Jonathan Porat:

Yeah, thank you. Thanks everybody for having me this morning. It was really exciting to see some of the other speakers who are on the agenda, as my previous speaker. So great to get a chance to add to the discussion. Part of the reason why I'm excited to talk today is... Hopefully my PowerPoint shows up in the second. There we go. Is that as of last week, we just released our latest digital strategy for the state of California, and it's something that has been a lot of work across a lot of state departments and across a lot of teams within our department of technology. So I'm hoping today to talk a little bit more about what the digital strategy is, kind of the foundations for those, and highlight some examples that are a little bit closer to the data NGIS side.

So it may not be the most technical presentation that you hear today because we're really going to focus on the strategic side, but I hope it brings up some ideas that you can take back to your work and maybe some opportunities for us to work together or start some different conversations.

When I'm talking about the strategy, there's really two elements of it. One is that we want to make sure that that digital strategy is a framework and probably how you work in the tech space, for the state of California, we're not really just the state. When we do technology work, it really touches on a lot of different entities. It can be local and municipal governments. It can be educational institutions. There's a wide variety of agencies and departments. We have over 150 departments at the state of California alone. So when we're coming up with our strategy, we really want to make sure that it's a comprehensive framework, that it's something that will work for all levels of government, all of these different institutions, and isn't just like a list of specific actions. It has values that has things that can drive innovation across the state and in different levels.

Similarly, we want to make sure that the strategy is also a signal. This is something that's really important to me, which is making sure that the digital strategy is giving our partners, our clients, the state its resonance, a heads up on these are the things that we're going to be doing over the next couple of years. These are the things we really care about. This is how we're going to be evaluating policy and new technologies so that everyone can kind of work together and they understand where we're going to be coming from as we govern, as we issue policy, as we go and develop new technologies and services over time.

But more specifically, the strategy is broken up into four pieces. Today, we're really going to focus on those core values and those are the principles and those things that everything is based off of. To me, it's really important to have values as part of the strategy because we want to make sure that what we're doing is based off of the value that we're delivering to our residents and to our partners as well as to businesses and workers at the state of California. There's a lot of really great strategies out there that focus very heavily on the technology, which is really great to see. We can learn a lot from digital transformation strategies and digital transformation plans from other states, from federal agencies and departments and entities, but we want to make sure that we're centering that around what means the most to us.

Those values lead into strategic goals. We set specific goals for ourself that we're trying to come up with different initiatives to meet. So it might be making it easier for residents to access services. It may be expanding the use of our open data portal. It may be expanding GIS services that the state can offer other agencies and things like aerial photography or parcel tracking.

We also have some particular focus areas. So these are kind of the tactics that we think we can use to achieve those goals. So it might be trying to create some sort of centralized data governance. It could be something like using human-centered design or incorporating users in the design process to improve the accessibility of things like maps or visualizations, analytics and other types of data implementations that we might have at the state. And then lastly, we made sure to include what we're calling objectives and

expectations. But basically those are some action items for us and for the state partners that we have so that it's not just values and kind of high level stuff. We have some specifics as well that people can work off of that we think will get you further down the line when it comes to those strategic goals and core values.

Today I'm going to walk through the core values and share some examples of how that's informed our work. And then at the end, I'll bring up a couple of examples of some of those action items that we're going to be focusing on in the near term when it comes to data and GIS.

The first core value and the one that really underlies the strategy to me is committing to digital services. I think one thing that I always find very surprising when I work with departments, when I work with different government entities when it comes to trying to modernize a service, digitize a service, try to use technology to improve service outcomes, is that a lot of times instead of thinking digitally, a lot of people are still thinking analog. I'm sure we've all seen the situation where to digitize a particular service, somebody might take a form that's on paper and just turn it into a PDF.

I think that's especially true in the data in GIS space where there's so many dashboards out there that are just pictures or a Microsoft Word visualization or Microsoft Excel without any of the structured data, without any of the data governance or anything behind it. For us, a really critical part of this strategy is getting people to think in terms of digital services and not just porting analog services over. So if you are working digitally, we should be thinking in terms of the backstage and the front stage of our services. On the front stage, we should be thinking about what can we do digitally that we maybe can't do on paper? Are there steps in a physical process that we can eliminate because everything's online? Are there ways that we can react to resonance more directly through things like video chats or online interactions that maybe it would take a lot longer or be harder to do physically?

