The expert view: changing our relationship with the car

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Interviewee: Arthur Kay – Board member, various (Transport for London, Museum of the Home, Fast Forward 2030), Author, Advisor at Innovo Group and Associate Professor at UCL

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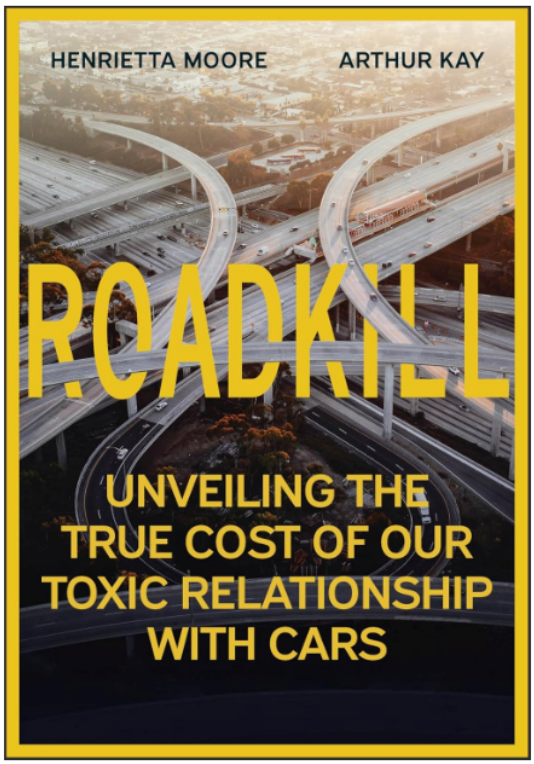


Arthur,

Thank you for making the time to talk with me about your work and in particular your book, Roadkill, co-authored with Professor Dame Henrietta L. Moore of UCL which focuses on our relationship with the car and whether it needs a reset.

Could we start this interview with a brief outline of your background?

Arthur: *Thanks for the opportunity to hold this discussion. I studied architecture. My main focus is on creating solutions for sustainable cities. I work as an advisor to support various organisations that are involved in this field, including an advisory role for Innovo Group, Board Member at the Royal Academy of Engineering, and Transport for London (TfL), the Museum of the Home, and Fast Forward 2030, which is a network I co-founded with Professor Moore, hosted by the UCL Institute for Global Prosperity, to help support entrepreneurs who are working on ideas to make a social and / or an environmental impact. I am also an Associate Professor at the UCL Institute for Global Prosperity.*

Gareth: Thanks for this context, Arthur. Let's focus on your new co-authored book, Roadkill. It contains many points that link our use of cars to how we think about, design, build and adapt cities and towns around the world (as you point out in the book, about one billion of the roughly 1.6 billion cars on the road today are in cities).

What were the core reasons that led to you write this book with Professor Moore, and what do you hope that it contributes towards?

Arthur: *I've been lucky to work with Professor Moore since around 2015, including co-founding Fast Forward 2030. Our book Roadkill is based on ideas that I have been passionate about for some time regarding the role of the car in the city, and I know Professor Moore has a keen interest in this topic also.*

The book is focused on the role of cars in our cities and urban contexts. We do not look at or discuss the role of cars in the countryside or the linkage and importance of cars to people who depend on them for their living. Writing about the car in the city and the impact it has to urban life may sound like a niche subject, however, we think it is a broad ranging and important matter to bring to people's attention. In our research, we discovered that there are roughly one billion cars in cities around the world today, so it is a subject that touches on the lives of a great many people. It has been estimated that, in 2024, people collectively drove about 17 trillion miles (or 27.35 trillion kilometres).

Owning and using a car is a large part of our lives – most obviously in terms of the time we spend in them and their impact on our wallets and disposable income. Cars have a range of other impacts on us that are important to consider. They affect our life expectancy, to give just one example. Car accidents are responsible for a great many deaths and injuries, and our collective use of cars (including electric-powered ones) shortens the lives of people all around the world because of the emissions and particles they release (many studies exist that show this). Cars are the biggest producer of air pollution and the biggest emitter of carbon.

