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Episode thirty

TRANSCRIPT

Global insights: Better infrastructure through shared learning

Infrastructure for a better future

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Introduction: Welcome to 'Infrastructure for a better future', a series where we have honest conversations about the infrastructure challenges we are facing and how we can build a better Aotearoa New Zealand. In each episode we'll talk to experts from here and overseas about what works, what we can learn from, and where we're going.

Geoff Cooper: Professor Hall, it is great to have you back on our podcast series.

I think the last time you were with us was with Peter Nunns back in 2024 on this series. You have, of course, been providing advice and insights to Te Waihanga for a number of years, as well through your role at the Institution of Civil Engineers and the Enabling Better Infrastructure programme, which you run with input from a number of jurisdictions around the world.

I suppose maybe before we get into some of the detail here, maybe if you could just talk a little bit for the audience, what is the Enabling Better Infrastructure programme and who has it allowed you to work with around the world on infrastructure issues?

Jim Hall: Sure. Well, great to be here, Geoff, and to talk about what's been going on in New Zealand and around the world. Since we last spoke, I've been President of the Institution of Civil Engineers, and I've continued in my role as chair of the Enabling Better Infrastructure programme, which is an international programme within the Institution of Civil Engineers to look upstream at infrastructure planning, prioritisation, strategy – really because we recognise that those are the points where one has most leverage, most opportunity to get infrastructure right or indeed wrong.

The ICE brought together this programme, brought together a very international board of advisors, and we have written guidance and have continued to update the guidance. But in the most recent phase of the EBI programme, as I'll call it, Enabling Better Infrastructure, we've been emphasising much more conversations, dialogue, learning with countries around the world. So, not just preaching what we think should be done about infrastructure but also digging deep into what's going on in particular places and testing out the principles that we've got but also listening and learning and building up this global network of expertise, of people who are willing to share their experiences with one another. And New Zealand has been a fantastic example in that context.

Geoff Cooper: Can you talk a little bit about – because you've been on the journey in some ways with the National Infrastructure Plan in New Zealand – what has struck you about that when you're comparing it to the ways that other countries have gone about infrastructure and, so far as you can see, through the EBI programme?

Jim Hall: Well, and I was just having another look at the Infrastructure Plan this morning for New Zealand, and I should really congratulate you once again. Lots to it. Lots that I like. I would emphasise the really careful basis in analysis, looking at scenarios, understanding needs and properly trying to do the numbers on that. Looking very carefully at what is needed in terms of infrastructure services in the future in the context of all the social, economic, environmental changes that we face.

I really support the emphasis on maintenance and asset management, as well as new infrastructure. And I really like the way that has come across as almost as a no-brainer in the Plan. When in many places – and we can talk a little bit about why that is such a struggle in other places – getting the balance right between new capital and maintenance and asset management expenditure. And I think the other striking thing about it is the way in which there's a degree of political consensus about it. That's not explicit in the text, but I understand from the process and from the interactions that we've had that there's been a real endorsement of the effort to build some element of political consensus. And I think that's a really great international example.

Geoff Cooper: The consensus part is interesting because you often hear this, particularly, I suppose, from the sector, that we want to know what's coming so we can organise ourselves around it. Often the consensus part that I hear is much more at the project level. The Plan in many ways takes a step back from the projects and asks these questions as you've identified there: How big is your project budget for new capital services? To give you a first sense of what we could start organising around. That at least is the approach we've taken. Have you seen this idea of consensus on infrastructure taken on in a different way in other jurisdictions, or is it something that looms large in other places as well?

Jim Hall: Consensus comes, as you referred to, as a couple of different things. It often is most talked about in terms of political risks at the project level: people who are planning for projects, investing in projects, are pricing in the political risk that someone at some point is going to change their mind. But I think there's a higher level to consensus as well, which is – and this is much more around thinking about the economic development strategy of a country more broadly – at what level is the country investing? External investors and indeed internal investors, people who are thinking about starting or investing in their businesses, creating jobs, growing their sectors – reading that sense of direction in terms of what's going to be there in terms of what their businesses need in the future: Where is this country going? And that higher level of consensus, which is above the risk premium on a particular project but is so much to do with what infrastructure does for the economy. But there's a two-way thing there. The economy is not going to do it unless there's some sense that the infrastructure will be there to enable it.