And similarly, on the back of stage side, and this is probably a little more relevant to the data in GIS side, are we taking advantage of the technology that's out there? Are we managing our data centrally? Do we have robust governance? Do we even have data at all? Is information in a structured way that we can use it again or share it? So all of those are considerations that we want to think of when we're developing a service or digitizing a service that sometimes get forgotten in favor of a flashy visual or an urgent need to get something out the door.

I think a really good example of this is a new product we've developed called the California Design System. You can Google it and find it actually online. It's available to everyone. We know that there are other states and some local governments that are using it. But when I started at the state of California, our web services team and our design teams as well very helpfully had a list of web templates and web resources for state departments. So the idea is that if you're building a website or you're trying to put a dashboard or a visual or a map online, you have a template that you can use to move that forward. When I got to the state, we were up to version six of the template, and it's gotten very robust in terms of different features. So not just building in things like accessibility tools, but also thinking about patterns and colors and some minute details that designers don't always think about when it's not as sophisticated of a design, especially for something like putting data visuals online.

But one thing that's difficult with that is in addition to my team having to maintain an individual template and having to redo the template as we determine that we need changes, it's really hard to get compliance across the state because there's so many different versions. And oftentimes state departments will go to a specific vendor for help in building their website in the first place. So you end up with a situation, especially because there's 150 plus departments, as I mentioned, who all of their own websites with all of their own web designers and all of their own styles that everybody's kind of on a different version of the template. Some people aren't even using it to begin with. When we make a change, it's really hard to get that change out there.

So what we've done is we're transitioning away from a template system to a design system model. That means that we can put everything in this basically library of design concepts, principles, colors, patterns, fonts, everything that you need in one place so that instead of everybody needing to go and comply with the latest template and make changes that way, they can always go to the Design System and we'll have everything ready for them.

So if you need to pull a form, if you need to pick colors, if you need to make sure you understand the right font to choose, how to set up a map so that it's accessible, you can go to this one place and it will always be up to date. I'm very excited that we're now going to start to transition away from that template model. Probably our next version seven template is probably going to be our last template, and we're going to really work on building out the design system in terms of what's out there. So from a data perspective, this is really important to us because it allows us to not only set standards, which we'll talk about a little bit later, but make it really easy for other state departments and state partners and even people who are just interested in what we're doing to be able to apply those principles more directly.

So we don't just have to say, "Use alternative text if you have a map of something." We can build a structure that already has that alternative text built in. So you just need to fill it out right there on the site instead of having to do all the work to figure out how do you comply or how do you align yourself with what we've set up at the state?

We're working very closely with our Office of Data and Innovation at the state to build this out, and I'm excited to share the next iteration as we're able to build more features. But we're definitely looking more closely at how we can integrate data and GIS concepts into here. Right now, the focus is largely on websites, as I mentioned. A lot of the principles, the style guide, the components are valid for GIS and data practitioners as well. But we want this to be a really comprehensive source. And as more people are embracing things like analytics and dashboards, we want to make sure that we're there for them in one place so that everyone can come to the Design System for help in building out their digital services.

The next value that I want to talk about today is sustaining an innovation culture. This is something that I've been really proud to see that there's a lot of support for at the state, but as some of you probably know, and I've definitely been in this experience in previous places, it can be really tough to try new things in government. It's difficult to get funding. There's such a huge appetite for being just very risk averse. And if there's a small mistake, sometimes that can be overly punished in a government setting. People are not always open to experimentation and seeing what might work or might not work. We really want to build our strategy as a way to encourage departments to try new things, to innovate, to utilize emerging technologies, but do so in a way that's backed by a community and is also going to be implemented in a smart and strategic way.

It's really important to us that people are trying new things, that people are able to innovate and think outside the box because that's where a lot of great solutions are going to come from. But also we have to do that in a way that's going to be responsible for our residents and the responsibilities that we have as a state.

