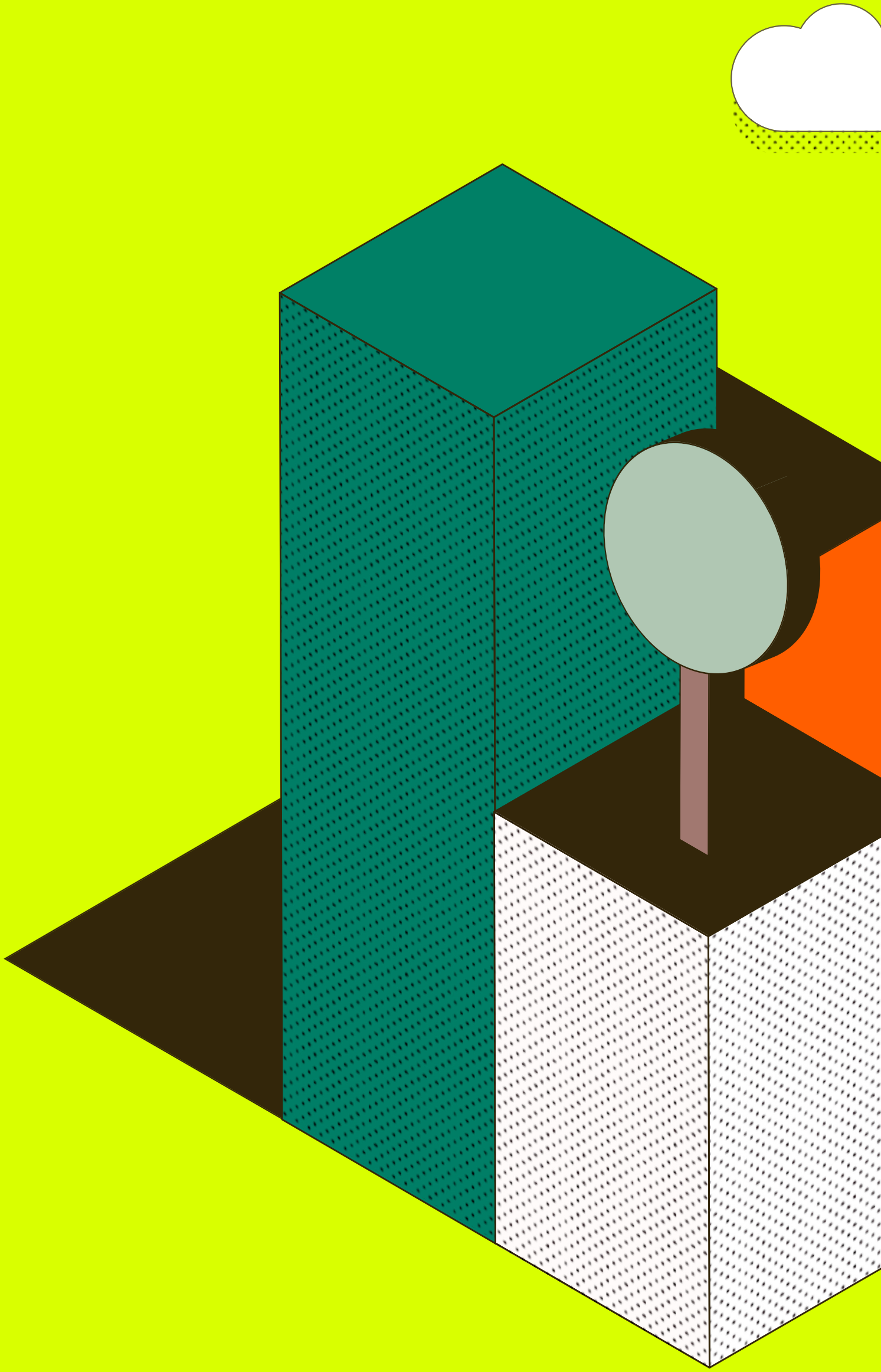
MOBILITY AS AN ECOSYSTEM



MAP E–PAPER 02

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Introduction

Mobility is one of the undisputed economic titans of our global economy. According to statistics aggregator IBIS World, three of the top 10 global industries in 2020 related to automotive alone, and when you add shipping, aviation, rail and public transport to the mix you have a sector that runs into the trillions. This financial might is testament to the powerful human desire to connect, migrate, trade and travel.

The Covid-19 pandemic has radically disrupted so many of our global systems, but perhaps none more so than mobility.

As nations tentatively emerge from lockdown, we stand at a crossroads of connection. Do we return to the same unexamined systems of mobility as before, or do we acknowledge that many of these legacy approaches are no longer fit for purpose? Covid having only dealt the final blow to transport infrastructure that should have been rethought long ago.