Geoff Cooper: It's the idea of infrastructure as economic enablement and if we invest in a particular type of services, whether it's a road or whatnot, that you might unlock something at the back end of that. It's funny actually, more and more I am thinking about infrastructure projects. Less about should we do it yes or no, and more about how the asset owner is thinking about risk. Because if you build a new asset, hoping that 'build it and they will come' and then either they don't come or not enough of them come, then you're carrying a financing risk. You take on the debt to fund the project, and maybe you have to hold that debt for a little bit longer. And then there's other kinds of risks you might think about. If the people don't come at all, you might find yourself in a funding risk situation where you start worrying about whether or not you've got enough revenue to keep going or certainly run the maintenance or operational costs of the assets.

And so, my mind has less been going towards 'should we build this or not' and more thinking about how a project team is thinking about these financial risks. Particularly – and this is a bit of a segue to demographics – in light of how central government balance sheets are changing as we change. I put this demographics stat to you. In many places around the world, we're ageing. The number I have here for Europe – which I understand you are in Italy right now – is that the fertility rate is about 1.4, meaning that for every 100 grandparents alive today in Europe, there's going to be just 50 kids. Which is a startling number. It gets even more startling as you work your way into places like Japan and South Korea and so on. But of course, this is a real turning point in what we might understand to be the capital allowance budget and therefore how governments might look at these risks, both downside and upside. Is this something you're seeing countries grapple with as all of the West is starting to age and get to these fertility rates that are below 2?

Jim Hall: There are several different implications of that, aren't there? One is for the public finances in general and around the world there are all sorts of headwinds with respect to public finances. But yes, one of them relates to how many taxpayers and how many dependents there are on the welfare system in the future. There's the question around pension schemes and the extent to which pension schemes are investing in infrastructure for the reasons you've described. In principle, this is well aligned, but in principle, we've been talking about this for a long time and one sees very different attitudes from different pension schemes around the world in terms of which of them are investing in infrastructure and which of them are not and what types of infrastructure and where. And then there's the demographic implications for what infrastructure services we need and how we plan those services for the future. And, of course, there are lots of dimensions to that, accessibility with respect to transport, for example. But the main headline issue there is social infrastructure versus economic infrastructure as we think about it. So social infrastructure, including hospitals and care homes, which these elderly people will be needing services from versus the transport and energy infrastructure we've been talking about.

Geoff Cooper: Can you talk a little bit about how you've seen those prioritised? It's not immediately obvious how you go about comparing a hospital or a school against a new piece of transport infrastructure. Oftentimes these are – as we've made the point in the Plan – competing from the same funds, not always, but oftentimes. How have you seen countries try and go about figuring out which is the investment to make?

Jim Hall: I think around the world, we're in pretty early days in terms of doing that in a rational and transparent way. Of course, there's a long tradition of using cost-benefit analysis across health, education, as well as infrastructure. But when you're comparing such different things that it rests so much on things like value of life or quality-adjusted life years – supposing that CBA is going to automatically give you an answer I think is quite mistaken. One can, I think, make quite a bit of headway by thinking in terms of needs, which is one of the principles of EBI and something we've talked about and comes through very strongly in the New Zealand Infrastructure Plan. Because particularly with respect to the social infrastructure, for the reasons you've described, one can anticipate needs into the future. With transport, for example, there's much more uncertainty and indeed endogeneity in terms of what happens with transport demand. But needs for social infrastructure, we can look in the future, but alongside that – and again, this is quite patchy around the world in my experience – there needs to be a thinking around how we are going to deliver these services in the future. For example, thinking about healthcare for elderly people, this isn't just a question of looking at how many hospital beds per old person we have at the moment and multiplying that up for the future. There has to be a process of saying: 'Listen, the world is changing, healthcare provision is changing. How does what we've got work and how are we going to provide these services in the future and hence what infrastructure do we need to provide them?'

Geoff Cooper: You know, when I first thought about this, I was saying, well, what other approach would you take? You know, like why would you not use a needs-based assessment? And I recall that we got asked to do this work, which culminated in what we've called the Forward Guidance, which is our assessment of needs out three decades.