One thing that really jumps out to me is a really exciting project that we're working on called Digital Identification. You may be familiar with some digital identity projects, but what we're really doing is building what we call a Digital Identification Framework, which is that collection of everything around verifying residents electronically. So it's the technology, it's the governance, it's all of the legal work to make sure that if somebody goes online and is trying to access information, trying to access a government service, that we're able to verify that that person is who they say they are. The really cool thing is that if we can get all of that information centrally, we can start to share that across programs and departments. So we'd be able to look and be able to proactively identify what benefits a resident

might be eligible for because we already know their income level or geography or whether they're receiving another benefit that might be a co-benefit of something else that the state offers.

Right now, we've been piloting this technology in different use cases to better learn, how do we verify the identity of different types of residents? For the average person, thankfully, it's pretty common to verify identity electronically. You can use usually a driver's license, but there's so many people in the state of California that don't have a driver's license or haven't been part of a way that we can normally verify people. Maybe they don't have a job, maybe they don't have a residence, maybe they're not from the state or the country. So we're trying all of these different pilots to better understand how can we verify them and include them as part of the future of the way that we can deliver benefits through this digital identification system?

What you see here is an example of a project we did with Cal-ITP, which is a program that looks at alternative payment methods for transportation. Basically what we did is we worked with the Monterey-Salinas Transportation System, which is a regional transportation group in the state of California, and we found a way to basically use this digital identification system to automatically give seniors disc discounts on their bus fare. So normally if you're a senior, you would have to go, you'd have to apply for a discount program, you'd have to get a special card. You'd have to do all this paperwork and do all these steps in person to be able to get a discounted bus card and then you can use it normally.

We were able to automate all of that into our Digital Identification system. So basically you can use your phone to ride the bus, and because your phone knows who you are, it just automatically gives you the discount without you even needing to ask for it. We're really excited for how this turned out, not only because it was really helpful to seniors, but also because in terms of data security and data minimization, we were able to build the system so that when you try to use the system, it only tells the transportation provider whether you're eligible for the benefit or not. We're really glad that it prevented us from having to share social security numbers, driver's license information, ages, things that might be personally identifiable.

Right now, we're thinking about how we can expand this into new areas. So thinking about it in terms of health or the environment or utilities. From a data and GIS perspective, this has been really helpful in terms of thinking about how could this be used to help with tracking, with mapping? What do we do with all the geographic data that we have that helps someone say that they are who they are or is needed to be a part of an eligibility verification for a particular benefit? So we're working very closely with our GIS teams to make sure that as we get all of these data, we understand and we're using geographic data in the right way, as well as supplying it to service providers so that they can use the system to better target populations that they're looking to serve.

The third value that we focus on is innovating for Californians. This really means that we're putting Californians at the heart of the work that we do as well as California workers at the state. It can be really tempting a lot of times to innovate because something new or interesting is happening. I think that's important. As we discussed, it's important to try things new and think out of the box, but we really want to focus that innovation on what's going to drive value for our residents or for our workers to be able to better serve our residents? We want to make sure that when we're doing this type of innovation, that we're looking for how we can better solve problems and how we can better set ourselves up for success and not just focusing on the technology side.

A good example of that for me is something called the OCRBot. In the state of California, there was recently some legislation that required that all documents that were posted online were accessible by a screen reader. This was really difficult for a lot of departments because there's some that do a lot of on paper judgements, assessments, analysis, and they had hundreds and hundreds if not millions of pages on their websites that were not going to be in compliance with this rule. So what we did was we built an

AI bot that could go and digitize all of the paperwork automatically. So all you would have to do is bring in a scan of that piece of paper and then our bot would be able to go through and pick out the digital version and give that back to you so you could put it up on your website and make sure you're compliant.

The really cool thing about something like that is because it's a bot, it learns the more that it scans. So we've scanned about 4 million pages over the past, like year and a half or so. And the really cool thing is that as it keeps scanning, it's getting better at scanning the next page. So originally, we had gotten through... A couple months ago, we had gotten the cost per page of this kind of scanner down to a fifth of a cent per page. Now because it's been improving, we've actually gotten it down to a sixth of a cent, and we're excited to see how the bot will be able to further develop.

