

The local view: a discussion about Perth, Australia

Interviewer: [Gareth Byatt](#) – Principal Consultant, [Risk Insight Consulting](#)

Interviewee: [Chris Corless](#) – C-Suite + Board Advisor

February 2023

Chris,

It is a pleasure to discuss aspects about the City of Perth, the capital city of Western Australia and home to about 2 million people (including its metropolitan area). I had the pleasure of visiting the city and its environs in December 2022, which afforded me the opportunity to look at many aspects of its urban system. I'm looking forward to hearing your thoughts about the city where you have lived for several years. Can we start by summarising your background, and your connection to Perth.

***Chris:** It was an absolute pleasure to show you around the city we call home. We've got to know Perth over many years. My partner and I first moved to Perth in late 2011 from Toronto Canada. We have lived in Perth for the most part since then, with just a couple of years spent in Brisbane (a city on the east coast of Australia), from late 2018 to late 2020.*

I am an engineer by schooling and have spent most of my time in risk and assurance in large organisations, first starting in mining and major industry and now in health care. When I was working in the mining sector, I was fortunate to spend a fair bit of time in and appreciate Melbourne, London, Lausanne in Switzerland, Johannesburg, Rio de Janeiro and Belo Horizonte in Brazil, Santiago, Singapore, Jakarta, Hong Kong as well as rural areas of Brazil, Indonesia, Wales, New Caledonia and Canada.

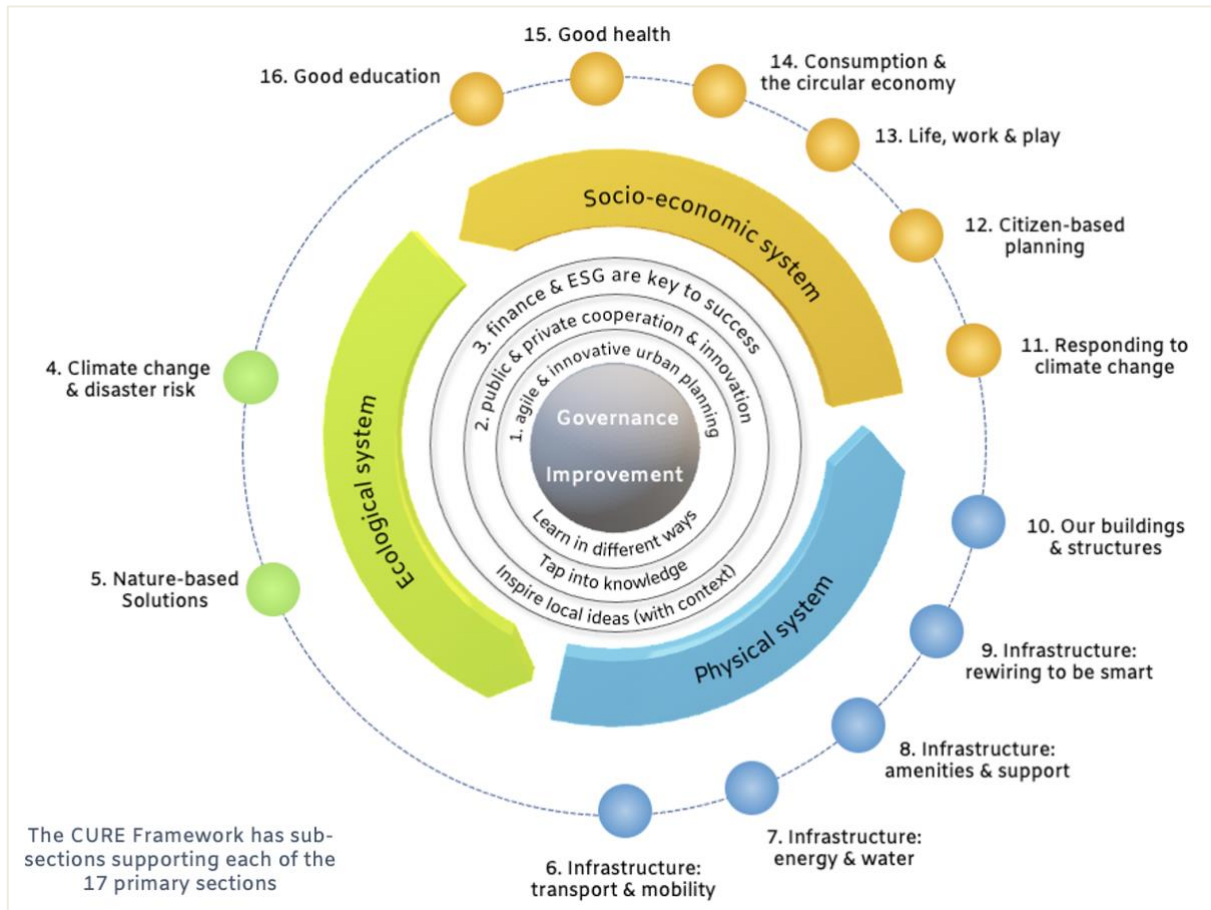
In our time living in Toronto, Perth and Brisbane I have always taken public transport to work, predominantly trains and subways but was fortunate enough to be able to take Brisbane's famous city cat ferries while I was there.

Gareth: Wow – you have got around in your life, Chris! Good to see the long-standing commitment to low-carbon public transport ☺ (we'll get onto this point soon - it's a "core topic" of mine). Thanks for explaining your background and your linkages to Perth as well.

As you know, part of my work towards the world's urban environments is to shine a spotlight on what they **are** doing, and what they **should be** doing to be more sustainable and resilient – and to do so from various viewpoints (including citizens, municipal authorities, businesses, academics and support organisations and think

tanks). I'm always interested in uncovering local examples and ideas to improve urban life, including those that could / should be useful for other cities and towns around the world to review and perhaps adopt / adapt to suit their needs.