When we think of owning and driving a car, it seems like a mundane activity of the modern day – the car exists, we drive it to get around and we park it when we don't need to go somewhere in it. We argue in the book that we have become "car blind". We don't see the full impact that cars have, and the story of the car that is literally right in front of us.

We chose the book subtitle "Unveiling the true cost of our toxic relationship with cars" because we feel that if we simply accept what the car is as we go through life and we don't consider its full impacts on us all, we are not engaging in an important discussion about what overuse of the car is doing to us in all manner of things, particularly in cities and towns. Many of us have grown up with cars all around us without questioning if our reliance on this form of transport in the urban setting is right. We are not suggesting for a moment that cars should be banned, I want to stress – rather, we believe we should give careful thought to how we use them in the urban environments of our cities and towns, and whether it makes economic sense to reduce their use in these places.

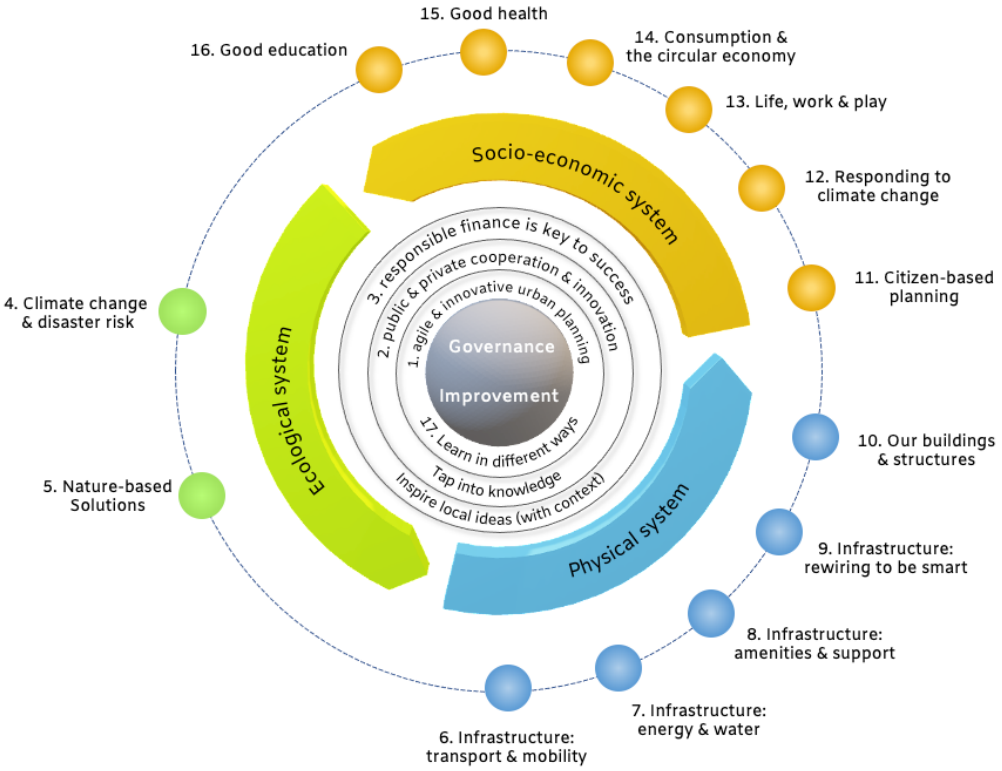
When I talk about this subject (remember the point about there being approximately one billion cars in cities today), I am reminded of [the parable of two young fish swimming along] when an older fish swimming the other way asks them: "Morning boys. How's the water?" The two young fish keep swimming, then one of the young fish turns to the other and says, "What the hell is water?"