But the origins of this work for me actually came from somebody sitting and looking at all of the investments coming through central government. And as somebody receiving these investments from different agencies out there and asking the questions: What should I expect to come in? What should I expect to be seeing coming in here? How do I know that this pool of investments in front of me is the right one? What should be my starting point? And of course, you've just laid out that a useful starting point might be capital stock per person over 65 to understand hospital beds. I guess the question is, why is everybody not doing this? This just seems like an obvious starting point, right?

Jim Hall: And I think there is an implicit version of this, which is Cabinet government at its best, of having a forum around which decision-makers in these very different parts of society actually sit around a table and discuss it – argue it out – in terms of relative needs. And in some instances, that does seem to have worked. We might come on to the places around the world which do infrastructure well. Top of the league table, not that the World Economic Forum one has existed for a few years, but there's Singapore, Hong Kong, and the Netherlands does pretty well. These places where one senses that there's always been quite an emphasis on analysis, on thinking things through carefully and for the long term, and to try and join things up across different parts of government. Of course, that's easier in relatively small countries – and those three countries I've just mentioned are all small or medium. But yes, it's also easier where there's a culture of a bit of a shared sense of direction. Because in so many of the places we've spoken with and shared experiences with through EBI, the norm is big silos within government and it's in a context in which it's very difficult to have those conversations around transport versus housing versus schools or whatever it may be.

Geoff Cooper: And this I think comes about for those sectors that are all looking to the same contestable funds. This is not all sectors. A lot of sectors out there like electricity or let's say airports, they're deriving revenues from their assets. But we're talking about sectors that are all competing from, say, rating bases or tax revenues and so on. And this is a really interesting point. Because all of a sudden, the provision of, say, schools is really heavily wrapped up in what a country decides to do in something completely unrelated to schools, and in a way that it's not necessarily tied up in a way for assets that have their own revenue streams. And so, this strikes me as something that's very unique to a particular set of services and that if we don't get this right, we risk having too much of one service or too little of another service or too much in one area or not enough in another. Are there things that we can do or think about that improve the visibility to all of these different agencies on what this actually looks like at a central level and what the playing field looks like across all of the assets rather than folks just putting up project business cases that they see in their area, for instance?

Jim Hall: Yes, I think one very technical but such an important part of this is the scenarios, the Forward Guidance, as you've referred to it. So, putting different parts of government on the same playing field in terms of the ways they're thinking about the future, the data sets they're using for the future, the tools they're using for thinking about the future. And that sparks quite a shared conversation. And again, sometimes it's surprising how different parts of different governments are just using different assumptions. I think the second thing is having the conversations quite openly, so there is some kind of shared knowledge of what people are talking about. For example, in relation to schools in the UK, there's a demographic dip in terms of the number of school children there are coming through secondary schools. So that has implications for keeping schools open or not in certain parts of the country. And the first thing is just to surface this as an issue, so people recognise it. They're not just looking at their local school, which may be possibly being closed, but they recognise that this is part of a bigger picture.

Geoff Cooper: Yes. I like that because we made the comment in New Zealand that there are areas where there's enormous growth pressure for schools, but on the whole, it's flat to declining. I think balancing these different pressures as they arise on regional levels and helping people see that is just such a salient point for so many different kinds of infrastructure services. I have to ask, one thing that makes capital budgeting, as if it wasn't already difficult enough, more difficult, is the cost escalation that we have seen for projects in recent times. Now, I know that in the UK, the National Audit Office has recently released these findings on HS2 and the cost, which is quite astronomical in terms of New Zealand spend anyway – £70 billion more than the original cost estimate. But this is just one example of this. And we've got proportionate examples in New Zealand as well. And I'm getting the sense that cost escalation is something that jurisdictions all over the place are having to deal with and grapple with. Are you seeing any central diagnosis to this in any views or thoughts on a path forward for the sector?