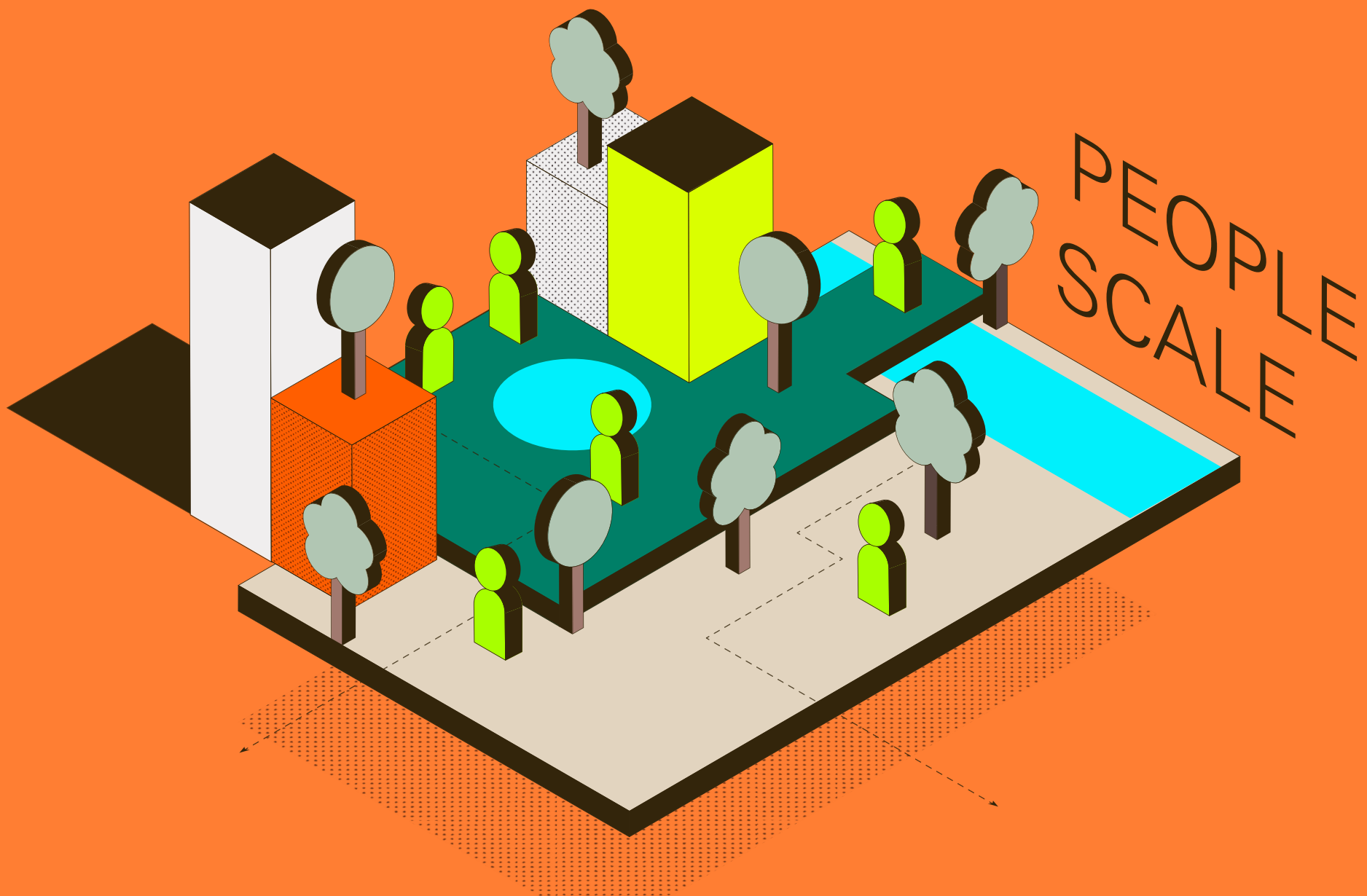
Is it possible to use this global moment to move to a more holistic, systems-based approach to mobility? Even before the pandemic, much of the focus around mobility seemed to have removed humans from the equation. We have become obsessed with technological innovation and high-profile design solutions at the expense of human needs and community functions.

For decades now, mobility has been taken for granted rather than being approached as a global ecosystem that requires constant consideration and reinvention.

As we cluster into ever denser urban centres (with 70 percent of the world's population forecast to be city dwellers by 2050) we need radical ideas rather than conservative iterations.

At Map we would argue that radical thought in mobility is less about EV's, self-driving cars or A.I. enhanced vehicles, but more about reclaiming public space for people – transforming our cities from 'car-scale' to 'people-scale'. Helping to connect people to the journey, the environment as well as the destination.

To thrive in the 21st century, those of us responsible for defining the built environment need to focus on resilience: the capability of individuals, communities, institutions and systems to survive, adapt and grow no matter what kind of chronic stress and acute shock they experience.



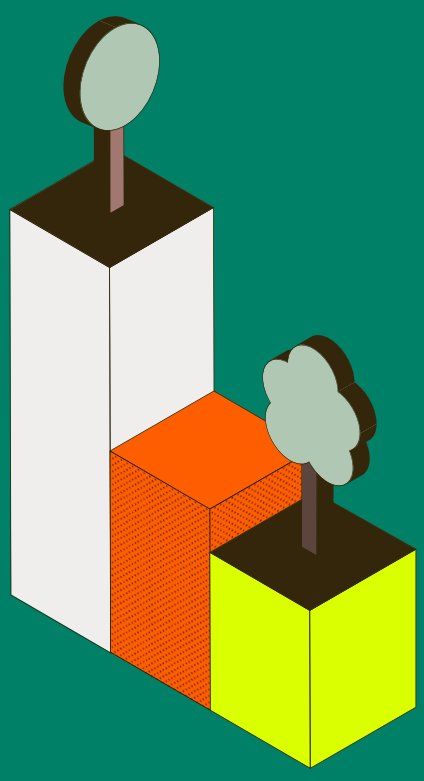
Mobility has a vital role to play in how we make the transition between urban, suburban and rural environments and systems. Redressing the imbalance among communities.

It will make the difference between whether we create utopia or dystopia.