I'll structure my questions about Perth using a systems approach, which means covering aspects of governance, ecology, the physical (built) environment and the socio-economic environment, all of which link to the UN Sustainable Development Goals (the [SDGs](#)). Through this system lens, I hope we can discuss some good aspects of how Perth works, examples that other places could learn from, and how the city may be improved from your viewpoint as a Perth citizen.



Urban framework image by author

Gareth: Can I start this “urban questioning” by asking you for some general observations about the City of Perth – how it works, the way of life, and its overall integration with nature. Perhaps also how you personally experience interaction with municipal authorities, things that work well in the city and whether there are any bugbears you have. For general context, I've had a look at how the Perth City and Metropolitan areas link with each other, per the attached maps. I didn't appreciate before how geographically large the city metropolitan area is.

Feel free to have a quick look at a couple of urban resilience indices in case they spur any thoughts – the Urban Environment & Social Inclusion Index, [which features Perth](#), and [the Arup-led City Resilience index](#) (which does not currently include Perth).

Chris: Perth has been and continues to be a pretty easy place to live, compared to say Toronto (another city I know very well) or indeed many cities. For example, 11 years into our lives in Perth and we are still early for most events / appointments because we continue to factor in the uncertainty you have when trying to make your way around larger centres – and in Perth transport problems don't tend to arise (hence why we are typically early). In many ways, I see Perth as a big country town and there are limited incentives for many to get out of their cars and take public transit. This is an observation more than a criticism.

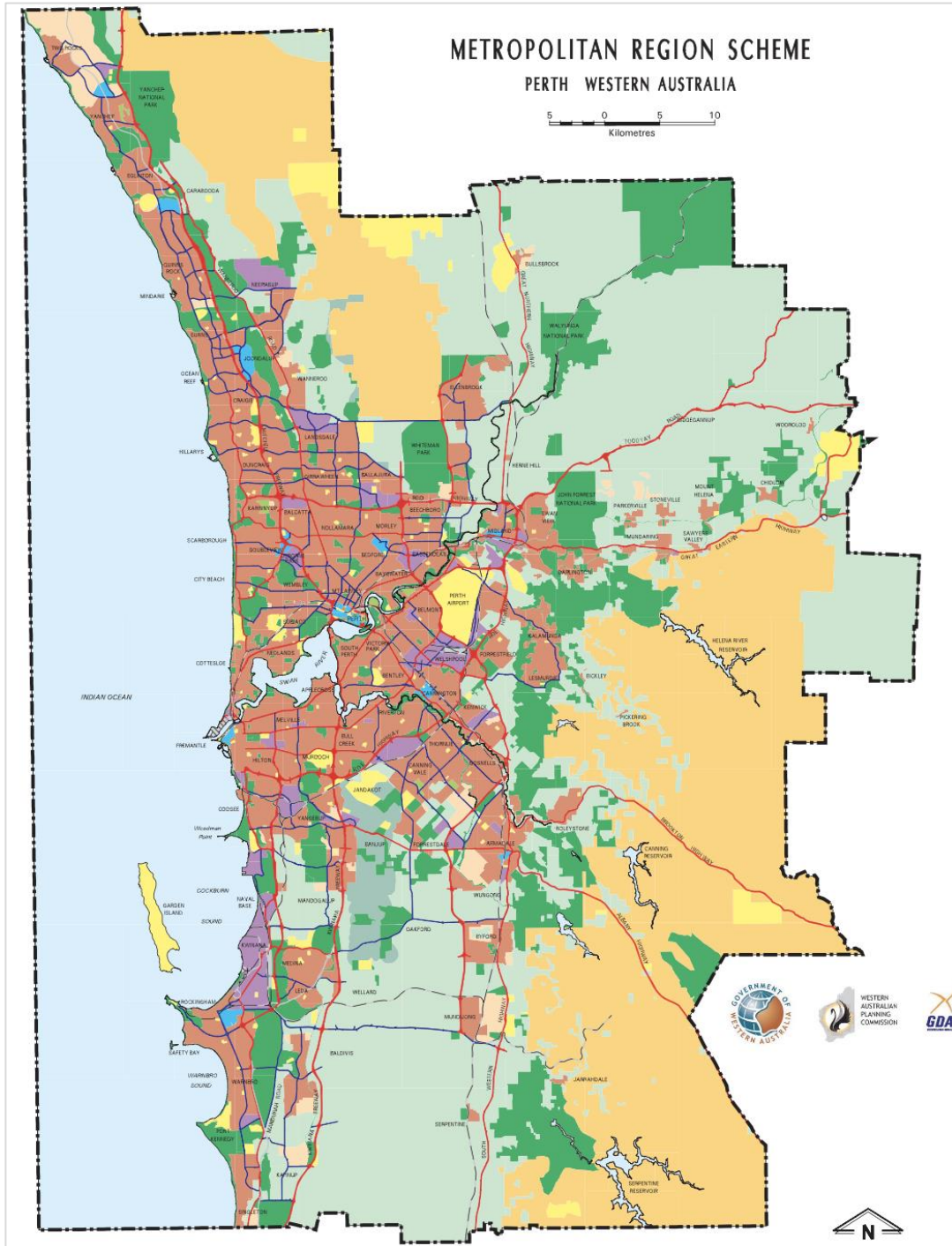
When we first arrived in Perth from Toronto in 2011, we had to learn to slow the pace of our life down. At that time, stores (including major grocery stores) were not open for Sunday shopping and in general you could sense that the supply chain to Perth was different, with things taking longer to arrive (something that continues to be the case). There was hardly any traffic back in 2011 (certainly when compared to Toronto) and you could easily get around by car or use the fantastic train system. We are fortunate to call the western suburbs of Perth (by the coast) home, and I choose to use the train to get to and from work. We also often use the train on weekends to get into 'Freo' (the adjoining town of Fremantle, just a few train stops away) to meet with friends. I don't think I have ever had an unscheduled stoppage on the train when I had to find other means to get to work, and in times where there have been planned outages there was always an easy alternative to make the journey, and these outages were (and still are) notified well in advance. So, I have to applaud Transperth (the public transport operator) for such a reliable city and suburbs train system.

