**Future of Infrastructure podcast**

**Episode 5**

**Jeremy Goldberg [host]**

**Philip Helberg [guest] Chief Executive Officer at Infrastructure WA**

**JEREMY GOLDBERG:** Welcome to the *Future of Infrastructure*, a part of Microsoft’s Public Sector Future series. I’m Jeremy Goldberg, Worldwide Director of Critical Infrastructure at Microsoft. And I’m on a journey to learn more about how infrastructure is being built around the world by talking with public servants, philanthropists, artists and place-makers who have spent their lives working in the public interest. This is a series to help us build things and plan for the future while putting people first.

Today, it’s an honor to have Phil Helberg, CEO at Infrastructure of Western Australia, with me. Phil, welcome to the show.

**PHILIP HELBERG:** Thank you, Jeremy. Fantastic to join you and your listeners, and really looking forward to the discussion.

**JEREMY GOLDBERG:** Great to have you join us. So let’s start off by having you briefly introduce yourself and sharing a little bit about Perth and Western Australia for those of us who may not be as familiar with it.

**PHILIP HELBERG:** Sure, look, I guess, taking a step back to my roots, I was born in – in Africa, in South Africa, hence the accent. And, you know, that was during a – a – a time of turbulence, I guess, for that country in terms of its political transition to a full democracy, leading to Nelson Mandela becoming the first Black president of the country. and I guess from an early age, my interest in infrastructure was there because I could see, I guess, the impact of not having access to infrastructure, what that means for people both in an economic and a – and a social sense.

And also, I grew up on a farm. So it was really, for me, a farm does not work without infrastructure. So it is, you know, at an early stage, I was out there building dams, fixing pipes, and it really led to, I guess, my choice of – of – of studying civil engineering, which I did, and I graduated and spent most of my time working either as consulting engineer, or as a contractor, back then, in – in Africa. and towards the latter part of my career, being involved in toll roads, traveling the world, seeing the world I really had a burning desire to spread my wings, I guess and – and live in experience other parts of the world.

And for me, Perth was an obvious choice. It – it’s got the most beautiful pristine beaches you can find anywhere in the world. and really, it’s not a big city. I mean, just under two million people. As a state, we’re an extremely vast state in itself, Perth being the capital. The state, as a whole, only has just over two million.

So it’s not a big city by any stretch of the imagination, a very, very unique lifestyle, a beach lifestyle. Everything in Australia is very well known for fantastic people, friendly people. When I put my feet on the shores here back in 2005, I knew that was where I was going to stay and live for the rest of my life, probably. So happy to be living here. It’s a fantastic place to visit.

**JEREMY GOLDBERG:** So, you know, you touched on this already a little bit in terms of your kind of origin story of like your move to – from South Africa. to Australia. and as part of that, you know, you’ve now had more than 25 years, I believe I read, of local and international and public and private sector experience. So what motivated you, right? and you’re now in this public sector, public service role you have been for a few years? What motivated you to – to pursue this beyond the general kind of desire, let’s say, to improve things and help people. Was there a specific moment or an event that really stands out to you as that motivating choice?

**PHILIP HELBERG:** Look, I guess it’s fair to say, as a graduate civil engineer, you have a choice to either work for a consulting engineer or a contractor or for a client organization. and it was a desire of mine to always spend a bit of time on all sides of the fence, so to speak, to understand people’s perspectives from all directions.

**JEREMY GOLDBERG:** I really like that, yeah.

**PHILIP HELBERG:** And when the majority of my career was really – I really occupied roles in consulting and contracting. And back in 2014, I had the opportunity to join the public sector to lead the asset – building asset investment program here in Western Australia. and that’s an opportunity that I grabbed, for many reasons, for the reasons that I just mentioned. But also, I guess, I just found the public sector, in terms of really driving a quadruple bottom line approach, a perfect way to – or a perfect environment to progress my career.

Has there been a particular moment that stands out? Perhaps when I look back now, as a child, driving down to Cape Town in South Africa on holiday, I remember seeing a piece of infrastructure that was partially built. So this was an elevated freeway that literally stopped midair. and I remember driving past that piece of infrastructure, thinking how on earth did this happen? Because this happened, this freeway or bridge was built back in the ‘70s. and if you go to Cape Town today, you will still see that piece of infrastructure.