Mobility: The Map Outlook

PHYSICAL + DIGITAL

Before launching into an exploration of the shifting sands of mobility design today, it's worth explaining the Map perspective. Like our sister company, Universal Design Studio, we have built our reputation by putting people at the centre of every design solution. We always start with a human need rather than a technological innovation.

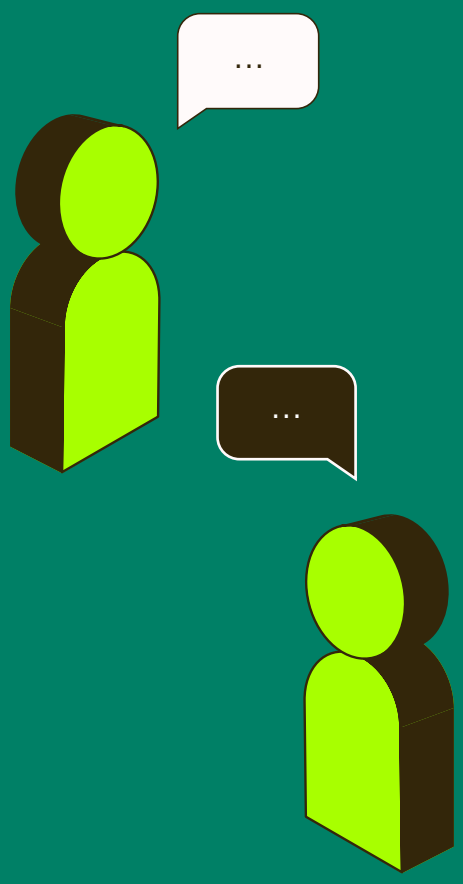


As our lives become ever more complex, ever more confusing, the products we use and spaces we move through every day must become simpler. More intuitive. And more beautiful.

Map and Universal exist to craft physical products, spaces and experiences for the digital age. Bridging the gap between people and technology, the real world and the virtual.

PEOPLE ARE MORE IMPORTANT THAN THINGS

We believe that mobility should be approached as a verb rather than a noun — as an action through which things happen rather than simply a constellation of things. When you switch to this mindset, you become less focussed on the ‘what’ and more on the ‘why’ or ‘how’.



“Smart mobility solutions combine people, products and technology — but always with people at the centre. It’s about human experience and sense of connection — connecting people to people and people to places. By keeping human needs at the heart of mobility, it also naturally follows that what we design is created more responsibly” EXPLAINS SENIOR DESIGNER EMILIE ROBINSON.

Map's recent work in mobility is testament to this approach. Honda, Great Journey focused on human insights that could project future solutions and connect people with the environments they are moving through. Our work with Beeline created a more natural way to explore and interact with cities through 'glanceable' tech. Brizi sought to protect babies and infants from the effects of urban air pollution and help communities of parents navigate their day to day journeys. And our design for Crossrail, will help transform people's relationship between London's city centre and its hinterland.

DESIGN FOR A REASON

Smart mobility systems are simple and intuitive to experience and interact with but extremely complex to deliver. They don't just happen. They are designed that way.

Smart mobility design is about doing the right thing for the right reasons. It isn't about decoration. It's about striving to anticipate the best answer to a real human need, in a way that works for our clients, and the world around us. So, our first task is always to find out as much as we can about who we are designing for and why. Then, everything we create is always based on our understanding of the total journey.

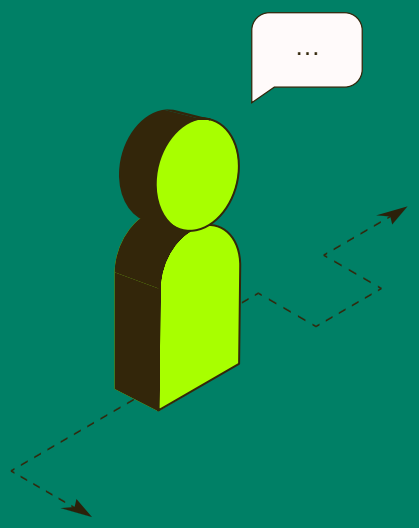
Design never happens in isolation. People experience design as part of their journey, so that's the way we have to think about it.

Once we have a complete understanding of the journey we can create anything from the big picture to the smallest detail, applying our creative intelligence and intuition to purpose, people and context; confident that we always answer a real human need with the right solution.

SOFTENING THE SEAMS

World events mean even more travel regulations, more processes, more complexity. These 'seams' create anxiety and have a negative impact on the day to day journeys we make.

Whilst we can't control these seams as designers, we can only work harder to understand where they occur and ensure that the journey experience works either side as beautifully and consistently as possible.



This is why the designer has to consider the whole journey irrespective of what part of that journey we might be designing for.

MIND THE GAPS

The complexity of designing and delivering a total mobility system is often made even more complex because of the outdated structure of the organisations delivering them.

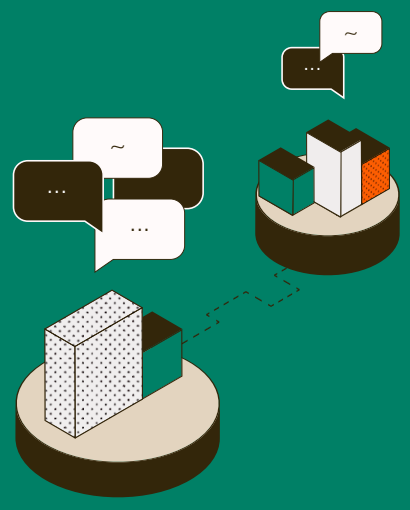
In our experience, the most compelling solutions that thread together the whole journey often fall through the gaps in departments and regulations.