Perth is often characterised as being the most isolated major city in the world. It is certainly a long way from any other major city (it is about 2,700km from Adelaide and about 3,900km to Sydney or Singapore). It dominates the population of the state of Western Australia (WA). From a socio-economic viewpoint, the city has a tremendous amount of wealth, largely on the back of the mining and oil and gas sectors. There is also quite a bit of resistance to change, especially (and understandably, in my view) if the change may erode some of the great public spaces the city has along the river in the CBD (Central Business District, or CBD, a common term in Australian city vernacular) which is a very beautiful foreshore, or along the coast (there is almost no development on the dunes side of the road that runs along the coast). The coast is a very long continuous beach. In summer there is a marvellous coastal sea breeze known as the 'Freo Doctor' which brings fresh cool air to a good part of the metropolitan area. There can be quite a temperature variation between the coast and even just a few kilometres inland on a hot summer day, which probably has a big factor in driving the population to seek housing close to the coast and contribute to the urban sprawl north and south of the Swan River (noting that, importantly, the city has space to accommodate this).

One thing I still find rather interesting about Perth is that we haven't seen much of the increase in density around train stations that's been happening in other major centres in Australia and many other countries. The neighbourhoods situated just a few hundred metres from the CBD are still dominated by single dwelling homes, again something that you don't see in other major metropolitan cities because of their space constraints (the Perth central suburb of Subiaco being a major exception). As a result, the CBD tends to be quite lifeless once workers have left for the day.

While there has been an increase in apartments in the CBD in the last 11 years (mostly towards the east end of the CBD) it just doesn't have the vibe of other major centres. A contributing factor is likely the sea breeze and the close proximity of beaches, which encourages people to live there rather than in the city centre. Perth and Western Australia don't partake in daylight savings clock switching. Consequently, first light in peak summer is very early – before 5am. This, combined with winds that come from the east in the mornings in summer, encourage citizens to flock to the beach early in the morning before it gets too hot and the sun too strong (the sun is fierce here in summer). This probably also contributes to the lack of people living in the CBD. From a societal perspective, most of us are in bed early to make the most of the time near the beach in the early morning. It's our "rhythm of life". (and quite different than our time in Toronto where the city woke up earlier because it was up quite late)

One thing that I wish Perth did a better job with is to use the river for public transport. Like most River cities, taking public transport can be a lengthy affair as there are only so many crossings over the river. Why not use the river itself?





















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|  | STATE FORESTS | | |  | INDUSTRIAL |
|  | CIVIC AND CULTURAL | | |  | SPECIAL INDUSTRIAL |
|  | WATERWAYS | | |  | RURAL |
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Image from the DLGSC page for [the metropolitan area of Perth](#)

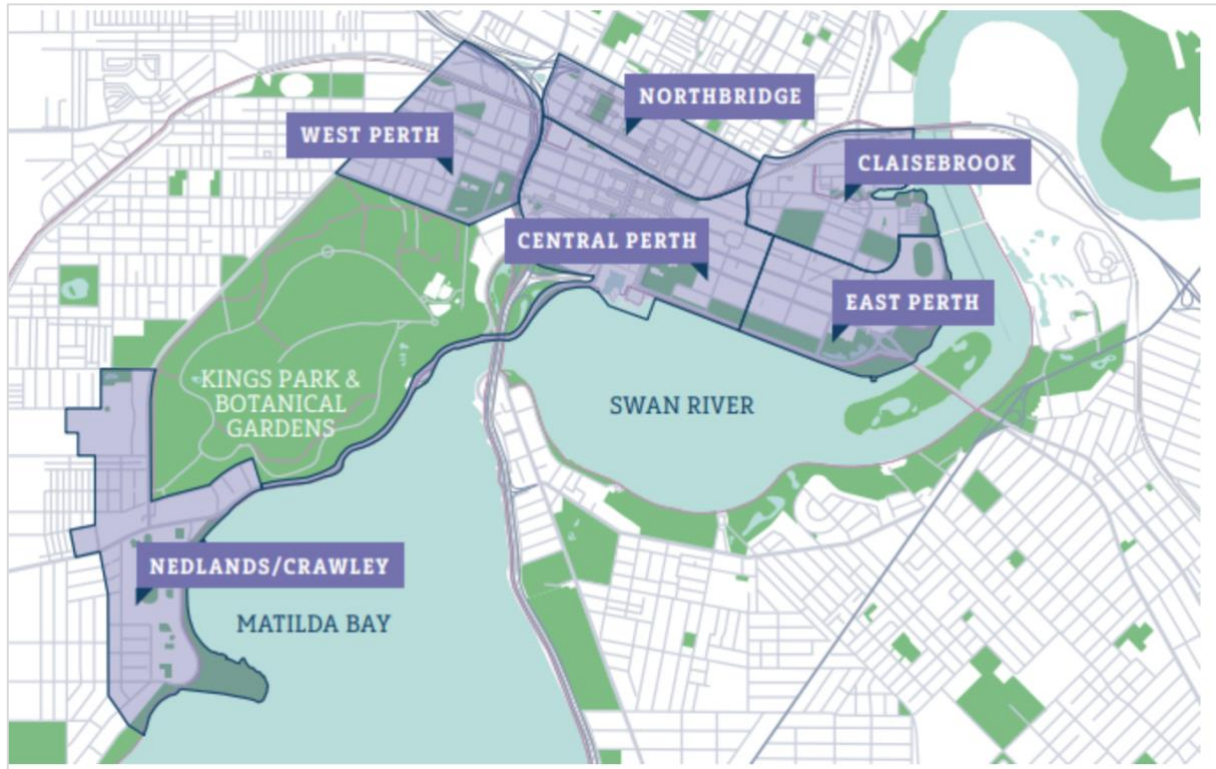


Image of City of Perth boundary map from the [City of Perth website](#)

Gareth: There's a lot of good feedback for me to take on board here, Chris. You mention river transport and I think about my home capital city of London, which makes good use of the River Thames for transport and has done so for many years (though it's not nearly the same blue colour as the Swan River in Perth, I have to say!)

