NEW ZEALAND INFRASTRUCTURE COMMISSION
*Te Waihanga*

Episode twenty-five

TRANSCRIPT

# The heart of the city

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Please note: the transcript has been edited to make reading as easy as possible.

**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. In each episode we talk to experts from here and overseas about what works when it comes to addressing these issues.

**Geoff Cooper:** Our guest today is Alain Bertaud, who is one of the world's most influential urbanist and a leading thinker on how cities actually work. Unusually, Alain has built his career at the intersection of two disciplines that don't always see eye to eye – that is urban planning and economics. Over more than five decades, perhaps longer at this point, he has worked as both a planner and an economist, bringing those perspectives together to better understand how cities function and practice. He's advised governments and international institutions around the world, including serving as a principal urban planner at the World Bank, working on urban development, housing and transport in cities across five continents.

Alain also has a connection to New Zealand. In the mid-2010s he visited Auckland, Wellington and Christchurch, speaking with policymakers, planners and researchers about housing affordability, urban mobility and how cities grow. Eleanor West, who has charted the reform of New Zealand's land-use regulations in more detail than most, has noted in her work that Alain's visit was significant for policymakers, helping introduce a more economics-focused way of thinking about urban planning and city development. Former Housing Minister Phil Twyford later described Bertaud's work as a touchstone and highly influential in shaping the reforms that led to the National Policy Statement on urban development.

And for me, on a personal note, Alain's work has impacted me more through my teaching at the University of Auckland, where his book Order without Design was required reading for my students in urban economics, and I've personally spent many hours teaching and debating with students its content. And of course, I've been lucky enough to stay in contact with Alain over the years, most recently in New York last year. Alain, it's great to have you here with us. Welcome back to New Zealand.

**Alain Bertaud:** Thank you very much. It's always a pleasure to come back and visit this beautiful country.

**Geoff Cooper:** Yeah, it's wonderful to have you back. I was re-reading your work in the last couple of days and grappling with this sort of wonderful metaphor that you've talked about. You say that when we're thinking about cities, that 'planners are the general practitioner, but the physiology of the city is the economics'. Can you talk to us a little bit more about this metaphor?

**Alain Bertaud:** Yes, I think that all cities have the same physiology, although they have a very different history, they have a different economy. It's a bit like a human being – everybody has lungs or the heart. However, human beings differ enormously, because of where they are born, their environment, their culture, their history, whether they are rich or poor, but they still have the same physiology. So, certainly when it comes to policy, you will advise differently a city like Auckland or Wellington compared to Dhaka, but I still think that the physiology of Dhaka and Auckland is similar, and what is common is land prices.

**Geoff Cooper:** Let's talk about land prices. A lot of your work has used land prices to show some of this common physiology. What is it about land prices that is so important in understanding urban environments?

**Alain Bertaud:** Because it gives an idea of the distribution of trade-offs that households and firms are making when they use land in an urban area. Every household and every firm is confronted, when they move to an urban area, with a choice. First the location and then how much land they want to consume. How much floor space they want to consume. They make a trade-off here. The optimum, of course, is to be in the central city with a large garden and a large house. Most of us cannot do that, so we make a trade-off. Firms are making exactly the same trade-off, although their motivation is, of course, different. Urban planners do not know what those trade-offs are. You could even find in the same income group, households making completely different trade-offs – selecting an area because it's close to the grandparents who babysit, so that's a constraint on their location or being close to a school that they like or teach a language that they like. The average of those trade-offs, if you take that as an indicator of land consumption, it is not useful. Because land use will have to reflect the distribution of those trade-offs, not the average.

As planners, we have a tendency in advance to zoning, we say, in this area, we put a line around it, and we say 'the minimum lot size is this', 'the width of street is that', 'the minimum floor area is this'. We are substituting our judgment for the trade-off that firms and household will do without knowing the constraint of the family, without knowing their income, without knowing the price of land, and without knowing the price of construction. We make those choices in advance, and we think it's good design – as if design was completely separated from affordability and the preoccupation of households and firms. I think this is a major problem we have. It's a bit like a doctor who will never monitor your temperature and your blood pressure and decide what medication you will take just based on the average of medications that they prescribe.

**Geoff Cooper:** You talk in your book about the contrast between spontaneity at the parcel level, let's say, versus the order and design systems of say networked infrastructure, and there's sort of a collision in some way.

