have the built environment, which is your roads, bridges, infrastructure, then you have your socio economic resilience, which is communities, justice, workforce dynamics of place based initiatives for people to be able to live where they are, and to be able to strive and succeed there. And then you have environmental resilience and environmental sustainability. But if you look at it in the context of 2023, and what the federal government has done through the bipartisan infrastructure law, and the inflation Reduction Act, is it's bringing all of this together, unprecedented amount, you set it, over $1 trillion, that the federal government is infusing into the economy, to be able to make a significant impact in decarbonizing the nation, while at the same time focusing on historically underprivileged underserved communities, focusing on the workforce, focusing on communities and focusing on how these grants and these funds will actually reach constituents of the country, all across the nation. And this administration is taking environmental justice very, very seriously. And they have put into place the justice for the initiative, which is basically 40% Of all the funds coming from the federal government for these initiatives need to go to these underprivileged communities. So it's very kind of heartening to see that there is a concerted effort in 2023 by the federal government, to be able to infuse this kind of money, not only infuse money from the federal side or taxpayer money, but to also solicit private investment.

So a lot of the channels that these funds are going through are not only going to be coming from taxpayers, but it's going to require that the grantees who are receiving these funds to actually infuse private sector funding to use it as a force multiplier in trying to make the big changes that we need to be able to decarbonize and get to, you know, 50%, then, you know, 100%, of net zero by 2050, or that's the aim.

Eli Goberstein - Guidehouse [3:39] And technology, not only can but should enable resiliency and inform policy, as well. And a lot of it has to do with with data and more specifically, at a big data. And then the art and the science around that is how do you take these complex, large and disparate datasets and it could be climate data. It could be census data, data on infrastructure, and and combine them and leverage leading edge technologies to operationalize the data that we've been successful a guidehouse in leveraging things like artificial intelligence, machine learning, digital twin and low code platforms among others to to unlock that potential for our clients. Yes,

Tom [4:29] and the way Grove describe this whole idea of infrastructure, community resiliency and sustainability. It's really a an ecosystem in many ways, because infrastructure supports your economy. But yet without a solid economy, you can't support your infrastructure. And so, Eli, when you get down to the idea of data and operate operationalizing data that could get probably as fine grained as understanding the future failure mechanisms of your infrastructure with predictive analytics, for example, and that way can immunity can fix things before the water tower falls down this type of thing. Is that what you mean? Absolutely.

Guarav Menon - Guidehouse [5:05] That's exactly what we mean, actually, we're working on a couple of engagements with clients where we're looking at their physical assets. And then we're doing analysis against natural threats, such as depending on the region they're in, whether it's tornadoes, whether it's wildfires, whatever it is, to come up with a scenario based analysis using data and technology to be able to do that predictive analytics, so that when they create a capital improvement plans, there 510 1520 year plans, they can take into consideration what impact is, is there going to be on their physical assets? And how can we use data and predictive analytics to be actually able to support strategy around your capital improvements. So it's not what is right in front of you, that needs to be fixed, but you have a much more sustained, strategic way of looking at your assets. And

Tom [5:51] I like the idea of modeling what could happen. I mean, you have a railroad going through a town. And we've actually seen this. And without good maintenance and investment by the private sector in that railroad. Look, what can happen when a whole train full of terrible chemicals, tip silver, it can ruin a community for a generation. Absolutely

Eli Goberstein - Guidehouse [6:12] as there's there's technology, so many technologies that can be leveraged for this, but what you're bringing up can be using Internet of Things. So having sensors in critical infrastructure with railroads, bridges, roadways, to identify these these points. And using AI AI to predict either when maintenance needs to happen, or actual failures, you can predict ahead of time and react to it. You can take data from really focused on identifying pain points or areas that that resilience needs, needs to be bolstered by, for supply chain, for example. So identify weaknesses in a supply chain, using data to identify areas that are not don't have access to critical resources, using that data aggregating all in the end, to inform regulation, to focus funds on those most critical areas, like the areas that have the highest risk, and

Tom [7:33] in working with your state and local clients that you do that might be the recipients of this federal money. And we'll get into more of this in the second half. But where does the responsibility lie? How do you make sure that there's a governance and a governing structure in a given area? Since you have so many parties that may operate the infrastructure? You have businesses, you have local, state county governments that often overlay one another? I mean, where does the belly button get pushed?