Your comments about the Perth CBD resonate with me – I've noticed how the city centre "empties" at the end of work weekday, and there are not many people around on the weekend (apart from for shopping at the shopping centres).

Also, given the cooling sea breeze that you mention comes in during the summer (which I've noticed during my visits), I start thinking about housing design and whether people make use of natural ventilation or whether old-fashioned air-conditioning units (which are bad for the environment) are always used.

I'm always curious to find out about urban efforts towards sustainability (which includes whilst not only being about climate change and adaptation) – noting that context to each city / town is always key. I searched for information about the city's Sustainability Strategy / Plan while I was visiting in December 2022. I was only able to find a City web page which, at the time, stated that "the City is currently revising its approach to sustainability".¹ I wonder if the City team is working on this in conjunction with various stakeholder groups, including plans for a Low Carbon City – with citizens, businesses, academia etc. I know that an overall Western Australia Climate Policy exists, and I wonder how connected efforts towards sustainability are

¹ City of Perth, [Sustainability](#)

across Australia's large cities (i.e. with Sydney, Melbourne, Brisbane, Adelaide, Canberra and others such as Darwin).²

Chris: *It's something that I haven't heard a lot of talk about in the news or put forward as discussion points with citizens by the authorities in Perth. I think part of the reason behind this is that Perth is still quite segmented when it comes to local councils. Unlike cities I have experienced such as Brisbane, Melbourne and Toronto, where there was significant amalgamation in the past, Perth remains a large collection of small councils and they have constituents who strongly identify with their particular local council. It's possible that each council has its own sustainability plan, but I haven't seen anything in detail (not in mine). Perth has done a reasonable job in building infrastructure when it is needed but I think it could be better and be more integrated (bearing in mind I do use public transport whenever I can). With all the various councils in place, getting everyone to align their thinking on infrastructure probably takes a considerable amount of time.*

Gareth: Perhaps the connection that people have to their specific councils can be used as a strength, to ensure specific local needs are met? I hope there are some linkages between them, though. One thing I have seen that is integrated well is the cycling infrastructure – I'll come to that shortly.

First, how does **the socio-economic system** in Perth function in your view? I'm thinking about the social fabric and wealth in matters such as education, healthcare, social activities (including people's physical and mental health), social cohesion and equality, consumerism and the circular economy, and crime (hopefully a lack of it). Overall, Perth is a wealthy city, from what I see, with its linkages to mining and energy development in Western Australia. I appreciate that it most likely differs across its local government zones, and maybe we want to hone into some specific examples. As you work in healthcare, I'd certainly be interested in your views on this part of Perth's socio-economic system.

Chris: *This is an area where I think it's tough to get a full picture across the metropolitan area given there is quite a bit of variability across it. Like most cities, you tend to find areas that you enjoy are easy to get to and it's often difficult to break out of those patterns.*

One of the things that I wish we would have done in Perth as the iron ore and oil and gas boom were kicking off many years ago was to create some sort of sovereign wealth fund like Norway has done to help create the possibility of funding improvements to socio-economic issues in the long term, recognising that these resources may not always be available or in demand. That said, the city has made good use of its wealth.

A large number of people who live in Perth partake in the fly in fly out ('FIFO') life to service the various mines and oil and gas facilities in the state. And it's a very large state, representing almost half of Australia with some very remote and isolated places of work that these people travel to. While rosters differ, it ultimately means that people are away from family members for a portion of the week or the month

² WA [Climate Change Policy](#)

which I think can bring considerable challenges to how families function and it can test people's mental resilience.

As you know having lived yourself in Australia for many years, this country has a mixture of private and public health care which I think has proven problematic when it comes to long term planning to ensure that the capacity of health care meets the demand as the catchments around the various hospitals and health care services (I currently work in the healthcare sector).

If you can afford to participate in the private system, you often can get great and instant care, but unfortunately this isn't true for those who participate in the public system. There is also two-speed economy when we look at early education. Perth has a host of excellent private schools if you can afford them (some look like high quality university campuses),. The public system seems okay but again there is quite a bit of variability.

Similar to many cities, the wealth gap can exacerbate differences across key aspects of life such as healthcare, education, food, entertainment, access to safe places to play and take up recreation, I haven't seen any statistics, but I would think the wealth gap across the different areas of Perth has to be pretty high.

Gareth: The COVID-19 pandemic must have been a challenging time for the city's residents (I know you were in the city during this time). I'd be interested to hear your thoughts about lessons from the pandemic that should be paid heed to moving forwards.

Chris: *As you know, Australia took quite a draconian approach to trying to keep the COVID-19 virus out of the country, and this was especially the case in Western Australia. For nearly two years during 2020 and 2021, West Australians were 'walled off' from the rest of the world – we had to obtain a permit from the WA government to leave the state and return for an internal Australia trip. There are numerous stories of people who left but then couldn't get the permit to return to their home.*

Like other wealthy parts of the world, many employers switched to work from home strategies (for jobs that it was possible for), in some cases for long periods of time. I think this had some dire effects on small retail businesses in the CBD where footfall fell dramatically for an extended period of time. Some of these small businesses such as cafes were very innovative and somehow managed to survive, but many did not. The number of lot vacancies in the CBD is still quite high. This also had a knock-on impact on employment and for those who were not from Perth, when they left, they left for good. It also drove up the number of people who were using their personal car to get to work instead of taking public transport (to socially isolate), which was the same elsewhere around the world. Fortunately, the numbers were low enough that congestion didn't rise too much but I would be interested to see if the number of people using public transport has come back to pre-pandemic levels (I think they have based on my rudimentary view of the trains I take, but that's only based on observations from 2020 onwards).

I think the pandemic also highlighted the precarious nature of our healthcare systems balance between supply and demand (which I suspect is a challenge everywhere). For example, the approach to shutting down surgeries for weeks at a time during the pandemic has created tremendous backlogs of appointments, which has had a real effect on the lives of many.