**Alain Bertaud:** I think that the first job of planners, or people responsible for a city, is to separate what is private from what is public. When we think of planned cities – like say Washington DC or Barcelona – they were not planned cities in the modern term. The planners were, in fact, surveyors. They were just separating street space and also what I would call public good – that means parks or land reserved for certain things, certain functions of the city – from the rest of the land. And then the land which was private was left to the market. It was prices that would really decide how high the building would be, where commerce would be, and things like that.

It's only in the middle of the 20th century that we have planners who decided to design cities as they had that knowledge. I don't think they had this knowledge. Especially because cities are constantly confronted with changing technology, changing income, you know, in global income. And there are also a lot of external shocks, COVID-19 was an example. But, for instance, inflation, very often, is external – something outside. It could be the price of energy that could hit us, it has hit us in the past and could hit us again. So, a number of things. A city has to constantly evolve to reflect that. We are now also talking of a declining fertility rate – it's something that I've never been confronted with. I'm now being confronted by this now as a consultant – and I don't know the answer at all. So, we have to find solution to survive. It's a Darwinian process.

**Geoff Cooper:** Thinking about the way that we plan our cities – how big they might get or the infrastructure we might need – what sort of advice would you give to people thinking out that far on the use of regulation and the idea of where we might be in 30 years? Should we be regulating for where we're going to be? Should we be thinking about options?

**Alain Bertaud:** I think that we should make projections certainly. We make projections about the number of people, for instance, who live in New Zealand, and we make projections for all the major cities. Those are projections. They should not become regulation. But, those projections mean that we have to do long-term investment, certainly in water supply, storm drainage, sewer, energy. We need to mobilise because for instance, energy and water supply, they are long-term investments. They require capital investment long in advance. Meanwhile, we have to monitor very carefully, through indicators, the growth of our population to see if our projections conform with what is happening on the ground. For instance, take the example of energy. Some years ago, in developed countries, the consumption of electricity per household was going down slightly. This is because we have much more efficient washing machines, refrigerators, things like that. Suddenly, now it comes back up because computers are using an enormous amount of energy. So again, here we may have made projections and committed capital to provide domestic electricity to our cities, and suddenly we have to change. We should be ready to do that. We should not freeze our projections into regulation. We should be completely open. Look, it seems to be very difficult, but in fact, any private firm is doing it. If you take a firm producing cars or telephones, they are making long-term projections, but at the same time they are adjusting them constantly.

**Geoff Cooper:** Right. So, it's almost like the difference between projections and agility and things that you might be thinking about versus commercial triggers of when you might invest.

**Alain Bertaud:** That's right. Here we have this dilemma that we are facing a spontaneous order – that is things that we do not control. That means the trade-offs that households and firms will do in the use of land. Also in the consumption of water and energy. We have to monitor this all the time. On the other hand, when we design a sewer system or public transport system, this is top down. You know, there is no market signal which tells you where a subway station should be located, or whether you should have heavy rail or light rail. It's top down, but the top down has to follow the spontaneous order.

Very often, my colleagues – planners or traffic engineers – have a tendency to design something in advance and then say, 'well, planning regulation should force people to live within the infrastructure we design to make it financially viable'. I think that the costs here are enormous, because they are exchanging the price of infrastructure for the expansion of land, the development of land, without knowing the price. They know the price of infrastructure very well. They don't know the price of land, they don't know the income of people. They are forcing a consumption of land and floor space on people to conform to their projection of transport – and I think this is wrong. They should do the opposite. Although, again, the design of trunk infrastructure is always top down. Really, for things like storm drainage, which is completely imposed by topography – you have no choice. But again, you could have different design of storm drainage to take more land or less land.

**Geoff Cooper:** We were talking about this just before, but the task of the planner these days, when you look across all of the infrastructure assets that we have, it looks difficult. Because there are asset classes that that we look at, for example schooling infrastructure, where a high projection might exhibit growth and a low projection might exhibit decline. I often think about if we know we're in a growth scenario and we're questioning the timing of a project, then this is sort of a financing risk, right? If we bring it on a little sooner than we thought we were going to or sooner than what we need it, we carry a bit more debt and we have to recoup that at some point. But if we're in a world where we're talking about maybe bringing on an asset that turns out we don't need, I think this is a funding problem, right? The people that need the asset might not turn up, and this is far more challenging in many ways.

**Alain Bertaud:** Even for schools we should make a trade-off between the amount of land we use for school, and the quality of education, which is not the same. I was educated in Marseille just after the War. My primary school was in an old garage in Marseille, but my teachers were very good. That made a big difference. I won't go too extreme like that, but we have to face the reality that if we projected a school in an area where there is not enough demand – we should not hesitate to close it. Certainly in different areas of

the city, we should make a trade-off using land – whether or how much land you need for a school. If you spend a lot of money on land and very little on paying teachers, it's not a good trade-off.