As designers, it's our responsibility to find ways to create and articulate compelling creative and commercial narratives to unite teams and drive through.

CREATE MORE WITH LESS

People want and need to travel, but the world is changing and the freedom brought by travel comes at a price. As designers it's our responsibility to ensure the impact of travel is as low as we can make it.

Great design has always been about achieving more with less. Removing the unnecessary and the wasteful. Reducing visual clutter. Using fewer raw materials, reducing weight, and saving energy.

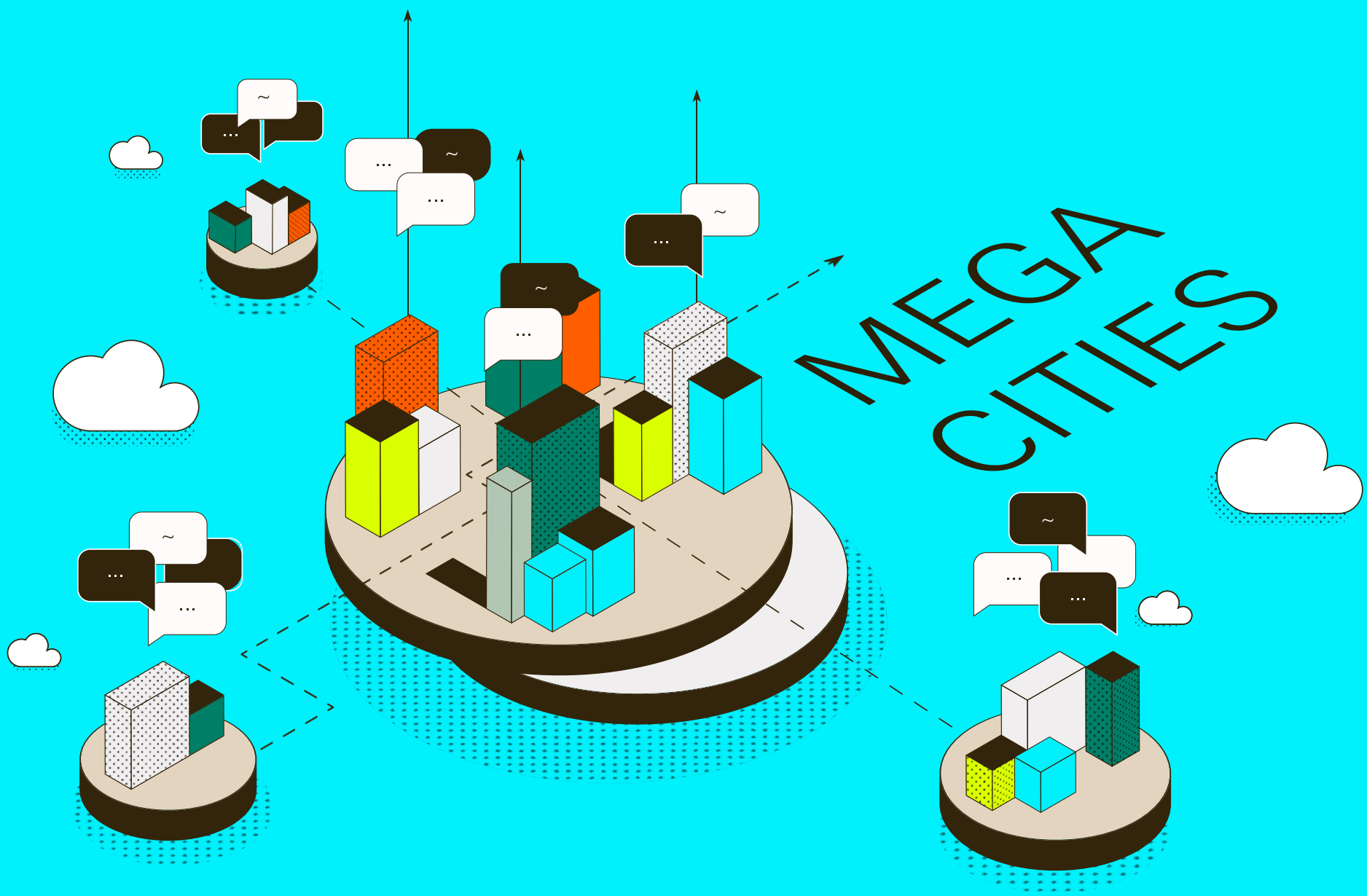


Today it's about more than elegance and simplicity; it's about doing the right thing for our planet. So, if it doesn't add anything – take it away.

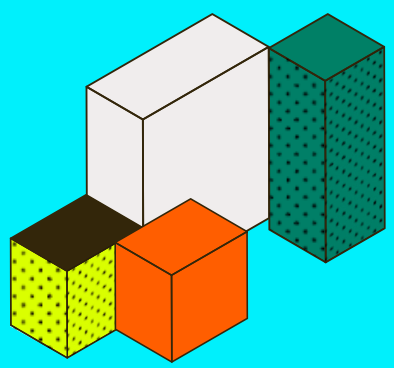
Our design challenge is to deliver the ultimate journey in the most responsible way.

Making Cities More Human

Covid may have been a radical moment of disruption for our mobility systems but as hinted at in the introduction, there are also far more pervasive underlying shifts at play. Perhaps the most profound of these is urbanisation, with megacities blooming around the globe.