Gaurav Menon - Guidehouse [7:59] I think that's a fantastic question. I think first of all, the federal government is doing a pretty good job in giving basic guidelines and guardrails in to what the intent of disinvestment is into the communities. But then it is incumbent on the state and local governments to look across departments not to look at this funding and not look at these grants in silos. But to do exactly what you mentioned, which is, where's the big picture? How can we use these different funds coming to different departments as a force multiplier, so that you can see the value to the communities at large. At the same time, a lot of these initiatives are going to require based on federal government guidelines, a lot of stakeholder engagement, that is part of environmental justice and the justice for the program, which is making taking into consideration the unions in the area taking into consideration low moderate income households, or historically disadvantaged communities who need to have a say in how this is going to be designed. And so state and local governments will typically take that mandate, and they will have this outreach, where they come up with a community based plan, that plan is then vetted at, you know, at the county, municipal level, then at the state level, and then the overlaps are taken into consideration. A lot of states also have kind of created, you know, different organizations, new organizations that kind of overlap over individual departments to provide that oversight that could be lacking if it's all done in complete silos.

Tom [9:22] Which brings up the question, again, ultimate accountability, I guess, is with elected officials in a given area. You know, we have transportation authorities, you know, in some of the huge cities and states that are vast bureaucracies, no one quite sure how they come to be or who appoints them or what they do, what their accountability is. We probably need to do better at that the more local and granular you get. Yeah, absolutely.

Guarav Menon - Guidehouse [9:46] And again, you know, hidden in the in the fine print of these different builds are incentives for those entities and commercial entities that play in the public sphere with tax rebates and tax incentives and bonuses that are structured specifically to answer that, which is to make sure that they're accountable that they're providing value to the disadvantaged communities, you get better tax rebates if your projects are located in those communities in rural areas, in energy areas, which were previously coal mining in different areas that now needs to be revitalized. So there is a lot in these builds, that is actually pushing the commercial and public sector in the right direction, so that there is some sort of accountability. Now, of course, the federal government can only do that much, then it needs to be taken up by the stakeholders by the community themselves, to make sure that they're engaged with elected officials and with these other entities that are serving the public to ensure that they're receiving what they should.

Tom [10:47] All right. Before we go to the break, I wanted to ask you a question, Eli, you also need expertise in technology, or at least understanding of how it can best be applied in every area that is going to get these funds and needs this infrastructure help is not Silicon Valley. Sometimes it could be rural Alabama, and where will you have the artificial intelligence and sensor networking skills you might need for for effective work here, right?

Eli Goberstein - Guidehouse [11:11] Well, and that's where you leverage other platforms like low code platforms, Salesforce, ServiceNow, and others to They're simple, and has a have a user experience that you can take mobile as well. So you can reach these outlying areas, you don't need broadband service, you don't need a desktop, it's on mobile devices, and also, offline capabilities available that you if cell towers are down during a crisis, you can still engage with constituents and be in the field, getting the data to them getting their inputs, and addressing those needs. Alright,

Tom [11:52] lots of interlaced ideas here, we're going to continue more on that. Let's take a break. Right now. My guests are Gaurav Menon and Eli Oberstein. They are both partners at guidehouse. I'm federal drive host Tom teman. This is the evolving complexity series, infrastructure and community resilience sponsored by guidehouse here on Federal News Network. Welcome back to our evolving complexity series, infrastructure and community resilience sponsored by guidehouse. Here on Federal News Network. My guest today are our garage Menon and Eli Oberstein. They are both partners at guidehouse. And I'm Tom Teman, of the federal drive. And let's talk about specifically what is incumbent upon federal and state and local entities. When administering infrastructure bill inflation reduction bill funds, what does the government need to do? What questions Does it need to ask, have those to whom it is granting this money? And at the grantee level? What questions do they need to make sure they understand and answer? Let's fall