**Geoff Cooper:** Well, let me ask you this, because I think in your book, there's one line where you say, most urban planners, including yourself, 'are completely unprepared to manage cities with declining populations'.

**Alain Bertaud:** Yes, I have been confronted on that the first time in Russia some years ago, then more recently, in Japan, and now in Thailand. My answer is to just adapt to it by following this trend. But, usually a country which has a declining birth rate, the capital – the large city – is growing because the young people are moving – they prefer moving to large city than staying in small cities with a declining population. So the question is always, how do we make smaller cities still grow when the population is declining. My advice so far – but just because I have no other answer – is just provide infrastructure for where they are going and to make this still viable economically. That's the engine of growth which will support the ageing population. But, there might be other answers that I don't know, because I'm completely unprepared for this.

**Geoff Cooper:** I mean, certainly in New Zealand, we know that we've got quite considerable demographic change going on at the moment. Yet we still have some areas that are growing reasonably strongly, but with expectations that many of our local councils are going to be stagnant or even possibly declining in the in the decades ahead. So, there's an unevenness, quite a considerable unevenness to this. And you know, we're thinking about countries that need to manage upside and downside together, where I think in the past, there's probably more been a narrative of sort of upside everywhere, but it's a question of how fast.

**Alain Bertaud:** You have a component of your population, which is immigration. Because you have good universities and excellent environment, you are not going to lack candidates for immigration. So, probably the government will have to have a clear policy, not considering immigration as being nice with people who need a job or something, but as an economic foundation. The way you select your immigrants is up to you. Certainly, it should not be just only graduates from university, you will probably also need other types of immigration. But I think that this will be a component in urban development. Immigration is not separate. It's not a foreign affairs issue. I would even say an economic survival issue.

**Geoff Cooper:** So those people are going to need places to live that don't stretch them to the brink. You've just come back, I believe, from Australia in Melbourne. How's New Zealand going relative to them? What are the things that they're grappling with that we should be aware of?

**Alain Bertaud:** They are doing certain things very well. For instance, I was impressed by the quality of the new subway line and public transport. They are doing that very well. That's good, because that allows the labour market to be more efficient – to avoid being fragmented.

In the case of Melbourne, the last city I visited, I was a little worried by their land-use policy. In the sense of the supply of developer land on the market. They had this very abstract concept of 'wedge', which prevents the city from developing where it could develop. This results in 'fingers' that are developing along three or four subway lines. This is fine, except that it's probably the most inefficient form of cities in terms of infrastructure. The density along those fingers is extremely low, partially due to regulation, partially due to practice – I had a bit of difficulty separating the two. That means that to operate a subway or high-volume transit line among rather low density is expensive in capital per capita. It will be also very expensive in terms of running. If you want to be efficient in terms of the labour market, you should have time between a subway or tram of not more than 10 minutes at rush hour, at least. Having 10 minutes in a very low-density area is very costly, and especially if they are 'fingers'. That means these areas do not expand – they expand just in length, not in width. There is a complete dichotomy between the engineer who developed the subway, which is marvelously efficient, well done, well designed, and the land-use issue.

**Geoff Cooper:** It seems that what you're talking about here is that coordination – that integration – between infrastructure and land-use planning is absolutely fundamental.

**Alain Bertaud:** That's why price is important. The way that you price infrastructure should be reflected through tariffs and things like that. You don't subsidise very heavily one area at the expense on another. You may decide to have some subsidies, but you should be aware

what you subsidise and what you don't. It then controls entirely the supply of lands. Therefore, it controls partially the affordability of land. The other regulation then controls the other side of affordability. The land-use regulation, which are again completely top down, are arbitrary. I call that very often magic numbers – because there is absolutely nothing scientific.

**Geoff Cooper:** Yes, I think that that at this particular moment probably will resonate with a few folks out there. I wanted to ask you quickly: Congestion charging in New York. It's been implemented. How's it going? What's the future?

**Alain Bertaud:** I have to confess, that I was not very enthusiastic about the way they did it. I thought that congestion pricing in Manhattan should have been done long, long ago frankly. I thought it was too low.