Although there's speculation about whether Covid will reverse this trend and move people to the country and coast, it seems unlikely that this will be a significant long term trend for a majority of the population. Any student of history will tell you that no matter what plagues, wars or famines have hit us, cities eventually bounce back in one form or another. The economic, cultural and social benefits of city life provide an irresistible magnetic pull.



There have been a lot of ritual changes during Covid, with many of us completely changing how we move around in the city.

It provides an exciting opportunity to rethink how we interact with each other, finding new ways to explore the city as we do so. An obvious example of this is the rethinking of the daily commute, which although far from extinct, is likely to become more considered. We've also seen a shift towards individual modes of transport during the pandemic, with walking and cycling showing a +4.8% YoY in Europe. A major question for designers is how we can channel this desire for individuated transport into more sustainable forms of mobility, and away from city-clogging cars.

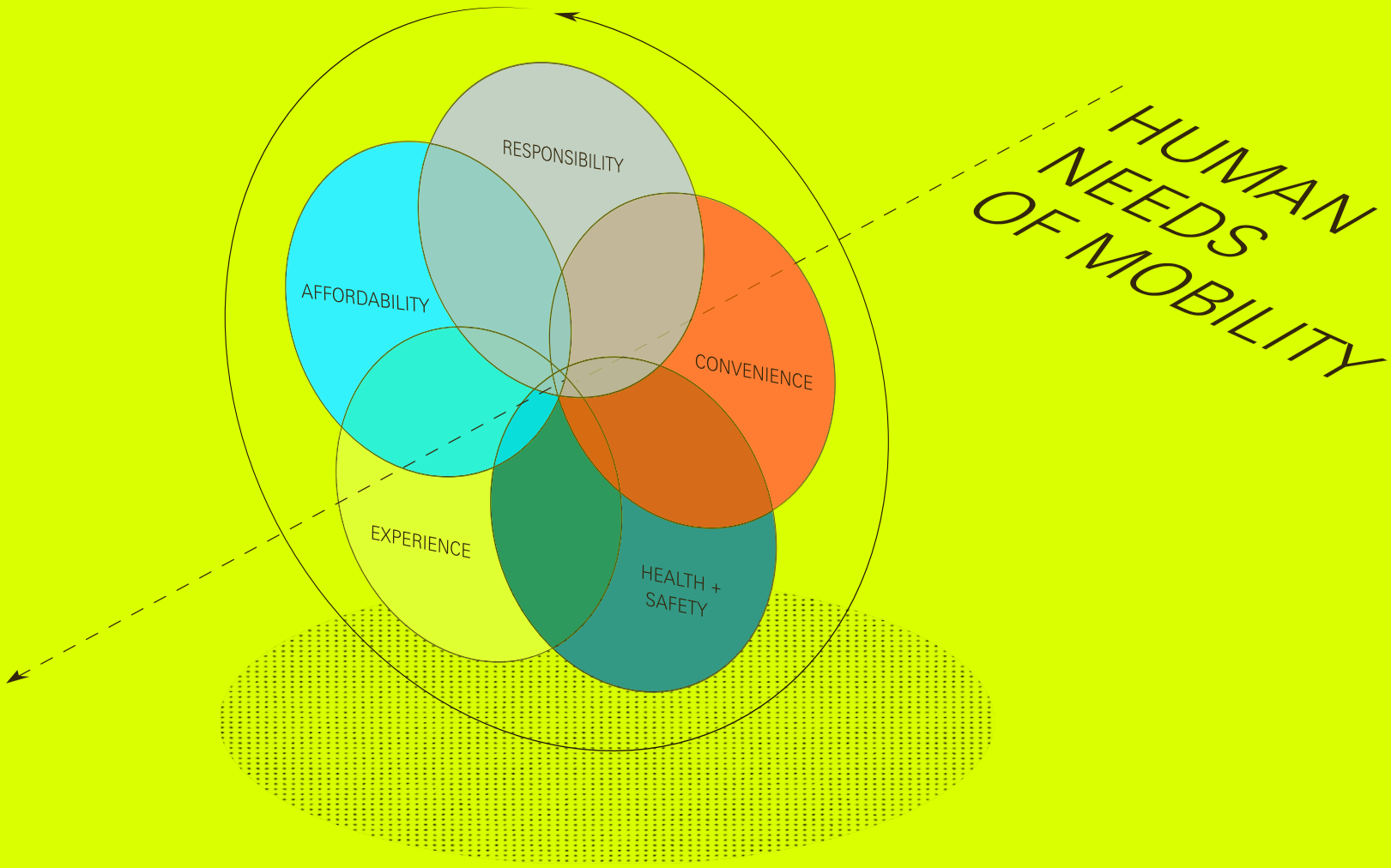
An intriguing solution here is the return of the 15-minute neighbourhood, rejuvenating the interconnected, mixed-amenities villages from which global cities originally grew. This school of thought can be traced in urbanism from Jane Jacobs to Jan Gehl, but shows signs of really coming of age in the post-pandemic world.

With national lockdowns, we've all become more engaged with our local services and what you can get from the community around you.

For inspiration on how these schemes can be implemented, we look to the Paris Respire Programme (which involves closure of certain traffic lanes and creation of no-car districts), Milan's pilot scheme for 'rethinking the rhythms' of the Lombard capital (offering all essential services within walking distance of home) and Barcelona 'Superblock' initiative (turning streets into citizen spaces).