Guarav Menon - Guidehouse [12:51] kudos to the federal government for putting these two bills out. It's over a trillion dollars, with a lot of funding for very innovative and new programs that have not been seen the likes of which haven't been seen before. So I think the big question for the federal government and for the agencies that are going to be doling these funds out to state and local entities and to commercial entities will be how do you design a new program, looking at the federal regulations and what it means to be compliant, while at the same time giving enough flexibility to the recipients of these grants, to be actually able to innovate and not be constrained by the regulatory environment, which you know, is seen as red tape at certain times. So that is the biggest question for the federal government. The next question they have is, who do we give these grants to, obviously, state and local entities and tribal nations are going to be recipients of these grants. But they're also thinking of creating national green banks, which are going to be commercial entities that are going to be receiving these funds. They're talking about hydrogen hubs, and we're commercial and public sector entities are going to come together as a conglomeration to develop a green hydrogen infrastructure, which will have decarbonize. So when you start looking at these interesting, new, innovative projects, I think the question is, and the federal government is trying to do this really well, which is allowing the flexibility, creating a competitive environment, and ensuring that there is an infusion of private sector funds to the federal dollars that are going out. That's in sending money out. Once the money is out. The next thing that the federal government needs to do is ensure that the money is actually going to the right place at the white cars in today's environment. You know, we have our colleagues talking about the geopolitical threat. We're talking about cyber attacks, we're talking about fraud, waste, and abuse. That is a huge issue. There are very, very great actors out there that are looking at these programs and trying to target to be able to get a piece of of this funding that has been distributed out. The federal government has to keep an eye on how to ensure that there is that they can minimize the fraud, waste and abuse, abuse of these funds. So that's another thing they have really

Tom [15:00] positively identify the parties that they're getting incoming applications from. Absolutely.

Guarav Menon [15:05] Not only that, who the money is going to where the reimbursements are going, if you're talking about solar for all, and you're installing solar panels where they actually installed where they installed the right way, what was the material sourced in America, all these questions that come up, that is the burden of the federal government, and, of course, the state and local governments and the grantees who receive these funds. So that is the mandate for the federal government. And at the end of the day, the federal government wants to see impact. How can we take a trillion dollars use it is a force multiplier to get the fight in the private sector to actually make that $3 trillion of investment into the new green economy, and an environmentally friendly economy. That is the mandate of the federal government. Once it comes down to the state and local governments, that's when, you know, as they say, the rubber meets the road. The impact is for communities, it's for people, it's for us, it's for the constituents here. And so the mandate for state and local governments and for the grantees is to be able to take these programs, and then to design it very specific to their communities.

And it's going to be different for each community, whether it's because of you know, natural disaster hazards that they face, or the economy that the face, and so many different factors, the industries that are in their regions. So these programs then have to be designed specifically regionally for those entities. And that's where the state and local governments come into play. And then their job is to be stewards of these federal funds to be able to use state funds and other private sector funds to again to multiply this and to get a bigger impact for their constituents. And that is the mandate to be able to report back to the federal government to be able to make ensure this compliance of all the different rules and regulations that surround these funding, and that the entities that need these funds, the most, which are the historically disadvantaged and underrepresented communities are actually receiving the benefits of these grants. Right.

Tom [17:02] Okay. So Eli, that means that a place near a lake that could flood or a river that could flood gets a grant that looks in one way, if you are near, you know, abandoned strip mines, and 15 criss crossing railroad tracks, and a leftover ammonia plant, you might have a grant that looks somewhat different, is there a technology factor that should go into any of these programs such that you ensure that you have that technology base, whatever it might be, specifically, that that project needs? things?