I think Perth also made a mistake of not focusing on the general health and wellbeing of citizens during the pandemic (and we weren't alone in this). We don't have the density of people that other major cities have, and once we knew that transmission outdoors was an exceptionally low probability event, I think we should have been encouraging people to get outside to exercise, get some vitamin D through safe exposure to sun and perhaps even have walk and talk with friends. In a city where there is so much space in our parks, foreshore and beaches everyone could have easily managed social distancing and as a result they would have had a better chance of maintaining their wellbeing and be better prepared to deal with any virus including COVID-19.

Gareth: Your observations about Perth during the COVID-19 pandemic make me appreciate the importance of context. What Perth had to deal with was very different to, say, Paris, Philadelphia or Pune.

Looking at **overall City and municipality governance and citizen engagement**, what would you say are engagements by the municipal authorities that work well in Perth, and engagements that lack focus and need to be improved?

Chris: In my view, I think a key thing that could be looked at is whether it would be better and more efficient if the number of small individual councils could be reduced, perhaps by consolidating them into a smaller number. I see the city as a whole is a living, breathing organism, but we don't run it that way. The many councils operate independently, from what I see, and this mindset slows down progress in terms of building a system for the whole metropolitan area because the focus is on one small area at a time. I wonder if from a cost perspective there could be significant benefits in amalgamating councils, which would mean that residents would get more bang for every buck for their council rates.

Gareth: You raise an interesting point about how Perth operates with its local councils. Council areas morph and change over time, and I wonder what the most efficient model is, for any city. I like your analogy of the city being a living organism. In your view as a citizen of Perth, how well does its **physical system** function? By the physical system, I mean the way that transport & mobility, the built environment, and utility services including energy, water and waste management function and work together, including the use of "smart services" to help with efficiencies (sometimes called Smart City services). Also, as someone that works a lot in the property and construction industry, I find myself wondering why Perth doesn't use wood more in construction. Maybe there's a good reason, but I'm not sure what that reason is.

Chris: *This is a big question. Let me try and break it up into a few sections.*

Transport. *I'd say that public transport has seen some significant investment in the last decade which does integrate well across suburbs, with new bus stations, the integration of rail infrastructure to provide flexibility in its operations, new lines opened, and highly reliable equipment and services. I would like to see a more integrated approach to the payment systems – why do we need to carry an extra card or carry a paper ticket? It seems rather antiquated in this day and age (with the context of Perth being a wealthy city). On the roads, I think that it runs reasonably well but it is somewhat constrained by the location of the city in relation to the river and the freeways that run mostly north and south. These routes run pretty well but can get jammed at peak hour if there is an accident, and there is limited ability to increase their capacity. It's a tough one though because if the highways are too frictionless then I think they encourage people to choose their own vehicle instead of transport (and I know your views on car use, which I guess we will get onto soon)!*

Water. *Over the years, the availability of water has been an issue in Perth as the winter rains have dwindled in the last decade (although that has reversed a little bit in the last couple of years with the main reservoirs coming up a fair bit). The Perth water utility has invested heavily in educating users about water use and whilst I think we have a desalination plant that can help, I don't know how much help it provides.*

There was a project in which wastewater once it was treated was injected back into the groundwater system. I'd suggest that we have learned a lot in this area, and I'd be curious to know what is required for new build developments. Could we separate grey water from black water and use the grey water for gardens etc? Must be difficult to retrofit but I am sure possible with new builds.

Energy *is an interesting point. Perth sits in the Western Australian South West Grid which is separate from the rest of the state and country. Perth also has many, many sun hours compared to other cities and solar programs have been popular for a long time. But this has created a problem because we haven't been keeping up with our storage capabilities and the investment in traditional electricity generation has waned and we have sped up the closure of some of those facilities. All of which is leading to a potentially unstable grid and a funding problem for the maintenance of the infrastructure that connects house to one another and to neighbourhoods. Stay tuned on this one. That said the power in western suburbs has been extremely reliable even in severe weather, I can count on one hand the number of outages we have had in our 11 years here.*

For buildings and construction, *and your question about the use of wood in construction, I have noticed some use of wood, but I think it largely comes down to cost and longevity in our particular environment. I think WA has termites and the brick construction is totally resistant to them, however the bricks and mortar type of construction is more challenging probably in terms of renovation and running / changing services in the home. I wonder what our demolition rate vs. renovation rate is – my guess is that people feel and decide that it's often easier to knock down and rebuild than it is to renovate which of course has its own impact on the environment. I wonder what the city / council planning rules are around this, and if a house is being knocked down and replaced, how waste can be reused, and new builds built in a sustainable way. I'm not sure.*

Gareth: On the point you make about water use, I have been struck by how many people I see watering their external gardens at length, each day. I guess they can afford it, but I can't help but think about the amount of water that is being used. And, I didn't realise the situation with your energy. I know you are literally on the shelf of massive energy resources. It's good to hear about the reliability it has.

I'd like to discuss some points about Perth's transport & mobility infrastructure now – and yes, this does include the topic of “demoting car use”! We've talked before about the “ideal transport & mobility pyramid” which prioritises active mobility, for those who are physically able (meaning walking, cycling, using scooters), then the availability of good public transport, how deliveries and services work, and finally car use – and whether car use can drop down the hierarchy (it's usually at the top in most parts of the world).

Appreciating that the sun is particularly strong in summer and sun protection is very important, the year-round climate in Perth lends itself to walking and cycling (though I do appreciate that when it rains, it is often “full on”). I know you are a keen cyclist, and I have seen and experienced myself the high quality and extensive cycle lane network around Perth's suburbs leading into the city. I must say that it is one of the best cycle lane networks I have seen, anywhere. I have noticed that it is shared well by cyclists, people on e-scooters, runners and dog walkers. I've seen information online about the State Government's priority Principal Shared Paths (PSPs) up to 2023, which they are focusing on within a 15 km radius of the Perth Central Business District (CBD), with a particular emphasis along the freeway and railway corridors, due to high commuter demand.³

It is really encouraging to see such a good quality suburban cycle lane network – it's something for other cities and towns around the world to aspire to in my view. I find it slightly curious that this high-quality cycling infrastructure set-up into the city centre (CBD) comes to an abrupt halt once you get into the centre. I'm curious about why the city centre (CBD), which isn't particularly big, doesn't continue the excellent cycle lane infrastructure (for commuters and leisure / sports riders). I'm trying to think of what reason the City would have to not have it in place. Any thoughts?