Human Needs of Mobility

Keeping people front-and-centre can be challenging, especially in a sector like mobility where advances in technology can cause such a distraction. For this reason we've developed a mobility venn diagram to help focus our projects on human needs, and we're including it here in the hope it provides useful for your own work.



The venn diagram illustrates the interconnectedness of these human needs, all of which influence one another and drive the transport decisions one might make throughout the day.

All over London and cities around the world, people are exposed to a constant layer of pollution. We cycle to work behind running engines of cars, children go to school on main roads, newsagents stack their fruit next to bus stops. We attempt to do the healthy thing of walking or cycling yet our lungs are being harmed, often disproportionately affecting minority groups. Safe and responsible travel will continue to be an important consideration for travellers and city-dwellers alike, only growing as the climate crisis intensifies and younger generations gain purchasing power.

We must reimagine the cityscape, working together with city planners and governments to open up public space so people can move freely from one destination to another, shaping these spaces around human needs.

We must make air quality tangible, raising awareness of the importance of clean air as well as the real-time status of air everywhere, in order to change behaviour and deliver solutions that benefit everyone. Awareness has to be coupled with solutions in order to reduce anxiety.

We need to provide optimised air quality solutions in the form of mobility, solutions that understand the traveller and build a symbiotic bond based on trust and learning, and adapt to personal and public spaces, static or moving.

On the one hand people look for highly pragmatic solutions that offer affordability, convenience and flexibility. These human needs are intrinsically linked. We have all run for the bus and missed it, hailing down an expensive taxi instead or waiting for the next bus only to be delayed. We need to aggregate mobility services to become multi-modal and modular systems, connecting people to place.

On the other hand, people look for experience and emotional connection. By reimagining every touchpoint we can build elevated, connected and personalised experiences.

These experiences must co-exist in the natural rhythm of consumers' daily lives. EVs are providing a new platform for design here, with ambient technology playing a vital role in defining these environments.

Ambient technology could bring the outside environment in, build new sound worlds (with no engine noise), develop bespoke driving modes or filter the in-car air.

The hierarchy of these needs will change depending on the mode of transport and profile of user — long distance flights may have different human properties than a short distance commute, while a middle-income family will have different priorities to a high-income solo traveller — but they provide important insights for all mobility projects.

Beyond Like-for-Like Innovation

There's a very real risk of replicating past mistakes with our current approach to mobility. Innovations such as self-driving cars and EVs are often presented as radical evolutions, but have the potential to sediment an outdated mindset built around individual mobility. There is also growing research that suggests these technological innovations may merely move environmental issues from a reliance on fossil fuels to new crises (such as that building around battery production and recycling).

At Map, we are actively working in the mobility sector to deliver simpler, smarter and more elegant solutions.

We get numerous approaches to engage within the industry but often when we interrogate opportunities, we are concerned about the long-term responsibility of the solutions we are being asked to design.

Batteries and charging infrastructure are in particular need of better design solutions if we are to go down the EV road.

Not only does the mining of rare earths for batteries cause untold environmental degradation, but they are also hard to dispose of or recycle, creating hazardous waste in the process. Furthermore, competing automotive brands are creating mutually incompatible batteries and charging systems that threaten to hardwire inefficiencies into the system.

The UK government has earmarked £500 million for investment in rapid-charging infrastructure over the next four years, with the aim that drivers will never be more than 30 miles from a rapid charging point. However, if we don’t create a coherent vision for what this new network should look like then we may be creating a serious future issue.

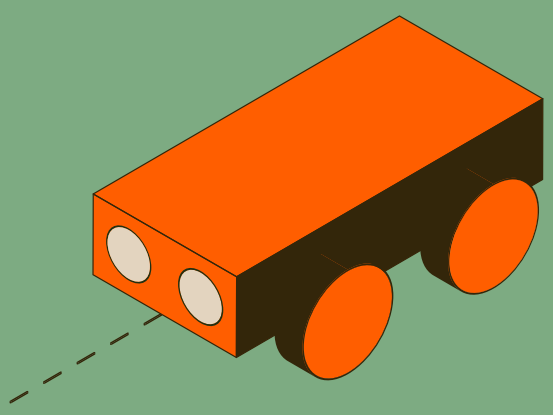
“We need to increase our energy literacy, and fast”

EXPLAINS DIRECTOR JAMIE COBB.

“Design can help us facilitate this understanding — whether it’s built into existing products or creating new paradigms — but we need to better understand how we are reliant on a very dispersed energy network”.

In 2019, we began a discussion with Wallpaper about how to create a more circular narrative around batteries, power and electricity consumption, culminating in an article for the 2020 Re-Made issue of Wallpaper. An important theme that kept coming up was about time as a measure of power/energy spent.

Another area where we can radically rethink rather than iterate is in the nature of the EV itself. Currently, much of the focus is on how these increasingly automated vehicles could become the next entertainment or commercial space, but rather than focussing on purely commercial goals, we could think about what role they can play in a national network.