This is an approach we've also taken with some of our GIS work, especially when it comes to coding or understanding data, and it's something that we hope to continue to apply. But the really cool thing about this type of approach is we're using bots, automation, machine learning, generative AI. We're thinking about it in terms of how does it help the resident, or how is it going to help our state workers? We're using that as the guide to determine what are those use cases like digitizing documents that are going to be low risk for residents, but really provide a lot of value to the state, either in terms of legal compliance, and in this case, also-

Jonathan Porat:

... a lot of value to the state, either in terms of legal compliance, and in this case, also in terms of accessibility.

And then our last value is we really want to develop meaningful partnerships across the state. It's not enough for us as the Department of Technology to come out and say, these are the things that we want to focus on, that we care about things like human-centered design and scaling data and data governance, and making sure that we have robust geographic information across the state. It only works if we're able to work with both state workers and state departments, but also governments outside the state and our residents. That's the only way we're going to be successful, and that's the only way we can make sure that we're really driving value for everyone. And I think the best example of that is our state digital equity plan.

One thing that had started before I came to the state that I'm really proud of is something called the Middle-Mile Broadband Initiative. Broadband very much in the news, thankfully with the way that the federal government has really been catalyzing investments and work to expand broadband to all of the residents in this country. But one thing that our state had been doing is we had taken on a challenge to build 10,000 miles of broadband across the state to expand access to that broadband infrastructure, and that so far has been going really well. I'm really privileged to be a part of that project.

But one thing that we brought up and that we thought of that I think is really important is even a state like California, which is fairly technologically advanced in some places, we have millions of Californians who still don't have access to broadband, and while adding infrastructure is going to make a huge difference, especially for those who are not in as populated areas or areas that have a lot of broadband options right now, there's still all these people who don't have access to broadband because they can't afford it, they don't understand how to use the devices, they don't have devices, maybe they don't speak a language that makes it easy for them to acquire either the skills or the technology that they need. So we're developing a state digital equity plan to go in and make sure that we're covering everybody and filling in the gaps that might still be there, even unintentionally, from such a big broadband initiative.

And I am personally in charge of the accessibility and civic group. There's a variety of working groups that are contributing to our plan in areas like public health and the environment. And it's been great because we've been able to reach out directly to a variety of communities in the state and get direct feedback from residents on what those barriers are and what things we can do to help. In some cases, it ties into that digital identification piece of it's really hard to fill out forms, especially if maybe English isn't your first language or forms are hard to get, or it takes a long time for me to go to an office in person, or I don't live near a government office and it's a real burden to be able to follow through those processes.

So we're taking that feedback on and we're trying to come up with a plan that will allow us to directly address those different barriers. Our DIS and data teams have been really heavily involved in this because we've used geographic information throughout to help guide our decision making. That's true on the Middle-Mile Broadband Initiative. So we're using maps, GIS and different types of geographic data to help guide our investments and help guide our understanding of the project, our progress, and where there's still work to do. And the same thing's true for the digital equity plan, we really want to use that information to understand at a geographical level, where are people being underserved, where are people dealing with affordability problems or skills issues or device issues? We want to make sure that we have a full understanding, not just in terms of research that we're doing, surveys, community outreach, but we have the data there.

And if you actually go to cdt.ca.gov and look at some of the work that we've been doing around broadband digital equity, you'll see a wide variety of maps that we've worked on that really help illustrate that and have been really key to lawmakers, decision-makers and executives at the state.

We're continuing to iterate on those maps technologically as well, and we've made some big advancements when it comes to the accessibility of those maps. One thing that's unfortunate a lot of time when you're doing this kind of geographic data is it can be tough for people who use screen readers or who have an impairment to be able to actually see what we have up there because maps can be kind of complicated, especially when we're building them off of cloud-based data sets and using data visualization software to do so. So we're really excited that hopefully soon we'll be able to share some new maps that we've made that are completely accessible and that meet a lot of different accessibility requirements, not just if you have a vision impairment and might have trouble seeing the map. So really looking forward to hopefully sharing some more with you all on that.