This parable represents the idea that, in the context of the car, we have in recent decades grown up with the car being seen as the default way of getting around, including in our cities and towns. We see and hear them everywhere. A key inspiration for writing Roadkill was that this is a decision we have collectively made, which we can unmake if we want to.

Gareth: Thanks for this explanation, Arthur. The distance driven in one year (2024) of 17 trillion miles, or 27.35 trillion kilometres, is a mindbogglingly large number – by my calculation, it is almost three light years!

Car ownership is high in developed economies, and it is on the rise in many developing economies, so perhaps the amount of driving people do will go even higher. As you say, a way of life has built up around the car in cities and towns, and whilst the car has brought many economic and societal benefits, it has also brought problems and challenges including safety, health, inequality and a negative impact the climate and the environment (which includes electric vehicles, or EVs).
When we look at the car and how our urban environments need to evolve, can systems thinking, to look at the car's place across the urban system, help us work through the pros and cons of cars and new ways to look at urban car use that maximises prosperity for everyone?

The Urban 2.0 system (image by G Byatt)



Arthur: *The nexus of car use is incredibly complex, which is why looking at it in a holistic and multifaceted way is important so that we can understand the impact of our decisions on car use on all aspects of life. In the book, we talk about it being a Gordian knot. One of the challenges, and also one of the impetuses for writing the book, was that many published books that discuss cities, urban design, architecture and transport touch on certain aspects of how the car impacts our urban life, and we saw an opportunity to bring things together in a book. To give you another parable comparison, we saw a discussion about the car being included in books in a way that was like a number of people wearing blindfolds and being asked to describe what they're touching, and because they are focused on specific areas they are not aware that they are all touching different elements of the same thing (the parable I am referring to is The parable of the blind men and an elephant).*

Henrietta and I reviewed a lot of literature through writing the book. The more we dug into different things, the more connections we saw between the car and aspects of life. For example, people's stress levels, mortality statistics, a reduction in fertility rates that is linked to a reduction in urban air quality, and the extent of loneliness in cities, which started long before the rise of social media – it is linked to designing cities around car use, including urban and suburban sprawl. Car use is linked to the cost of living crisis too: the two biggest line items in our cost of living are housing and transport and being car dependent through urban design means you bake in the costs of car dependency into it.

Cars are a major part of international trade and economics, of course. Regarding trade tariffs, a huge part of them is focused on the manufacture, import and export of cars. The wide range of raw and processed materials that go into making cars including many metals, plastics, glass, electronics and many others are impacted. And of course there is oil. We often talk about oil as a separate resource, yet we know it is intrinsically linked to the car (and other aspects of life, including other forms of transport, energy, textiles, plastics and others). We have introduced in the book a term called "the car-industrial complex" to describe all the parts that link to the car to get us to think about the impacts – which you could say is a form of systems thinking.

Gareth: It's an important point you raise, Arthur, about the many linkages that the car has with so much of the materials that are extracted and processed, and the many ways cars impact on our lives.

Many people associate cars with freedom, and status too. You thread into Roadkill some philosophical points about the concept of freedom – of how society has come to associate cars with it, and whether this association – in the urban context – is right. I have talked about this concept of cars and freedom of movement and efficiency of travel with various people including interviews with Professor Susan Handy of UC Davis and the urbanist Alain Bertaud.

Philosophy is an important consideration to why we do things. For thousands of years, we have formed cities for protection and for social interaction, as social beings. Yet to some extent, we have moved away from this social interaction, which seems to be leading to the types of problems you mentioned earlier (loneliness, health problems and others).

It also links to the point you made about how we nowadays grow up with cars around us without questioning if our reliance on them is right for a prosperous and health life in a city or a town.