³ West Cycle [PSP programme update](#)



Photo of Perth outer area cycle lanes by author



Photo of Perth CBD streets by author

Chris: *Indeed, you are right that the cycle infrastructure in Perth is amazing. There are cycle routes extending more than 50km both north and south of the city along some of the highways. It's great to have these safe places to ride and explore and it is definitely shared with many other users, which is great. I think the added benefit is that it also helps the roads flow better (because cyclists are on their own separate lanes) which is a plus for vehicle drivers.*

If we had a bit more time I could have shown with you some of the path systems that work through the fringes of the CBD. You are right that once you get into the core of the CBD the paths seem to disappear (although I haven't spent much time in the eastern side of the CBD) To be honest, I don't see this as much of a challenge. The traffic in the CBD is quite low even in peak hour and it doesn't seem to stop people from cycling into the office. That's probably why we don't see the same large cycle lanes in the CBD. With the paths on the perimeter of the entire CBD, there are plenty of ways to keep your interactions with traffic minor and pick the shortest route to your destination once you are off the cycle lane route.

Just on the point you noted about the watering of gardens, many people have installed high-efficiency reticulation heads for their garden watering system. They can operate for a longer period of time than less efficient sprinkler head, yet they use significantly less water than the older types. Not everyone is using them yet, but for example we replaced ours and it has made a dramatic difference in actual water use.

Gareth: Fair point about the sprinkler heads, Chris. I wonder if cities and towns around the world can incentivise people to make the most efficient use of water in all sorts of ways, inside and outside of their home.

Regarding the discussion on cycling, you make a good point, about there being less need to have the excellent cycle lanes inside the CBD. I didn't really think about that. I haven't seen many delivery bikes / e-bikes in the city centre or in the suburbs (for example, for food deliveries and commercial retailing deliveries). Maybe it's just me not spotting them. Do people opt for online deliveries in Perth (for example, for groceries and other online shopping)? I didn't see many delivery vans while I was there either.

One thing I saw on one street (Barrack Street, in the CBD) was a counter of daily bike journeys, and the target they have for bike trips for the year. I liked this idea – it could be implemented elsewhere, I reckon.

Chris: *Ah yes, I forgot about that sign, I don't visit that part of the city often and would be curious where they are counting from. There are quite a lot of online delivery services provided by supermarkets such as Coles and Woolworths, and in the city and in North Bridget you see quite a number of delivery bikes but perhaps not as many as other major cities, as you say. At the moment, most of Australia Post and Amazon deliveries are still by car/van unless its small enough to be in the small electric vehicles that run the routes in neighbourhoods.*

I remember that Toronto had (and perhaps still has) a very big bike courier network, which is not something that I have seen in Perth. I think some of it is that the CBD is actually very small and potentially the need to use those types of services has been replaced by other digital transmission means (it's been a long time since I have been back in Toronto so I'm not sure if it still exists there).

Gareth: I have seen some rather nifty Australia Post mini-vehicles – see the photo I took of one below. I wonder if these types of vehicles may be practical elsewhere (depending on the length of a route, and the amount of space required in the vehicle).

Let's talk about buses (always a favourite subject of mine). From what I have observed, none of the Transperth buses – not yet, at least – are electric or non-fossil-fuel powered. I see many other cities (admittedly not in Australia, but in other countries) are changing their bus fleets to be more sustainable, and I wonder if the City has plans to replace its buses when the time is right with cleaner versions (it has to be said that the air quality in Perth is very good – bus emissions do not seem to impact it from what I have seen).



Photo of Perth buses by author



Photo of Paris e-buses by author

Chris: I think there has been a trial of an electric bus in 2021, and I remember an election promise by the federal and state governments to set aside money to build electric buses locally: [Labor promises to make electric buses in Perth, if it wins the federal election - ABC News](#)

I am uncertain about the best approach to powering our local buses. In Toronto we used to see trolley buses (powered by overhead cables), which were replaced in the 1990s. Now the city has [electric and hybrid buses operating](#) (which don't need the overhead wires of trolley buses, which I imagine can be a maintenance problem in a place like Toronto which has ice and snow in winter, but on the flip side they don't require large batteries).

Australia in general and Perth especially can be slow to take on new things and tackle environmental issues. For example, giving away free plastic bags for shopping was banned in Toronto 13 years ago, and in Perth only about three years ago. If there isn't an urgent need for change it often takes a while to reach here.

I can't recall when Australia Post brought in the electric three-wheelers to replace the what I recall (I think) were Honda Mopeds, I suspect this isn't an initiative by AusPost specific to Perth, I imagine that these small vehicles are being rolled out nationwide.

Gareth: Ah, the bus type you are referring to in Toronto is a trolley bus. They work well, in the right context and setting – I'm a fan of them, usually.

Is there anything else you'd like to mention about rail transport (which as you mentioned earlier, works well)? It strikes me that Perth city centre is an excellent candidate to have tramlines or a light rail system in place. I could see such a public transport offering fitting in well, linking to the main train station – similar to how Sydney now has (after what was admittedly a challenging project to implement) a light rail in place. I wonder if the City of Perth has any current plans for this (I noted some information online about a review in 2017-19 but couldn't find anything else ⁴) – it could encourage people to stop using their cars into and in the centre, perhaps.

Chris: There was talk about light rail at some point, but it seems to have taken a back seat. The big project body governing new rail is called Metronet and there is quite a bit of construction going on in the network including a link to the airport which I think you used when you came to town in December 2022. I don't see the need to have a light rail system in the CBD at this point, the place is too small and is more than adequately serviced by a free bus service (black cat, red cat and yellow cat) that moves people about really well. Again, congestion in the CBD isn't that high even at peak times and if you are off peak it's nearly non-existent.