And I asked myself, how did that actually happen? I’ve heard many stories, but the – but the reality is, that is where politics interfered with good infrastructure planning. and I guess I found it quite fitting now, being in the role that I mean, thinking back that, when I saw that piece of infrastructure half built, clearly a white elephant, I just – I just had this - this desire to understand how that could occur? How could public funds or money be spent on infrastructure that serves no purpose at all?

**JEREMY GOLDBERG:** I love that, and I mean, and thank you for sharing that. You know, through the eyes of a child, right, as – as you have those experiences, and I have a nine-year-old, and we’re often find ourselves having these discussions about why things are built, why things are the way they are. and I really love that you draw it back to, you know, the earliest days of it, and you kind of carry that with you, not only your own experience, but the human-centered approach that you’ve talked about already around understanding thing from different vantage points and the people standpoint.

So you’re bringing that, you know, into the work that you do now at – at Infrastructure Western Australia. and you know, the organization has this really sophisticated long-term strategy that you’re leading. and you know, we want to dive, you know, deeper into that today. So maybe start with a short summary of, you know, who Infrastructure Western Australia is, and then a bit of the initiative that you’re leading and why it’s important for your government?

**PHILIP HELBERG:** Sure. As I just mentioned, I guess it’s fair to say we know that infrastructures often politicized or – and look, Australia’s not unique in that sense. So investment decisions are often made with political objectives in mind. and by nature, those objectives tend to be relatively short term. So that’s why we see these white elephants all over the world. And they may not always be as - as in your face as the example that I gave you in Cape Town. But if you look close enough, you’ll – you’ll see many examples where infrastructure really isn’t delivering on its intended purpose.

And look, this is something the Australian governments, across all the states, have recognized now, over the last 10 years or so. and they’ve taken steps to address this. and – and in the case of Western Australia, Infrastructure WA was established back in 2019. So we’re still relatively young as an agency, and it was done under legislation. And really our purpose is to provide independent impartial advice to the Western Australian Government on all its state infrastructure needs.

And so we’re governed by a board of directors. And that board is made up of both senior government but also private sector infrastructure leaders, and it has an independent chair. So I guess in short, our business is to make sure that infrastructure investment and decision making is based on good long-term planning and research, and not on short-term decision making or political gain.

**JEREMY GOLDBERG:** So in terms of this, you know, the initiative that you’re leading around the strategic, you know, plan here, why has it, you know, been important for the government, you know, as you’ve started to kind of articulate, and what is the desired impact and how you’re going to evaluate that success?

**PHILIP HELBERG:** So the strategy that we are developing is, as I said, takes a long-term view. and that’s something that we have to do every five years, and it provides a statewide perspective of the infrastructure needs for government over their 20-year period. And so given that the government invests billions of dollars in infrastructure each year, much of which will serve us for decades to come, it’s important that this investment is guided by a strategic plan, really with that long-term outlook.

And so the strategy also considers economic, social environmental objectives. So it really takes a triple bottom line approach. and it makes recommendations relating to infrastructure planning, and delivery and operations. So it spans across the full lifecycle of an asset.

And also, the recommendations include, you know, a focus on both projects, so physical, built infrastructure, but also what we term non–built initiatives. So that’s when we look at things like better planning, policy, better regulation, pricing, how to fund infrastructure, and technology, and how we can better use technology to optimize and to maximize our infrastructure.

So the first strategy that we developed was published last year in July 2021, in draft form. It’s currently – currently being finalized before it’s handed to our premier. and that is after a period of public consultation. and we named this document Foundations for a Stronger Tomorrow, because it really tries to set – it takes a system – systems-wide view that addresses all the key fundamentals that we think should be looked at to set us up for the next 20 years.

And so it’s all about government agencies taking responsibility and thinking deeply about what they are doing, as I mentioned, not just jumping to building new infrastructure, but thinking what other possibilities or solutions are there to address a particular need or opportunity?

And so instead, the strategy aims to improve the quality and the consistency of infrastructure planning across the whole public sector to support more informed planning and investment decision making. and our role, once the strategy gets implemented is to monitor and evaluate the outcomes of our recommendations. So are we hitting the mark? Are we actually achieving the benefit? And our role is to report on that on an annual basis, publicly.

**JEREMY GOLDBERG:** That’s great. I think one of the things, one of the takeaways, and many from rereading through the report, you know, there is a bit of a top-down approach to the way that it was being done. You also engage working groups, these panels, peer reviews, but there’s also this kind of bottom-up, invest methodology, I think is what it was, that is called out specifically to review a lot of the things that you’ve already pointed out around the existing infrastructure strategies and all the different plans to try to reduce that redundancy.