Arthur: *Going back to my point about most books that are written about cities and towns and urban design, they tend to be written by transport planners, architects, engineers, academics, think tanks and urbanists with certain perspectives. Nothing wrong with this, I hasten to add, it's just that when it comes to certain aspects, the reason why we do what we do isn't always covered.*

I don't think there are many urban books written by philosophers, historians or anthropologists. Henrietta has provided a rich philosophical grounding and framework for our book Roadkill, and philosophy is the foundation of our approach. We do ask up front in the book – Why philosophy? Well, we have sought to bring people along the journey and not jump straight to technocratic and point types of solutions and conclusions, part of which is a philosophical grounding and a discussion of what freedom really means.

Professionals in technical disciplines such as architecture or engineering will usually be orientated towards finding solutions, with design and planning. There's of course a valuable place for this, but we need to think carefully first about why we do what we do and not impose solutions on people. We need to involve everyone who lives in our cities and towns in the discussion before we steam off and busily make new plans and build new things. The people who live and work in local urban areas face the realities of life daily and they should be engaged to let us know what they think and what their ideas are so that we can look at what we can collectively do to improve urban life (context to each area is key, I hasten to add).

We decided to write the book from the perspective of people who lead busy lives and for which, when it comes to their transport options, the car can seem like the most obvious choice for many things. The opening chapters start with the perspective of freedom and what the road to freedom looks like; we then look at practical everyday matters of time and money; then we discuss health and happiness. Only after we discuss these three aspects do we review the car in the context of city and urban design and some of the challenges we face with solution options and different approaches that are being trialled and used around the world.

We are not saying or suggesting that we should ban cars, whether they are fossil-fuel powered or electric. Whilst we certainly discuss the environmental impact that cars have on urban life, a key point we make is that these discussions need to be stitched into how we can live well in urban places, which means looking at car use within the overall urban system. We discuss environmental justice, air pollution and public health, and we link these points to how we can increase our freedom of choice in urban environments by resetting our relationship with the car, not banning its use. As I mentioned earlier, we chose the term "toxic" in the book's subtitle because we are focusing on how to change what we think has become a toxic relationship with the car. If we have a toxic relationship of any sort, we need to work out how to deal with it in an open and constructive way, and to appreciate that there are no silver bullet solutions.

Gareth: I appreciate the outline of how Henrietta and you have structured Roadkill, Arthur. Your point about philosophy and anthropology reminds me of discussions I have had with urban anthropologists, and the importance of this field in city design and management, in municipalities such as Bordeaux in France. Plus, discussions about how urban social structures can be stitched into urban planning. Urbanists such as Alain Bertaud point out that whilst we build new parts to our cities and towns, most of what we deal with in mature cities and towns is already in place and we have to work with it and change it in a way that works for everyone.

You have also brought to my mind good books written decades ago about urbanisation and social linkages, including The Death and Life of Great American Cities by Jane Jacobs (first published in 1961) and The City in History by Lewis Mumford (first published in 1966).

I'm an advocate of involving everyone as best we can in how we evolve the urban places where we live and work, using principles such as those set out by Gil Peñalosa, Founder of 8 80 Cities and Cities 4 Everyone. Sometimes, an "urban diagnostic" (I'm not seeking to sound technocratic here!) can help with a review, as I have discussed with people in Arup and UN-Habitat.

If we can hold a discussion about "why" we do what we do in the areas where we where we live and work, we can talk about how to find joy and appreciation in life by collectively looking at different ideas to achieve this.

The parts in Roadkill that discuss how we can reclaim our streets and "the car in the city" rightly remind us that streets are public spaces for public use, and that they are much more enjoyable spaces with less cars on them: they are quiet, pleasurable, they air quality is good and they feel safe.

Arthur: *I think that's exactly right. As you say, going back to the founding principles of why cities evolved in the first instance – around density and an agglomeration of skills and talent, and opportunity through socialisation in all ways – is important.*

It is curious that the way we have adopted the car in cities and towns has reduced a sense of community and it has slowly divided us physically over time. The car itself hasn't done that, it's how we have chosen to adopt and use it.