**Geoff Cooper:** The price?

**Alain Bertaud:** The price. Yes. And by the way, I pay congestion pricing when I go to New York, so it's not that. I thought it was too low and will have no influence. However, to my surprise, it has slightly reduced congestion. The advantage of it once you start, the principle of congestion pricing, you can always change it and improve it later. It's to start, which is politically difficult. In a way, it was a good thing. I was invited at the very initial meetings about congestion pricing, and very quickly I realised that they were more – they considered it more as a sin tax than a way to decrease congestion in Manhattan. I thought that the difference between peak hour and off-peak hour at night is very little – there are two categories of price, so it's very primitive. You know, if you compare to Singapore, of course, one of the best. I am converted now, because I realise politically, the difficult thing was to create it. Now, especially with all the technology we have, we can improve it to be a real congestion pricing. In Singapore I think they adjust it every quarter based on the speed – the contract with a traveller is the speed in several areas of the city, and that's so if the speed goes down, they jack up the price. If it goes up, then they decrease the price.

**Geoff Cooper:** Yeah and I actually saw that during Covid-19, when traffic movement came to a stop they actually reduced the charge in order to create a buffer for the city centre.

**Alain Bertaud:** You see this is not a sin tax.

**Geoff Cooper:** No, no. It's demand management...

**Alain Bertaud:** Yeah, yes. It's about management.

**Geoff Cooper:** Okay, so it seems to be a bit of a like, particularly with that first move to actually get it in place, maybe don't let the perfect be the enemy of the good, but create sort of iterations and improvement.

**Alain Bertaud:** You see that, I confess I was wrong. I thought they should have a better system from the start and retrospectively it was a mistake.

**Geoff Cooper:** Well, let me maybe end here. I think we've got to wrap it up pretty soon. But I wanted to sort of finish on getting some of your reflections on the sort of future of cities, where, where might cities go from here? They've obviously, you know, cities around the world have had pretty difficult time going through Covid-19. Now we're looking at energy shocks and so on. You talk about the physiology of the city – maybe, let's start here. What is the heart of the city and where might it go to from here?

**Alain Bertaud:** The heart of the city is where people meet more often and randomly. So, universities are a very good place for that, but also cafés, restaurants, you know, jobs. Of course, we meet a lot of people on jobs. That's why, during Covid-19, people thought, ah, planners now have completely redesigned cities. You know, you could work anywhere remotely. First, the people who can work remotely is only a relatively small part of the workforce, probably 30% maybe 35%. But even those who can physically work remotely – because all their work is done on computers – I think that big firms have realised that real productivity in innovation come from random encounters of people who are very specialised at the office. That's why the big firms of Silicon Valley are trying to get their people back to the office. This is why they design extremely elaborate offices to try to keep people as long as possible at the office, including kindergarten for women who have children and can bring them, so that encourage women to stay at the office, even when they have young children. This is very costly for them. You know, it's not because they are philanthropic. It's directly linked to productivity and innovation.

This is why I'm very positive about the shape of existing cities. So far, it's only way we have found that people can meet, randomly, have a social life. That's why I think cities are going to be prevalent in the future. But we still have, of course, a lot of things to do to make them work

much better. There is never an optimum size or an optimum arrangement which can last more than one, two, five years, maybe, and after that, we have to adjust constantly. Cities are submitted to a Darwinian process. We have constantly to adjust. It's a war. I think by the way, before they were competing for jobs, I think they are going to start competing for people.

**Geoff Cooper:** And this is, I mean, this is something you see in New York, right? The amount of times New York has reinvented itself as a city – from ports to garments to financial to AI and so on.

**Alain Bertaud:** Diversifying. Any city which relies only on one industry or two or three in the long term is doomed.

**Geoff Cooper:** But at the heart of that is, as you've just said, people.

**Alain Bertaud:** Yes, people, the big asset of a city is not its transport system or sewer system. It is its people – the quality of the people. That's why, for instance, I think universities are very important, and the autonomy of universities is very important. Of course, not everybody has to go to university, I'm not saying that. You know, the schools are very important, including primary schools. That's why we should put much more emphasis on the skill of teachers, rather than the sports ground. I mean, sports ground are very nice, but if you have to make a trade-off, go for the skill of teachers, rather than a set norms for schools, which will prevent you from building school where they are needed, right?

**Geoff Cooper:** That is a really good place to end. I think cities ultimately are about people, so it's nice to kind of end in that place. Alain, thank you so much for taking the time to come to New Zealand and for sitting down on this podcast as well. And we look forward to seeing what's next for your research and hopefully see you again soon.

**Alain Bertaud:** I will be delighted to come back. Thank you very much for inviting me.

**Narrator:** Thanks for listening. Find out more about the work Te Waihanga is doing to transform Aotearoa at **tewaihanga.govt.nz**