**PHILIP HELBERG:** Yeah, I think it’s important. We, from the outset, we wanted to establish some guiding principles as to how we were going to approach the development of this strategy, which was a first for Western Australia. and one of the first things we established is that we wanted this to be an open, consultative and engaging approach.

So we published a discussion paper, which we socialized across the state. So we traveled to each of the 11 regions within our state. and we met with people on the ground, Indigenous people, people that are really living and breathing each individual region, which – which - which are quite diverse across our state. and we wanted to make sure we captured all those views and all those thoughts from across the state.

We also wanted this to be an objective and rigorous exercise, so it had to be evidence based. And our analysis had to be really sound and rigorous. and we also acknowledged this, this was something that had to be approved, improved over time. So - so a lot of the issues we address are not quick fixes. and we had to be in this for the long run.

It had to be affordable, and deliverable. So it’s no point us coming up with a wish list of infrastructure needs that are clearly not within our means to deliver. So we always had to have deadlines. and then it had to be open to change. So we know how quickly the world’s moving, how quickly technology is developing. We had to make sure whether we developed a strategy that, looking 20 years ahead, the chances of us getting at 100% right is literally zero.

So we had to make sure that we developed a strategy that could pivot, that could really be agile and adapt to that change. So as you mentioned, we took two approaches, what we call a hybrid approach. That top-down approach was really looking at what are the global drivers? What are the mega trends that we see across the world? And what does that mean for our state? So where do we have competitive advantages, potentially, that we could leverage to help achieve some of the objectives?

**JEREMY GOLDBERG:** So in the United States and in the EU, right, there’s trillions of dollars of spend that’s going into the physical and the digital infrastructure sides of this work for, you know, states, countries, cities, boroughs, counties, right, all of – everything, everything in between. and one of the questions that comes up often is, right, so how will we know if we’re making progress? How do we know if we’re achieving the desired impact along the way?

Because I worked in government as well. and I know along the way, you have to demonstrate results. You have to be able to demonstrate through data that you are actually making – you’re in effect making the difference, making the change, because taxpayers are the ones that are paying for all of this anyway.

So in terms of on the way, along the way, as you’re doing this, as you mentioned, how are you evaluating that success in terms of – maybe pick off one of the areas that you’ve identified in the pillars and the strategy that you’ve developed.

**PHILIP HELBERG:** Look, I think that’s a very good question. and it’s something we’re actually grappling with at the moment as we move into an implementation phase. When we structured the recommendations, we made sure that the first thing we say is that – we articulate is what is the outcome that we trying to achieve?

So it’s not so much as just monitoring progress in terms of implementation of a recommendation, but we’re really looking at the outcome. One of the – one of the recommendations that we are making around our Indigenous population is how do we improve their access to infrastructure and – and government services? Many of these people live in absolutely remote areas of our state. They don’t have access to the internet. They don’t have access, in some cases, to basic services.

And so the recommendation really speaks to that particular need on many fronts, building physical infrastructure, providing them with that connectivity so that they can access some of these government services. and really, when it comes to measuring success, or the outcome for us, it relates back to the physical wellbeing, making sure we can actually measure their wellbeing in an economic and a social sense.

And that’s one example. But it becomes specific, depending on which recommendation or which need you trying to address. And we’re currently developing a framework where we are going to clearly articulate what the KPIs are for each of the recommendations, how we will measure that, and it’ll be very strongly linked to the actual outcome.

**JEREMY GOLDBERG:** So I’m not asking you to consult or advise other governments. But I am curious to hear from you, and I imagine our audiences as well. What might they want to know? You know, as they’re mapping out their infrastructure strategies and plans like governments are across the globe, what should they keep in mind? Like, what are some rules of thumb, if you will, lessons, that you’ve learned, things that you would suggest to them that they think about as they sit down to write these plans out or convene their stakeholders?

**PHILIP HELBERG:** I think the one absolute standout lesson for me is the fact that, after having gone through the entire process of developing the strategy, a month or two after that, we realized that there’s certain aspects of our work that’s already outdated. So being able to do the work in a much more dynamic way, and being able to respond to this constant change, this constant rapid change is - is a challenge that I think we’re facing at the moment, but I think it’s also a significant and opportunity for us.

