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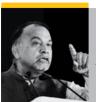
LANDSCAPE

URBAN PLANNING



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Shyam Khandekar Founder & Editorial Director

An architect, urban designer and planner by training, Shyam has nearly four decades of professional experience designing several prize-winning projects in Europe and India. He has lectured and published extensively on

different aspects of Liveable Cities at universities and conferences across the world.

Vinayak Bharne

Executive Editor

A practicing urban designer, city planner and architect by training, Vinayak has designed numerous awardwinning projects in the United States, Asia and Central America. He is a Professor of Urbanism at the University of Southern California in Los Angeles and the editor/author of five books on architecture and urban design.



ometime in the last couple of years, the Earth entered the Anthropocene – a geological epoch in which humans are the dominant force shaping the planet. According to a study published by *Nature* in December 2020, the total mass of everything humans have built and made on the planet, from concrete pavements, metal skyscrapers, dams and roads, to plastic bottles, computers, cars and clothes, is now roughly equal to the biomass of all living things on Earth. And it could surpass this number during this year.

Additionally, researchers at the Weizmann Institute of Science in Israel, after studying the change in the planetary biomass and the mass of human-created products in the last 120 years, came to some startling conclusions: At the start of the 20th century, the mass of human-created stuff weighed only 3% of the global biomass then present. And if trends continue, by 2040, the weight of human-manufactured materials will exceed the planet's biomass by more than twice the number.

If the general message is still unclear, some additional pieces of information may help drive the point home: There may have been twice as much plant biomass on Earth at the onset of the agricultural revolution about 12,000 years ago, before humans started clearing large amounts of forests for land cultivation. Humans and their livestock now outweigh all of Earth's wild mammals and birds by a factor of nearly 20. At 4 billion tonnes, the mass of all of Earth's animals combined now sits at just half of the amount of plastic that has been produced (8 billion tonnes) till now. This is serious food for thought and, more significantly, concern. There is little doubt that human activity and production are adversely transforming the planet and that it will speed up in the future due to increased human ability and growing population.

One of the avenues to reduce this effect and seek long-term sustainability then is to adapt, transform and reuse buildings and urban infrastructure instead of building everything anew.

But the Laws of Short-Term Economics work against achieving such sustainability goals. These laws state that the more value we assign to human labour, the less valuable other assets feel. And vice versa: only in societies where human labour is cheap, other assets are valued highly. This was the India we grew up in, where labour was cheap and so almost everything was repurposed and reused. Old tins, discarded bottles, paper and scrap metal were all given a new use. However, when human labour becomes considerably expensive in relation to building materials, it makes little sense to spend many labour hours to adapt, transform and reuse. The short-sightedness of the Laws of Short-Term Economics is further elucidated by the fact that according to them, a healthy tree in nature only has value if it is cut down and converted into furniture.

These views are leading us to a precipice – the climate crisis facing our planet. This is why the imperative to adapt, recycle, upcycle and reuse has now come centrestage, wherein every action we undertake must reduce the impact of the human race on the earth. In the energy sector, for example, it is now common wisdom to reduce the use of fossil fuels and switch over to renewable energy. Is it not time that the fields of urban development and construction aim at reducing the plundering of our planet's assets? Is it not time to prioritise renewal and renewables? Is it not time to aim for a moratorium on the rampant use of new materials in buildings and the perpetual enlargement of our urban footprints?

The examples in this issue discuss how strategies to adapt, transform, reuse and upcycle can be used creatively at different scales from large-scale urban development (as written by Toshio Taguchi about Yokohama), urban landscape and recreation (as written by Bruce Echberg about Australian cities), the reuse of buildings (as written by Paul Meurs et al about the Netherlands), or the recycling of waste material into public art (as spoken by Subodh Kerkar from Goa). From Aleppo to Leh to New York, numerous other examples and case studies in this issue demonstrate how and why the notion of renewal and reuse is not only beneficial for environmental sustainability, but also pays rich dividends - social, economic and most significantly cultural - enriching and deepening our connections with our past.

Is it not time to aim for a moratorium on the rampant use of new materials in buildings and the perpetual enlargement of our urban footprints?

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Shyam Khandekar Shashikala Venkatraman

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Marketing Queries
Ad Sales: advertising.myliveablecity@gmail.com Subscriptions:

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For editorial queries, email: shyam@myliveablecity.com



Amit Arya is an architect with a Master's degree from Cornell University, New York. He has worked on projects in Asia, America and the Middle East and is passionate about architecture and its relationship with the public realm.



J.P.A.M. (Jean-Paul) Corten is employed as senior policy officer on Integrated Conservation at the Cultural Heritage Agency of the Netherlands (Ministry of Education, Culture and Science). He lectures at the Institute for Housing and Urban Development Studies, Erasmus University of Rotterdam. He is also involved in many urban regeneration projects abroad.



Bruce Echberg is the founding director of Urban Initiatives, a Melbournebased landscape and urban design studio that focuses on the design of public projects that enhance the quality of Australian towns and cities.