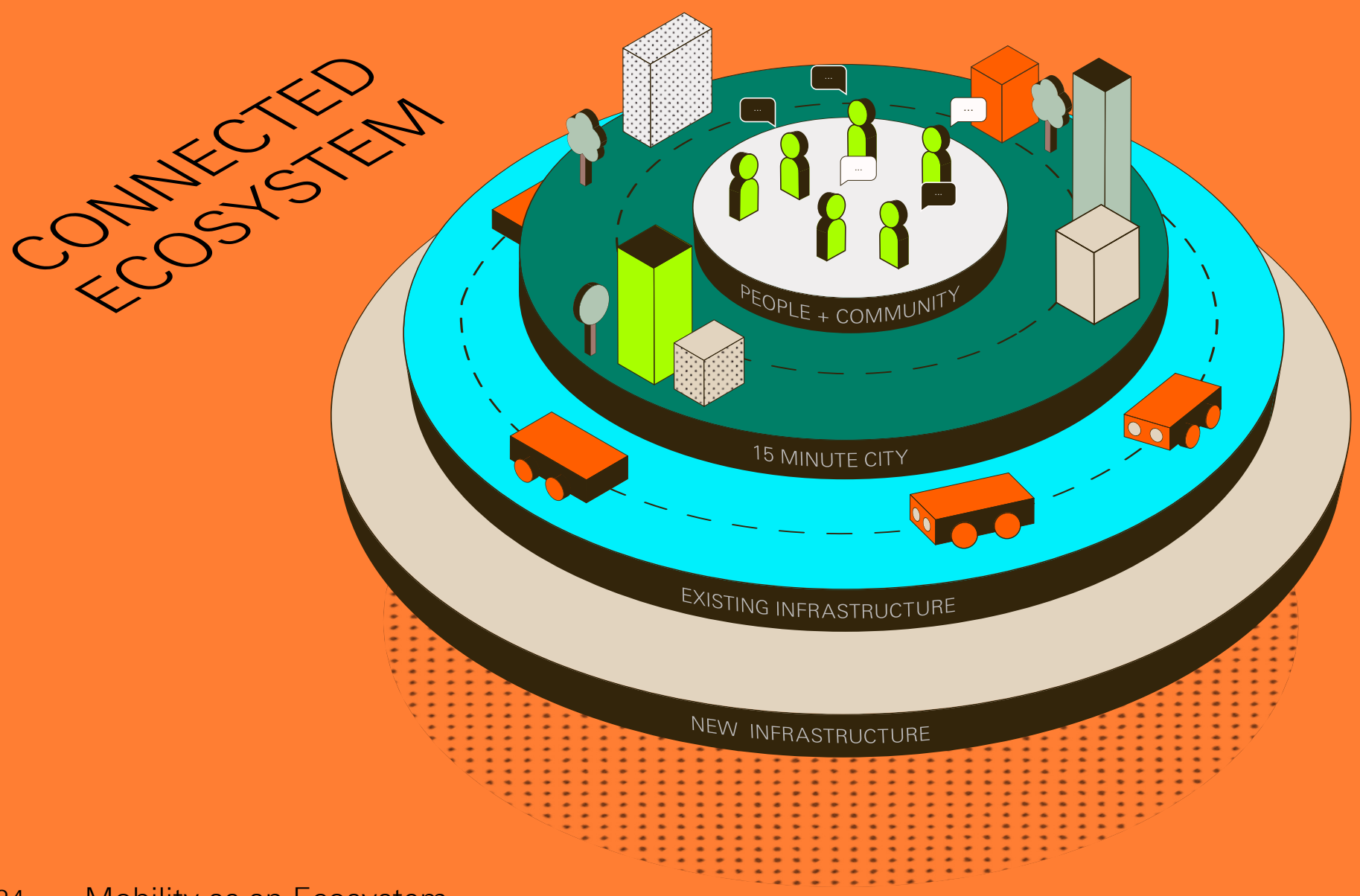


“If you treat next gen vehicles as mobile capacitors, they’re basically power banks on wheels, so wouldn’t it be great if they were used to facilitate a democratisation of power” EXPLAINS JAMIE.

“If you’ve got excess power stored in your stationary vehicle then the system can help re-allocate it to where it’s most needed”.

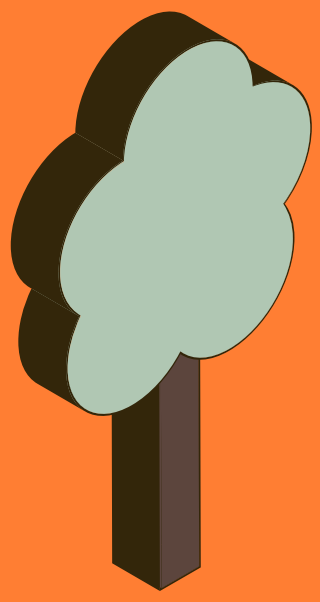
Mobility as an Ecosystem

This e-paper has made the case for a move away from focusing on individual vehicles and towards a mobility ecosystem, but what might this system look like? We see it as a nested model that has people and community at the heart, then building out to neighbourhoods and existing transport infrastructure.



Only once you've got through those layers can you start to consider where new infrastructure and technological innovation can fill the gaps, which constitutes the other shell of our mobility model.

The pre-Covid approach to mobility could perhaps be seen as the reverse of this, where new innovations and high-profile design solutions are at the centre of the mobility market. With the extraordinary pressures of climate change and urbanization, we cannot afford to return to business as usual.



"We're seeing a shift to a more people-centred society and that has to follow through for mobility" EXPLAINS JAMIE.

"As an agency, it's Map's mission to accelerate this reimagining of public space, rather than just working on the next e-vehicle".

A systems-based approach to mobility is perhaps less headline-grabbing than our existing industry, but it's also the only way we'll create a global

infrastructure that is fit for purpose.
To work, it requires a constellation of different services and projects that follow the human-centric models we've outlined in this e–paper. It means shared mobility that frees up urban space for people, the aggregation of services for easy access by all through intuitive digital interfaces, and subsidized models for modes of transport that contribute to the better functioning of cities.