And I can’t help but think there has to be a more dynamic, real-time way by which we can join all our data sources together and be able to model and respond to change in a much more dynamic way. and so I guess, for anyone that embarks on a similar exercise, and -and many of our counterparts and other states of Australia, I’ve had these conversations with, and they’ve all faced the same issue. It’s how do you keep this strategy alive and current. Because it is such a complex exercise, touching on so many data sources and - and people’s opinions, the external environment, it needs to be relevant, it needs to be real, and it needs to change constantly.

And so it’s not something – even though we have a responsibility to update the strategy every five years, in reality, we believe that’s too long. It has to be something that can move with the times on a constant basis. and so I cannot – you know, we’re exploring possibilities in terms of a more – a better approach to more dynamic master planning at the moment, and how we can use our data a lot smarter.

**JEREMY GOLDBERG:** You know, in the U.S., like the bipartisan infrastructure was like a $2 trillion dollar, or – you know, investment, over, you know, the next several decades. Could you kind of speak to some of the numbers and the size of the investments that we’re talking about?

**PHILIP HELBERG:** Yeah, look, I think in a global sense, it’s probably even within Australian state, since WA is one of the smallest states, our asset investment program in an infrastructure sense, over the next three or four years, is in the order of 34 billion. and now that in itself for Western Australia and the capacity that we have currently is – is quite a stretch. It represents, you know, in the order of 30% uplift in what we would normally deliver.

**JEREMY GOLDBERG:** What is one thing that you’ve read, you’ve watched or listened to lately that had an impact on how you think about this moment, this defining moment in technology and infrastructure in Australia?

**PHILIP HELBERG:** I think anyone that’s been tuned into the news over the last few months, here in Australia, would have picked up an urgency around addressing climate change. And we experienced it, and we still are, in a real sense in the form of natural disasters, events, in terms of floods, and so forth.

A few months ago, Western Australia was effectively cut off from a supply chain perspective, because the only railway line between South Australia and Western Australia was damaged in a flood. and so people felt the effects of not having, you know, groceries on supermarket shelves, for instance, or access to basic needs. and that became real for people, the effects of climate change and what it means in terms – in terms of resilience of being in an infrastructure sense, and how can we make our infrastructure more resilient, and be less dependent on our infrastructure. and I do believe that’s where digital technologies have a big role to play.

Coming back to one of our recommendations, in particular, around digital connectivity, we are still struggling in the state, given the vastness and the area that we’re trying to cover, to provide good quality broadband to the communities. So those basic things that I think could help us become a lot better, a lot more resilient as a state, and as a community, I think that’s where the emphasis needs to be over – over the next few years, and really, what I’ve seen an experienced over the last few months have really made climate change real for a lot of people.

**JEREMY GOLDBERG:** Then I’ll just ask you a follow up on the climate issue. I’m glad that you did bring it up, because it was one of the items I wanted to raise related to the plan. So how does climate change factor into your plans and infrastructure, you know, Western Australia in terms of flooding or weather resilience? So when I get a point of view on that.

**PHILIP HELBERG:** I think we make two main recommendations in that space. and – and it is all about reducing emissions, carbon emissions, and it is about adapting to the effects of climate change. So for us, it’s, the focus needs to be in terms of planning. It’s about setting a target, setting interim targets, both in terms of emissions reduction and - and adaptation, and working towards those plans and interim targets.

A lot of the planning is not in place across the sector to make sure we hit those targets. and in fact, given our heavy reliance on the – on the resource sector, there has not really been the shift towards addressing climate change that we would like to see or that we have seen in some of the other states.

I think the private sector is really starting to make a huge effort. Shareholders are demanding that effort. We see a renewed debate around renewable energy, for instance, and what the state’s potential is in that space.

**JEREMY GOLDBERG:** So thank you, Phil, for this absolutely great conversation today, very dynamic. It touches on all sorts of different elements of data, talks about the beach, talks about your trip, your visits, your plans for a day at the beach, but it’s really all about how do we make sure that these strategic investments and infrastructure are making an impact? and so the takeaways for this audience are truly tremendous. and I thank you so much for your time. I can’t wait to follow all the great work that you continue to do.

**PHILIP HELBERG:** Thank you, Jeremy. and thank you to everyone.

[Music]

**JEREMY GOLDBERG:** Thanks for listening to this episode and being a part of the Future of Infrastructure, and for joining me on this journey to meet and learn from the people improving life in their communities. If you liked today’s episode and want to help other people find it, please take a moment to share, rate and review the show. To learn more, visit us at **wwps.microsoft.com**, or find me on LinkedIn and Twitter at **JeremyMGoldberg**.