Eli Goberstein - Guidehouse [17:35] I think things like machine learning algorithms that can be built to really tailor programs to these communities. And, and taking in data socio economic data, and leveraging machine learning algorithms to drive the right approach and to enable constitu constituents have focused in outreach as well, right. So you can engage in maybe it's specific training programs that can be set up based on that, that data and that information, or targeted events, to educate constituents on the needs that they have, and really build programs specifically tailored for those communities.

Tom [18:26] So there should be a set aside at least have some percentage of these dollars to make sure you have that technical base to enable all the rest of the good values. Exactly.

Eli Goberstein - Guidehouse [18:35] And then also set aside for new technology and how do you enable new technology to better facilitate and make sure that the, again, the funding is being spent to make the programs more efficient, and it could be something relatively new, like digital digital twins, or you build an entire digital twin for an entire city, which allows you to, to test and and provide a city planner with an ability to go into a model and see how a certain program or a certain policy will impact that city before actually implementing it in real time identifying all of the pitfalls and challenges in the virtual world before you're implementing it. And then in a crisis environment, and you can use things like large language models to scrape social media, news reports, emergency alerts, and take that data, summarize it, aggregate it and synthesize it in a way where it's usable by the individual or by the agency supporting those individuals. Real Time in a crisis.

Tom [20:00] And this is a brave new world for the town councils, County Planning Commission's aldermen, Selectmen, mayors, and so on all these entities that have traditionally dominated how planning is done at the local level, what do you find is the biggest knowledge shortfall that you can kind of help them understand what it is they're going to receive, and how it can benefit them in this way that sustains and makes resilient. I

Guarav Menon - Guidehouse [20:26] think the biggest challenge is the fact that we have 600 new programs. But not all 600 of new but several new programs within the 600. And I think it's a capacity issue more than a knowledge issue. As you can imagine, smaller councils, smaller counties, and cities just don't have the manual bandwidth to be able to go through 1000s of pages of legislation to figure out what it is that they're receiving, and what they can apply for and what is competitive, and what is just a formula based grant that they're going to receive. So I think one thing they need assistance with is just to be able to digest and again, that's where technology can come into play, where you can use technology to be able to quickly synthesize what is available to your specific community based on the different attributes of the community. So I think that's the biggest issue is for them to be able to see the all encompassing view of what these grants are, so that they don't go into the model of just doing

business as usual. And you you can only do that when you can see the bigger picture.

So that is the biggest shortfall is how can we help these communities, especially the rural communities in the smaller communities, be able to see that big picture so they can make the impact that is intended of these grants? All right, in

Tom [21:34] about the 45 seconds, we have left? I know you have done at guidehouse a lot of work with the public sector with the private sector, excuse me, that will have to be forced multiplied into these endeavors. Just briefly describe some of those efforts.

Guarav Menon - Guidehouse [21:48] Sure, I think, you know, two very interesting things that we're doing in the commercial sector. One is we're working with, we got houses the Secretariat for the Partnership for carbon accounting financials. And this is an international entity, where we're looking at how to decarbonize and report on the greenhouse gas emissions on financial instruments like loans and mortgages and things like that. And so guidehouse has been working with 16 top financial institutions, including Morgan Stanley and Bank of America to be able to create this global standard, which has now been accepted and is being used by all and I think the other one is a supplier leadership for climate transition, where we're working with 24 large international corporations, including McDonald's, Coke, Pepsi, PepsiCo and others, to be able to help their supply chain their suppliers to decarbonize using this as locked, so cost effective, repeatable solutions with technical advisory to the smaller suppliers across the globe. So that we can decarbonize and report on the greenhouse gas emissions. Well, we're

Tom [22:50] going to have an interesting future and for that, we can partially thank our two guests today. Gaurav Menon and Eli Oberstein are both partners at guidehouse. I'm Tom Tim, and you're listening to Federal News Network. For more on this discussion, visit Federal News network.com and search guidehouse

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