I think a better approach would be to build a bike / scooter lane system in the CBD (noting my point earlier that we can still get around on bikes today in the CBD as it is), and perhaps sign a contract with one of the e-scooter companies. I wonder if Transperth tracks the usage of the Cat buses; I suppose if they were full often then it would be worth the infrastructure, but my suspicion given the people movements in the CBD is that the infrastructure would be empty for much of the time.

There are some corridors that aren't serviced well by trains though, and perhaps these could be potential candidates for light rail if the space and economics could work. I am thinking in particular about the Canning highway from Fremantle to the Canning Bridge (the Fremantle line does an okay job of coverage across suburbs north of the river, however there isn't an equivalent south of the river) Maybe a line there could reduce bus / car activity, especially if it was integrated into the Mandurah Line (railway line) at Canning Bridge (although that train tends to be very full by the time it reaches this station).

Gareth: You make a good point about the free Cat bus service – I didn't realise it was free to use. It's good to see that the city makes it available. Some US cities, including recently Washington DC, are implementing / trialling free buses. I didn't realise they were free to use.

Despite all of this, I have the impression that the transport & mobility hierarchy in Perth is still dominated by cars, and that most of them are still fossil fuel-powered rather than EVs. I appreciate that changing a transport & mobility hierarchy takes time and it's not easy. I wonder if the City authorities are leveraging experiences from other cities that have changed their transport & mobility hierarchy and have created quieter, better environments, such as those in the Netherlands.

Chris: I'd agree that in the Perth mobility hierarchy the car still rules, although I'd also say that there are examples of where people choose public transport. For

⁴ Metronet WA [update on light rail](#)

example, the Mandurah to Joondalup train line is popular with commuters as they get frustrated with delays on the freeway that mostly runs beside the railway line or commuters can be more productive on their longer commutes.

The Perth CBD is pretty quiet and free flowing most of the time, and even the north-south highway constraints aren't enough for some to get out of their cars and into other modes of transport. Electric vehicles (EVs) are ideal for the commuting public because these vehicles do not need a charge during the day while they sit idle, and typically having more than enough charge for most Perth daily commuting. The challenge with EVs is when using such a vehicle for getting out from Perth for longer distances, where there is limited or no EV infrastructure in rural areas, and with those areas being three to five hours drive from Perth (or longer).

While our rural EV infrastructure should be improved, I think the best thing for the environment is to get people out of their cars (EV or otherwise) and get them into public transport (electric or otherwise). Ultimately using a vehicle to transport one person can't be as efficient as using public transport or using your own energy (maybe that's where the electric scooter can reign supreme?).

Gareth: I haven't seen many electric vehicles (EVs) in Perth (cars, delivery vans and other forms) – just the odd Tesla now and then (which I know are comparatively expensive to purchase in Australia). As you say, I appreciate that people in Western Australia have long distances to get from one city / town to another, and I haven't seen any public infrastructure such as charging stations in the streets. Petrol (gas) and diesel prices are pretty low, so I guess there is no compelling case for people to switch to EVs? I wonder if the City of Perth is thinking of purchasing EVs to provide an example. Maybe City investment in mass transit should be a higher priority, in any case. I also don't see EVs as being the answer to solve our transport problems, because it still requires resources to build them. I'd rather see less cars on the road, overall, but that's just my view.

Chris: *You may not have seen many EVs on the roads in Perth, but I've seen a noticeable change in the last two years, with the introduction of the Tesla Model 3 and vehicles like the Hyundai IONIQ which have brought the price down and the driving range on a single charge up. That said, I'd imagine we don't (yet) have as many as what might be on the road in Europe or North America. We have seen petrol / gas prices as high as A\$2.50/litre and diesel as high as \$2.70/l which is significantly higher than the A\$1.40 to A\$1.50 that we have seen traditionally (it's now gone down from these highs). I think this volatility bringing more people into the EV fold.*

But as you say, and as I mentioned in my last point, there are big distances in WA to cover and in some cases, you are in extremely remote areas where you not only need the range, but you also need a very reliable vehicle. I think that's why the old Land Rover Defenders and Toyota Land Cruisers are still so popular here – they keep going for ever. There is some charging infrastructure between Perth and Margaret River, but it isn't a lot yet. I haven't seen plans to keep building it – yet.

Perhaps the need for mid-route charging infrastructure can be mitigated if there is good and plentiful fast charging infrastructure at your destination. Most EVs now

have, I think, a 400km or longer range – that can get you from Perth to Margaret River (but not Geraldton or Albany or Denmark, or Augusta or any point north of Geraldton) and if you have your own property, you can have your own fast charging capability built in. Otherwise it's the low speed kind through a regular plug. I'd be curious what Airbnb hosts would think of EVs charging overnight at their locations.

Gareth: Great point, about Airbnbs for EV charging – I hadn't thought of that (here or elsewhere). Let's discuss the **built environment** part of the physical system of Perth now. By the built environment, I mean the city that we, as people, have built with materials such as bricks, concrete and steel, and the utilities in place to service it.

As we discussed earlier and from what I have seen on my most recent visit, there isn't a huge amount of inner city living – most people seem to live just outside the city, in the suburbs (with a short commute in). I wonder if there are standards in place to ensure that buildings are built in a sustainable way, with consideration given to materials in construction and operating efficiency? Plus, perhaps inevitably, how well linked up is the city's physical system to its management of water?

Chris: *There are more apartments being built in the CBD in the east end of the Terrace, and there has been an increase in apartments in South Perth, but yes, it's been slow. One of the universities is building a student campus adjacent to the Perth train station, which I suspect will bring more people to the CBD. That said, as I said earlier the CBD can be a hot place just because it isn't right on the coast and a lot of people live close to the beach for the cooler temps and for the Australian dream (big house near the beach)*

Also, Australian house construction from an energy perspective has a long, long way to go. In Perth the dominant single dwelling construction is what is known as double brick, essentially two courses of brick side by side with an air gap in between (we talked about the lack of wood used in construction earlier). In a traditional 'federation home' (which are great-looking houses), the walls would have been protected by a veranda or porch around the house or on the major sun facing sides to prevent direct sun on the walls. For one reason or another, this old style of construction is fading and as a result there is limited thermal efficiency mostly due to there being too much air movement between the outside and inside across the wall and the solar loading on the walls basically turning the walls into an oven in the summer and a refrigerator in the summer after consecutive warm or cold days. We like to think of ourselves as quite energy conscious and rug up in the winter months to avoid heating except for extreme conditions, but I have never been so cold or hot in a house in my life as I am in Australia. The houses we have lived in have lost heat like a sieve, even in a mild winter climate.