Jim Hall: Yes. Big question. I just actually wanted to pick up on one point about project finance, project planning on a previous point before I come to cost escalation. Which is you said that let's talk about public finance, because these are projects which are somehow fungible with another, as opposed to maybe energy, water, whatever it may be, which is paid for directly by customers. But the thing we're seeing very much in the UK is this focus on cost of living. And in a sense, that puts everything in the same basket. If one's looking at, well, can we raise people's taxes in order to pay for more public services? Or how much are people paying for bus fares and train fares? How much are they paying for their energy bills, for their water bills? And so those things actually, in the context of cost of living, are coming into the same conversation. Can government afford to let energy companies charge more in order to finance their infrastructure investment programmes is part of the same conversation around can government afford to tax more?

Geoff Cooper: And how to chart an affordable path for investment seems to loom large as a result of all of this, right?

Jim Hall: Yes. Sorry, I just wanted to make that point. Let's get back to cost escalation now.

Geoff Cooper: Well, I think the cost stuff actually like just, it wraps into that as well, right?

Jim Hall: Yes. Absolutely and I see this when we're thinking about prioritisation with respect to cost-benefit analysis. Often a lot of the conversation is around have we got the benefits right? Are there more benefits in there which we aren't valuing? And I often flip it to: And what can we do to drive the cost side down? It’s interesting: often these conversations are in parts of government where cost is seen as being a risk, rather than something one actually has the tools or power to control.

Which brings us to the HS2 point. And there are lots of lessons learned there, several National Audit Office reports. James Stewart wrote a very useful report on it. I would highlight three general things which apply across the piece. I don't want to get too much into the ins and outs of HS2. But the first is the need to really scrutinise the trade-off between performance and cost right at the start of the project. And at HS2 commitments were made to performance – so train speeds, journey times, also train frequency per hour – up front which somehow became locked in, cast in stone in terms of what engineers were designing for well before the cost implications of that were fully understood.

Geoff Cooper: Right, so for example, you imagine a world where it has to be a certain amount of time from A to B, which means you have to draw a straight line rather than go around difficult geotech, for example.

Jim Hall: That is literally it, yes. And you end up going through some very sensitive locations. Which brings me to the second, but related point was the way in which we conduct the planning process. And so, the way in which environmental considerations are then engineered or engineered out of that planning process. Again, quite a lot of scrutiny on that. The National Infrastructure Commission did a very comprehensive report on infrastructure planning looking at why things were taking so long to get through the planning process. And the government has implemented a series of reforms since then to speed up the planning process and constrain a bit the number of things which have become pinned onto projects as part of that process. Part of the story of HS2 actually, by the way, is that the project has ended up funding quite a lot of other infrastructure in its neighbourhood. It's not just building a railway line, that's for sure.

Geoff Cooper: Is this as part of mitigations or is this more downstream infrastructure from HS2?

Jim Hall: A bit of both. Some of it is literally environmental mitigations. Some of it, one might say, is a bit more local horse trading with local authorities and in terms of getting the project approved and up and running, ‘well, we'll be able to do this thing for you as well’. A bit of that came into it. And then the third big theme, which comes through the lessons-learned reports is in relation to procurement and cost control. I think it's well recognised that the procurement took place well before much of the design work had been done, and that then made it very difficult to control costs through the contract management process.

Geoff Cooper: I mean, they don't strike me as three things that are specific to HS2, right? You could be talking about a number of projects, I imagine.

Jim Hall: Yes, I think so. And then hanging over the top of this was the question of political consensus and the political climate changed enormously. This is a project which has been mooted for a long time, but it basically took its current form immediately post global financial crisis. In the meantime, lots of things have happened including Brexit. And so, it's been quite victim to, in some senses, completely unrelated political changes.

Geoff Cooper: Yes, I suppose the lesson there may be that if a project is open for that long, you're asking for things to change in many different directions that might impact. You made this point around political risk for projects. It seems like the environment was right for the political risks really to dominate this one. I suppose just maybe circling back on the political consensus: What are the traits of projects that are likely to get consensus from both sides of the aisle? If we're thinking about this at the project level, what we had here was a very large, multi-year, multi-decade really project, high cost that wasn't able to get it. What are the projects that are more likely to get consensus?