Gareth: Let's move on to the "solutions" part of the book. You discuss some practical, quick and low-cost ways for city and municipal authorities to trial and implement to reduce car use and provide good other ways for people to move around, including long term structural changes to infrastructure and streets. There is a lot of research that demonstrates the environmental, health and equity benefits of designing new and redesigning old city and town streets as areas of social interaction that promote active travel (walking and cycling, with provisions for people with physical mobility restrictions) and good public transport. However, in many (most?) cities and towns the individualistic nature of car use rules.

At the rear of the book, you provide some human-scale infrastructure solutions and options to change streets such as road overcapping, which some people might not have heard about. Going back to our point about dealing with what exists, you give some examples of looking at existing assets differently, such as changing car parking spaces to social areas and changing petrol, or gas stations, to small parkland and potentially doing something above them in the airspace as well.

We also know that if we can live with each other and also be close to core amenities and services including healthcare and education (whether we call this design a “15-minute city”, a “compact city” or something else), we don’t need a car for daily needs. Whilst urban planning and zoning is often slow to adapt and change, if we have the will, we can drive change to support “compact and interlinked neighbourhoods” and an urban design that provides people with urban freedom without the need for cars.

Arthur: *Exactly. It is interesting to think about whether there is a single point of failure in how we use cars today in urban environments. I’d say that it is not the invention of the car that is at fault, but the rapid scaling of our car adoption. The car has been a tremendous invention for many reasons as we discussed earlier, but how it has been scaled and the impact this scaling has had on how we live has caused problems.*

When the car was invented in the late 1800s it was a relatively niche form of transport. It was at that time, and for the first few decades of its use afterwards, a new option for those who could afford it, as part of a rich and diverse range of transport that people had available to them to move around urban places. We all know the car has since become the dominant form of transport, to varying degrees around the world (think of the old photos of cities in the early 1900s showing just a few cars around, and how quickly the situation changed in the decades afterwards).

In the space of 100 years, we have gone from a million cars on the road to 1.6 billion cars, one billion of which are in cities. This is enormous growth and scale, and if we are to change things to reset urban life with less car use, we need a range of solutions, some of which we describe in a “crib sheet” in the book. Some options are generally known about, and some are hard to achieve (for a range of reasons), such as providing a more extensive, reliable, safe and affordable public transport / transit system. Some suggestions we make may be seen as niche, however, perhaps they can be the basis for targets and indicators to think about. We talk about an idea to focus on reducing the gross tonnage of cars, for example, which in the real world could mean families moving from a four-car household to a three-car household or from a three-car household to a two-car household. It could mean buying small, compact and second-hand cars for limited urban use. We want to encourage awareness of different options and to help people think about the facts in terms of car costs and to equip people with tools and suggestions to make proactive decisions to incrementally change our lives as part of a community that could make you less car dependent over time.

Gareth: Thanks for these examples to change our toxic relationship with cars, Arthur. The example of reducing the gross tonnage of cars is interesting (it certainly relates to the scaling of car adoption) – it gets me thinking about what the best types of indicators can be (across the urban system) to improve urban environments, something I have talked with Alain Bertaud and others about. Perhaps we could have "cascading targets" that are interlinked and practical to measure and monitor, measured at a city and locality level through to state, national and global levels.

The car-industrial complex, and the lifecycle cost of car ownership which we talked about earlier, are important matters to think about.

You provide some examples in Roadkill of lifetime cost of car ownership over a 10-year period in a few cities around the world. Loans, maintenance, insurance, tax and a host of other things are required which result in a total cost of multiples of the car itself. This analysis reminds us that the economics of car ownership run broad and deep. Given all the economic factors of the car-industrial complex, changing it requires a raft of actions on a range of fronts, and making any changes to this that reduce the size of commercial outcomes will be a challenge.

I wonder if businesses involved in transport – including car manufacturers and the eco-system of businesses that support them – could see benefits to devoting resources to developing technology for active and shared transport that contribute to moving urban street life away from individual car use rather than developing tech such as full automation of cars and VTOL development? Perhaps it could be good strategic business diversification for them.