And again, I think we see the effect of having multiple councils that set guidance for their areas on the design of houses and approve plans for building. It does not appear to me that we are yet constructing houses to be more thermally and water efficient. I'd be very interested to understand the number of square metres per person per household across various council areas given we know it costs more to heat/cool a bigger house on average. There are examples of good design popping up which is exciting, using the sun and its movements to help keep the house cooler in

summer and warmer in winter is quite exciting to see but sadly it doesn't appear to be a requirement and seems more up to the owner.

Gareth: Interesting point about the house construction – I appreciate that. I remember from my time living in Sydney many older properties being rather poorly insulated, for both hot and cold weather. I will be interested to see if the Perth CBD area changes from its focus on commercial property. I think of some American cities that are finally starting to change their downtowns to be better social areas for living.

Chris: As I said it is changing, but it's more towards the eastern end of the terrace and as the CBD expands northward. For example, there is a condo being built beside the RAC arena which is in the heart of the city. There are also a lot of apartments above the low-rise commercial and retail spaces along the various malls that are tucked away. But there is a long way to go to replicate the density of housing in the CBD that you see in many other cities (in Australia and elsewhere). But again, to live the Aussie dream, why would you live in an apartment in the city if you could live in a house (often a large house, since there is space aplenty) by the coast?

Gareth: I saw some good designs of public benches and tables (street infrastructure) in the city shopping area. I wonder if these areas could be augmented with more green and blue infrastructure – mini gardens and plantations.



Photo of CBD street furniture by author

Chris: *There are a few mini-gardens but they are often tucked away behind buildings. The one thing that Perth CBD has is the green belt around the 10km of foreshore immediately to the south around the Swan river, which has different uses not to mention Heirisson Island right in the middle of the city, which hosts a group of kangaroos!*

There were some water features at Elizabeth Quay, but they had challenges with water quality. The other thing in Perth is that in summer the evaporation rate is so high that open water nearly disappears before your eyes (the water in a teacup will dry up within an hour or two in peak summer) so I think the blue features have been few and far between.

Gareth: Good point about the local context of Perth when it comes to water management – I didn't appreciate that. Context is always key – and of course, you have the wonderful coastline on your doorstep.

Indeed, one of the things that I really appreciated during my visit to Perth in December 2022 has been the splendid Indian Ocean coastline and natural environment that is just outside of the city. Given this fantastic coastline, what opportunities relating to **the ecological system** do you think exist for Perth, and are there good examples in this city that other cities and towns can learn from? I noticed that the city centre has a few good parks (Kings Park on the perimeter is large and tremendous, and Stirling Park in the centre is a fine small park with some superb local greenery including some huge fig trees). I didn't see any "micro parks", and apart from the parks, I haven't seen much greenery in the city (just trees), nor blue infrastructure (fountains, etc.). Are there certain ecological features local to Perth that the city could really crow about and demonstrate?

Chris: *I think the big ones are the foreshore areas around the Swan and Canning rivers, usually connected with the shared paths and numerous parks all along them as well as Kings Park (400hectares with 2/3s being protected bushland) and the endless coastline. For the most part, if it's land next to the river or coast it's been reserved for everyone in society to use and this is defended pretty well. Yes, there are some big houses, but they aren't usually right on the water, the public space is. Pretty much every suburb has its small park or oval. Point Walter reserve is also rather special.*

What this means is that if you live near the river or ocean, it's highly likely that you have a public space that's very near you that you can enjoy with family and friends.

Gareth: Is there anything else that comes to your mind about Perth as a "learning point" for other cities and towns, Chris?

Chris: *I'd say the transport and share path network is really something for Perth to crow about. The shared paths (which are still being developed) already connect so many parts of the city that you can really go just about anywhere you like and for the*

most part stay on the path or quite roads and connects well with the various public transport hubs. There are several secure bicycle storage locations alongside the train stations, so if you wanted to ride to a station vs. drive you could do so and not necessarily worry about your bike being out in the open.

I'd also say that having Kings Park plus all the reserve space alongside the rivers is quite special, often in cities those areas are for private use only and quite high priced, here it's for all to enjoy.

Gareth: For my last question, what's the one thing you'd like to see focused on in particular in Perth in the coming years, up to 2030?

Chris: I think we should continue to bring a systems approach to transport, thinking about how to get people out of their cars and use alternative modes of transport for all or part of their journey.

Keep the local council high streets alive with local grocers, butchers and various small shops so that people don't have to travel far and perhaps can walk to get their shopping done.

Tackle the problem of the too many councils, it's a big transition that cities like Toronto and Brisbane have made, and I think it's worth it in the end if you want to have a cohesive long-term strategy across a city.

Explore using the river for transport. Connecting UWA to the southern suburbs via the river would remove some traffic from the Kwinana Freeway corridor between the Canning Bridge and the Narrows. I'd also consider points on the southern river as far west as Point Walter or even Bicton, bringing proper speedy transport into the CBD for those suburbs along the Canning Highway.

Gareth: Your points above have me thinking about the "15-minute city" – for all things we need to be locally available in 15 minutes' walk or bike ride. Indeed, maybe also the "[one-minute city principles](#)" that certain parts of Scandinavia are implementing and benefitting from.

Thank you very much for your thoughts and perspectives as a citizen of the City of Perth, Chris. As someone who has had the opportunity to visit in late 2022, I am keenly looking forward to seeing how it continues to evolve and move forwards.