And then lastly, I just wanted to highlight a couple of action items that are related to data and GIS. One thing that's been really clear as we've been working on data and GIS at the state is we need to have some more direct governance. That comes through in having some standards around dashboards and maps. We're not looking so much at technical specifications, although performance is really important to us because we need to make sure if we have a visualization, a dashboard, a map, that it's accessible by those that may not have really strong internet or computing power. But a big part of what we're thinking about is making sure that, like we talked about today, the principles are there even if they've been fundamental principles for a while, at least codifying them to make sure that they're a part of the work that we do.

So if you have data on a website, it should be easy for people to be able to download it and access it. We've been spending a lot of time to make it easier for the state to operate our open data portal. So we've built some tools to automate the creation of open data versions of data sets that get generated or put on different state sites and different state areas, and we're going to continue to build that out for maps as well. I think especially as we make these achievements and accessibility for ourselves, that's something that we're going to want to hold our state partners accountable to and try to share that wisdom and guidance with them.

What comes with that is also some higher level data in GIS governance. Right now, we have a really great GIS community of practice that those of you who are in California should definitely take advantage of. We also have a digital web services network that will be meeting later today. If you're interested in design or the website, definitely recommend you reach out to me or take a look at those groups if they sound like they might be interesting for you or some of your colleagues. But one thing that we don't have is really executive level governance when it comes to data and GIS so that we can work kind of together and set those ground rules and principles. And that's something we're going to be working on establishing more intentionally. We definitely do a great job at data governance at the state, but it'll be good to have a group that's really focusing specifically on GIS data, and usually I include development as a part of that as well because we want to encourage the state to have that development mindset and be able to build out solutions.

Then the last thing that is coming up on our plate that I'm really excited about is we are thinking about launching an innovation incubator. So we provide a lot of, within the state, training on technical skills, on technical programs, on technical approaches, but it can be difficult sometimes as we talked about when talking about that innovation culture to have a space or a sandbox where you can try new things and then have somebody who has experience who can help you out. So we're looking very seriously at creating a innovation incubator at the state to give people that sandbox to suggest ideas or flag that they want to work on particular projects around data, GIS, design, collecting information, and we'll create a cohort of people who are interested in similar projects in the data, design, GIS space, and put them together with mentors from across the state as well as outside of the state government itself who might be able to help. We're still thinking through what that might look like, but we're excited to be giving people that space to really innovate and try something new.

I just want to thank you all for giving me so much of your time this morning. I hope that some of the things that I mentioned resonated with you. I know a lot of you are doing some great work in all of these areas. I'm happy to make some time for questions if anybody has any of those, and I look forward to continuing the discussion later.

Carten Cordell:

Excellent. Thank you, Jonathan. Just to give us a little breath for questions themselves, I did have one. You talked about a number of capabilities and you talked about instilling that innovation culture. When you bring new capabilities online, I imagine making not only the state agencies aware, but also the public aware that these capabilities are in play, how to instill and make sure they're capitalized on the operational level. That must be a job in itself?

Jonathan Porat:

And it's really important to me that we're being transparent about that because even if we are... And the OCR bot's kind of a good example, but even if we're using bot technology that's not necessarily new, we don't want residents to feel like we're pulling a fast one on them and we're automating something that they think is being done by a person or maybe we're using their data, ensuring it in ways that maybe they wouldn't personally be okay with. And so it's really important for us to be super clear on those implementations and for us to both have that view within our department, but also across the state so we can have informed discussions with our residents and really understand what is their expectation in those different areas and what can we do to better meet their security and privacy needs.

Definitely a challenge for us, and it's probably a challenge across the board, is really helping to make sure that residents really understand what the privacy impacts are of different technologies. I know when we have something like digital identification, a lot of times an initial reaction is, well, I am not sure

if I'm comfortable with the government keeping my personal data in a centralized place, but we've really done the work to make sure that it's extremely secure. And in a lot of cases, digitizing that information can be more secure than leaving it on a driver's license or a social security card that can be easily duplicated or stolen or misplaced. So it's really about engaging our residents in that discussion, and I'm really glad that you brought that up.

Carten Cordell:

Excellent. Well, I'm going to give it a last call for questions? And I think we're good. Jonathan, thank you so much. I really appreciate the time and the presentation. Now I'd like to switch it over to welcome Sean Triplett, the tools and technology team lead at the Forest Service Fire and Aviation Management Department of the National Interagency Fire Center. Sean, welcome.