"As designers we ask ourselves: Does it solve a problem? Can we think smarter and harder about what we bring into the world?" EXPLAINS EMILIE.

"We aim to apply this thinking to the mobility sector. How can we connect the intersections and overlaps of journeys? How do we build synergies between governing bodies, mobility solutions and communities?"

Again, this is not one area to fix but rather a mindset and methodology to introduce across the many different aspects of mobility and it's about asking questions as much as providing definitive answers. Could we develop modular systems where different automotive components can be repaired or replaced rather than making the entire vehicle redundant? Could we move to a leasehold model where the manufacturer remains responsible for taking the vehicle back for reuse at the end of life? How can we better factor in production and end-of-life energy costs into a vehicle's sustainable credentials?

We need to bring this thinking and mindset into the heart of our global mobility ecosystem.

A MOBILITY MANIFESTO

1. PHYSICAL + DIGITAL INTERSECTION —
Bridging the gap between people and technology.

2. PEOPLE VS THINGS —
Keeping human needs at the heart of everything we do.

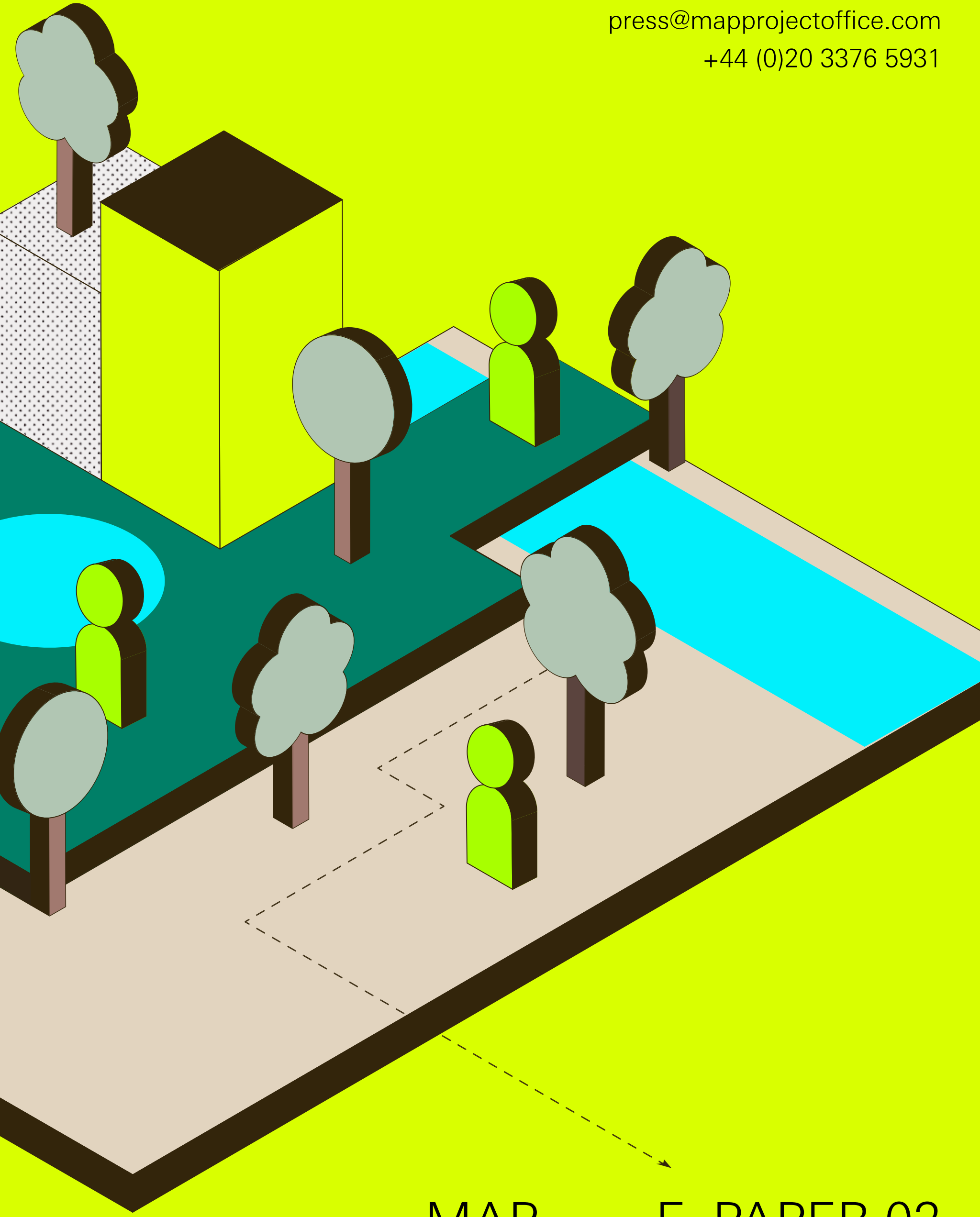
3. DESIGN FOR A REASON —
Designing for the whole journey.

4. SOFTENING THE SEAMS —
Understanding where ‘seams’, or transition points, within a journey might occur and building in consistency to the experience.

5. MIND THE GAPS —
Transport systems and organisations are large and complex. We work to find compelling narratives and unite teams.

6. RESPONSIBLE DESIGN —
Foregrounding responsibility as a central part of the ethos of the studio.

press@mapprojectoffice.com
+44 (0)20 3376 5931



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