Jim Hall: Well, let me if you don't mind, twist this a little bit. Because there are the different categories of constituencies within which one builds consensus. And thinking about both sides of the aisle, for me, is not necessarily the place to start. Because in a sense it's one of the hardest places, not least because the opposition in democracies like the ones we exist in, the opposition is there to oppose, to challenge the government, to identify issues and problems in a legitimate way. So, there's something built in there which has an element of contestation within it. The kind of thinking from the bottom up, regional consensus – so thinking about more local levels of government and ways in which they can work together across levels and across neighbourhoods – so to build consensus in local authorities and regions. And I think that the interesting thing there in relation to HS2 is that the strong northern mayors really only started getting their power and their voice towards the end of the HS2. Well, the story isn't over yet, but closer to the present day. I think if those mayors had been there with that voice and authority earlier on in the process, the HS2 story might have been a bit different. So, I think that building consensus across localities and regions is really important.

In the EBI programme, we partner with a couple of very large, basically federal countries – Canada, Australia – and getting things agreed at a state level and at a Commonwealth federal government level is all part of that process of consensus building, isn't it? There's a version also I'm really feeling in the UK at the moment around consensus between sectors as well. This goes back to your Forward Guidance because we have a process of generating spatial energy plans, a process of generating spatial development strategies, and regional water resource plans. And so actually joining up and getting consensus there is part of the process too. But then going back to the political level. I think this is to do with – and I think this is where the New Zealand plan has worked really well – it is externalising the arguments, putting the evidence there and providing the space, the analytical space, that different political perspectives can congregate around and play out the arguments and recognise that this is a question of trade-offs, that no one can have it all.

Geoff Cooper: I like the situation of this as being a consensus building exercise, particularly for the really large ones. We are almost out of time, Jim, but I do want to finish by giving you a very general question with the experience you've had of working with so many jurisdictions around the world. If you could give one piece of advice to a country trying to make better long-term infrastructure decisions, what would it be?

Jim Hall: Maybe this comes back to this point around process and that one does actually need an entity with a mandate to create and negotiate this combination of shared understanding of long-term goals and scenarios, understanding infrastructure needs, looking at options, and turning those into strategy and delivery plans. Unless someone owns this in some sense, then I think what we've seen looking around the world is that it doesn't or really seldom does it come into existence by accident. So, you need people like you, Geoff, you've been owning this for a long time, to somehow convene and with a mandate to drive this forward. Let me turn this back to you. What does this feel like for you if it wasn't for what Te Waihanga has done? Would this have happened by accident?

Geoff Cooper: I mean, I can point to particular asset owners that do it quite well. But I think the real struggle is when you have such a diversity of assets around these single institutions that are managing so many things. And I think that's when it becomes quite difficult for the coordination to happen by right from one asset owner. And I do see quite a strong case for a mandate to be thinking across those things. The other point I would make, I suppose, is the stewardship of these assets. We rely on these things.

We don't know it all the time, but by the time you've got up and had your coffee, you've probably used electricity networks, water networks, you're about to use a transportation network. And these things have to be used from generation to generation to generation. And the ability to focus on understanding those assets that you have as well as building new and how to steward them across to another generation rather than handing them a degraded asset and some debt. These are really salient questions. And I think if you're not intentional about them, yes, you can go in the wrong direction for a while, and the correction can be quite painful when eventually it comes. So yes, no disagreement from me on that. An area I'm very, very passionate about.

Jim Hall: And if I might say actually that this emphasis on asset stewardship – on asset management – I think is a really impressive part of the National Infrastructure Plan in New Zealand. And it comes across almost as a 'well, of course we should do this', the way in which you've just explained it, Geoff, but actually that very modestly overlooks how often that is got wrong as well. Because we all know the issues with capital budgets versus current budgets within government, the maintenance is the thing which gets cut year to year in order to get the government expenditure down.

And also in private utilities, the incentives don't always point in that long-term asset health direction either. So really getting this centre stage. And I completely agree, of course, you should start with the existing assets and ensuring their health and performance in the future. I think that's a great achievement of what you've done here.

Geoff Cooper: Thank you so much, Jim, and thanks for your involvement over the years. It's been really valued from our perspective. So, we really appreciate chatting with you, and I look forward to the next podcast in maybe another couple of years' time.

Jim Hall: Great, fantastic to chat to you.

Narrator: Thanks for listening to this episode of 'Infrastructure for a better future'. Find out more about the work of the New Zealand Infrastructure Commission and what we're doing to transform Aotearoa at **tewaihanga.govt.nz**