Somi Chatterjee is an architect with specialisation in Conservation Studies. She is the Principal Conservation Architect at Creative Footprints, an interdisciplinary consultancy, Founder-Director of One Station Million Stories, which is in the business of experiential storytelling and Founder-Trustee of Trust for Regeneration of Indian Settlements. Besides working on heritage conservation, management and interpretation, she is also visiting faculty at the School of Architecture and Planning, New Delhi and Jamia Milia Islamia University, New Delhi.



Irene Henry is a Masters of Urban Planning and Policy student at the University of Illinois, Chicago. She specialises in spatial planning and works on creative placemaking with the Lincoln Park Chamber of Commerce.





Jason Judy is a Marketing Director at Gensler with a background in Graphic Design, a degree in Motion Design, and a Master's in Cultural Studies. He seeks the intersections of story and audience, looking to find resonant ways to bridge the two through content development and delivery. He has lived near all four edges of the continental United States and has found Chicago to be a city filled with stories.



Nisar Khan is an Assistant Professor at the Faculty of Architecture & Ekistics, Jamia Millia Islamia, New Delhi. He has formulated and started the M. Arch. course in Urban Regeneration in the Faculty. He completed his Ph.D. on Unauthorised Colonies of Delhi with the perspective of Informal Housing to further his research interests in Urban Studies. He has widely published and presented his research in journals and conferences at the national and international level. He has recently been awarded the Netherlands OKP Scholarship to pursue an International Course on Housing and Urban Development in Rotterdam.

Chetan Kulkarni is a graduate of Urban Design from The University of Texas at Austin School of Architecture. He has collaborated on urban research projects in Mumbai with BMW Guggenheim LAB, XCOOP Architects, Samira Rathod Design Associates and Youth for Unity and Voluntary Action India. He received the European Union Erasmus Mundus Scholarship to be part of the Urban Lab initiative, organised by Universita Della Calabria (Italy).





Buvana Murali is an architect and urban designer with a Master's degree from the University of Michigan. She has worked for over a decade in architecture and urban projects of all scales on three continents. She is passionate about photography and the use of the image as a storytelling device.



Dalia Mokayed was born and raised in Aleppo, Svria, where she received a bachelor's degree in Architecture from the University of Aleppo. She then worked for ten years in heritage conservation, rehabilitation and city planning in the Old City of Aleppo. She is a recent graduate of the USC Heritage Conservation Masters programme and currently works for the Planning Department of the City of Los Angeles. She's also designing art pieces decorated with Arabic calligraphy to help keep Arabic culture and heritage alive.





Maggie Schafer is a Masters of Urban Planning and Policy student at the University of Illinois, Chicago. She currently works as a research assistant studying housing, transportation and community development at the Voorhees Center for Community and Urban Development.



Siddha Sardessai is an architect and interior designer in Panaji, Goa, with significant expertise in residential, corporate office, educational, entertainment and hospitality facilities. His projects have received awards and been featured in books and magazines.



Tashio Tauguchi is an Urban Designer and Researcher based in Yokohama, Japan. After completing his Urban Design studies in the UK, he spent more than a decade under the inspirational leadership of Åkira Tamura at the Yokohama City Government's Planning and Coordination Department. A scholar of Planning History, he aims to disseminate Tamura's planning theory and philosophy to younger generations.



Punto Wijavanto is a lecturer at the Department of Architecture, Universitas Trisakti. Jakarta. He is also working as heritage consultant on heritage cities, heritage management and planning, Historic Urban Landscape approach and Heritage Impact Assessment. He obtained his master's degree in urban and regional planning from the Department of Architecture and Planning, UGM, Yogyakarta.

Henry Wishcamper

is a theatre artist and planner. His work as a theatre director, producer and playwright have appeared at theatres in New York City, Chicago and across the country. He is an Artistic Associate and member of the Artistic Collective at the Goodman Theatre in Chicago. He served as one of the Goodman's three producers from 2017-2019. He is currently enrolled in the Masters of Urban Planning and Policy Programme at University of Illinois, Chicago. His focus is on how arts, cultural and recreational spaces can be designed and activated to be more effective catalysts for equitable hyperlocal economic, cultural and civic activity.



Justin Wu is a design researcher and strategist based in Chicago, and holds a Bachelor's degree in Cultural Anthropology from Northwestern University. He has experience helping organisations find the intersection between business strategy and human insight. His focus is on using research and design to create ethical and equitable impact for people across the globe.



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Architect **Paul Meurs** and architectural historian **Marinke Steenhuis** are partners in SteenhuisMeurs, a research and consultance firm, working in the Dutch heritage industry. SteenhuisMeurs supplies current spatial assignments with a cultural heritage foundation, by interpreting the context and defining the capacity for change. The projects add the historic dimension to designs for buildings, urban areas and cultural landscapes, with the aim to give these new places a memory, inherited qualities and an intriguing narrative.