Arthur: *It's an interesting point. If you look at how car manufacturers typically make their profit, only a relatively small amount of gross profit is derived from selling new cars. They achieve a greater proportion of profits in the package of services around the car, which includes things like finance and aftercare. Indeed, I found it interesting to trace the history of the invention of the auto loan back to General Motors in 1919. Car financing has grown hand in glove with the car industry itself.*

The way we think of financing and economics is critical to how we move forward with car use in urban areas. We know that in recent decades many people find it normal nowadays to commit a significant amount of their income for the privilege of owning a car. Whether car manufacturers are looking to change their approach, time will tell. We see lots of established and new (especially Chinese) brands continuing to sell cars, and we also see a push towards a "mobility on demand" model. For example, the robotaxi is being put forward by Tesla as an important part of their business model along with other forms of autonomy. Whilst there could be benefits from mobility on demand relating to having less cars on the road if it was adopted widely, and a potential for less gross tonnage of cars on the road and less cars that are sitting idle to maximise usage, we are still somewhat doubtful about it as a solution. I'll explain why.

We point out in the book Jevons Paradox, which is an economic term named after the mid-19th century by the English economist William Stanley Jevons. He looked at coal usage at the time and predicted that, with a continued increase in the efficiency of coal use, the outcome would be less coal use because of the efficiencies gained.

However, the opposite happened – as coal use became more efficient and more economical to use, more people used it as the world population expanded, and economies advanced. The amount of coal usage broke records in 2024, and analysts say we are still not yet at "peak coal", even though we know it is bad for the environment and that clean energy is on the rise and some countries such as the UK have closed coal power stations (the UK fired up the first one in the world in 1882). It is one of the many paradoxes that exist in our modern economy.

Gareth: I will keep Jevons Paradox in mind, Arthur (my August 2025 Newsletter focused on clean energy for urban places, as it happens). Let's talk about the challenge of making long term change in car use happen.

I have talked with people who research and analyse transport and street design of cities and towns, and I liaise with transport consultants who help city and municipal authorities with their transport design and structure. Many people I talk with who work in and research urban planning and design tell me that it takes a compelling long-term vision and strategy and strong leadership to dislodge the car from the top of the transport and mobility hierarchy – with, of course, something good to offer in its place.

We know there are examples of changes in car use taking shape. Top-down action seems a common method to drive such change, with an acknowledgement that it is hard and it won't please everyone. Governments and municipal authorities around the world are taking different approaches towards changing car and street use, to varying degrees of success. Some cities such as London have congestion charging and "low emissions zones" in place as part of encouraging less car use. Some cities have tried and failed with this approach. A few like Singapore tightly control car ownership numbers and charge hefty amounts to drive a car (even so people still drive). Other cities are laissez faire. Small towns and municipal authorities may have other urgent priorities to deal with to balance their stretched budgets.

Governments and municipal authorities receive revenue from the whole car-industrial complex, and it collectively employs a lot of people. If governments and municipal authorities succeed in lowering car use and ownership in urban settings, knowing that tax receipts will fall if so, will other forms of transport that provide good freedom of movement stack up in economic terms? I would like to think so, with good systems thinking.

People can be uncomfortable about change, and they may see restrictions placed on their car use as restraining their freedom. How should we address such fears? Is it feasible for city and municipal teams to organise an extensive discussion campaign about this, organising citizen-led forums in areas where people already gather (not asking them to go to "city hall" at 8pm) to discuss what an equitable and integrated society looks like, and what this means for our use of cars?

Arthur: *Let's return to our big picture view of the car-industrial complex. As you say, there are powerful economic drivers at play that we need to think about. We know that owning a car is an expensive outlay for people over time – the initial purchase and throughout the lifecycle of using it.*

We also know that, even whilst cars sit idle for much of their useful usage, which is a waste of resources, authorities receive income for cars parked on streets and in car parks, and road tax around the world applies whether a car is mobile or stationary.

Professor Ed Glaeser of Harvard University has written a fantastic book, The Triumph of the City. Ed, who we interviewed for our book, has carried out some very insightful analysis at the Department of Economics at Harvard where he teaches. He looked into autonomy and increased car idling. Taking the Jevons paradox as a principle, he has observed how the "cost of vehicle idling" is falling because it is typically looked at in person hours of time. He argues that there is likely to be a change in the extent of vehicle idling, because why would you pay money to park a car in a parking lot when you can have it inexpensively trundling around at, say, 6mph (9km/h) around your block. We can see this playing out when we look at what's happening with driverless cars in San Francisco today and some other cities in the US. There is a complexity in terms of how this will evolve, and nobody has the answer, but what we are arguing in our book is to not be fooled by the car-industrial complex saying that it can resolve all our problems with new tech.

Peter Norton is a respected academic who has written an excellent book called Autonorama, which is based on the Futurama exhibit by General Motors at the New York World's Fair of 1939. Norton writes about how the car-industrial complex has recreated itself on roughly a 25-year time period. Each time the industry acknowledges that "today's car" is in need of improvement, acknowledging its use causes congestion, air pollution and other things, but now, if you buy "our next model" it will take away the problems created by the old ones with many advantages over old cars. It is basically just selling the same dream again and again.

Gareth: It will be interesting to see how the auto industry develops as the discussion about urban car use evolves. As you point out in Roadkill, we can learn from the past to help us develop new and equitable ways forward. Good governance with strong leadership includes listening to sceptics and being open to different viewpoints. Appreciating that cultural and societal norms differ around the world, what steps can we take to properly engage people and communities effectively in design and planning for the way forward, to hopefully change our relationship with cars? Not ban them but, rather, change our relationship to one that reduces our dependence on them.

As part of this, I wonder if technology has a role to play in this type of citizen engagement. For example, providing people with interactive ways to experience new transport and mobility ideas in a "safe environment". I realise it costs money, and money is scarce. Perhaps a testing environment such as UCL PEARL in London can help, and inviting people to interactive experiences with maybe Virtual Reality headsets to try things out at Urban Future Centres that are equipped with walk-through large digital screens to engage the senses in what a future of transport could look like, and how it could benefit us all. I hasten to add here that low-tech discussion forums also have value.

Arthur: *Technology can certainly be a valuable tool as part of our engagement. I'm always cautious about framing anything, especially technology, as a silver bullet. What we argue for in the book is a range of solutions for which technology can play a part. I'm a fan of keeping things simple when we can. Some places still need what others think of as the basics. A lot of places around the world do not have a decent pavement / sidewalk.*

For sure we should keep refining and incrementally improving cities that are already working towards reducing car use, like London or Paris. I sit on the Board of Transport for London, and our ambition is to have 80% of trips made by walking or public transport / transit by 2041. We're currently at about 65%.

The big and gnarly problems for reducing car use globally are around how we knit together neighbourhoods that are currently fractured by designing for the car, and that are far from having even the basics about how you achieve this in place.

How we use technology is part of finding a solution, but it is not a silver bullet. We need to focus on prosaic, simple and old-fashioned discussions. For example, can we engage people about having corner shops on street corners (and to encourage the economics to make it happen, with good policy). Let's think about and discuss with people some of the simple parts of what makes a 15-minute or compact city work.

Gareth: Thanks for these views, Arthur. Your point about focusing on having the basics in place and building from there makes me think about the many small and mid-sized cities and towns in the developing world that are expanding fast and that have a lack of control on how they are expanding. I am not suggesting that cities need or should be centrally planned in all aspects, but the formation of their structure and their streets and neighbourhoods will impacts how cars will be used in these expanding urban places. Fast-growing cities like Mekele in Ethiopia, for example.

Thank you very much for your thoughts and perspectives, Arthur. I look forward to continuing to follow your work.

Access information about Roadkill here.