PARKING LOTS TO PUBLIC REALMS

Strategies for Reclaiming Autopian Spaces

Maggie Schafer and Irene Henry describe a range of strategies to adapt and reclaim vacant parking spaces in the United States

majority of land in cities within the United States is dedicated to streets, parking lots, garages, bridges and highways; this ubiquity of autopian infrastructure has led us to simply take its existence for granted. Perhaps no usage of car-oriented pavement is as conspicuous as the parking lot. The freedom of driving an autonomous vehicle comes with many tangible disadvantages in the form of insurance and tickets, but one that most residents of the United States frequently overlook is the chokehold that parking lots have on urban landscapes. Concrete smothers native green spaces and destroys the attraction of once dense. walkable urban streets with expansive land harbours for giant sports utility vehicles.

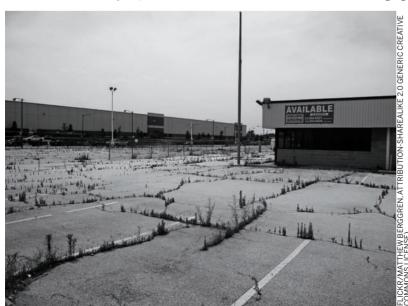
Ironically, many parking spaces are underutilised by cars as consumers transition to online retail and abandon traditional malls and strips. Vast lots, often covering dozens of acres, exist idly for cars while ignoring natural ecologies and human-scale needs. A drastic change in land use allocation has long been necessary, however, the effects of the Covid-19 pandemic have intensified the urgency. The inhalation

of only a few virus particles has the potential to infect individuals, creating dangerous, difficult situations for the service industry and exacerbating existing crises of housing needs and lack of safe public spaces. Repurposing empty parking lots provides an opportunity to alleviate these issues.

This essay explores ways of reclaiming dedicated parking spaces for more communityoriented needs ranging from the least to the most resource intensive. At the low end of the intensity scale, tactical urbanist techniques require little more than a few plucky individuals with creative ideas to reconfigure spaces through 'Do It Yourself' (D.I.Y.) initiatives. More financial resources can enable traditional infill projects, such as new urbanist developments focusing on walkable, mixed-use designs to create a more permanent physical metamorphosis on a parcellevel scale. The broadest modifications to land use emerge from policy changes that aim to transform an entire community's relationship to parking and automobiles. These can include lifting parking space minimums, requiring lots to be shared with other land uses and charging for parking.

In a country plagued by sprawling. automobiledependent infrastructure. the parking lot maintains a depressing omnipresence

Left: Abandoned parking lot in the old Chicago Union Stockyards area Right: Huge empty parking lots outside Austin, Texas





Parking Lot Land Use in North America

Experts estimate that the United States is home to between 105 million and 2 billion parking spots, with most estimates hovering around 500 million (Kimmelman, 2012). That is 3,590 square miles dedicated to idle, unoccupied vehicles. One study showed an average of eight parking spots for every person, with more pavement-heavy areas like Houston, Texas, boasting a whopping 30 per person (2012). In a country plagued by sprawling, automobile-dependent infrastructure, the parking lot maintains a depressing omnipresence. While dense urban areas are likely to offer street parking, some of which is metered or permitted to prevent overcrowding, the suburban parking lot is an entirely different beast. These often cover dozens of acres, sometimes taking up more space than the buildings and spaces they serve. The United States' northern neighbour, Canada, is home to the world's largest parking lot: the 20,000 parking spaces of West Edmonton Mall stretch over 73 acres. These concrete fields are welcoming to automobiles, buses and trucks, but create a decidedly unpleasant environment for pedestrians, public transit users and natural ecologies.

When first gaining prominence during the 1970s, the parking lot was associated with the convenience and freedom once tied to the car. The psychological ideals mirrored those of supermarkets: patrons could bathe in an abundance of choices! Yet many of the lots continue to be underutilised, even more so as shopping moves online and the malls and big box stores associated with them fall into obsolescence.

Covid-19 Implications

The antiquated nature of vast stretches of parking lots became even more pronounced as the Covid-19 pandemic forced people to shelter in place. The threat of an airborne virus ground the bustling global cadence of life to an ominous standstill, with streets and public spaces becoming bare skeletons of their previous existence. While many sectors transitioned to remote work and learning, essential workers still needed methods of transportation and pedestrians required more space to adhere to social-distancing measures. Local governments enacted temporary changes to streets such as new bike lanes, adjusted traffic signals and automobile bans so that people could walk, bike and gather at a safe distance in open air.

Many of the changes had been touted for years by urban planners and advocates seeking to reduce vehicle fatalities, traffic congestion and greenhouse gas emissions. However, some of the changes were less foreseen, such as the extension of restaurant seating, church services and even

classrooms into now-vacant parking lots, streets and parking spaces.

Repurposing Parking: Solutions Ranging from Low-to-High Intensity

The metamorphosis of parking spaces and vacant lots into places for humans has been occurring by different actors for various purposes over the past couple of decades. The following section establishes a scale to analyse the types of changes happening across the country and the numerous ways in which people are reclaiming automobile space for human use.

Low Intensity (Unsanctioned): Tactical Urbanism

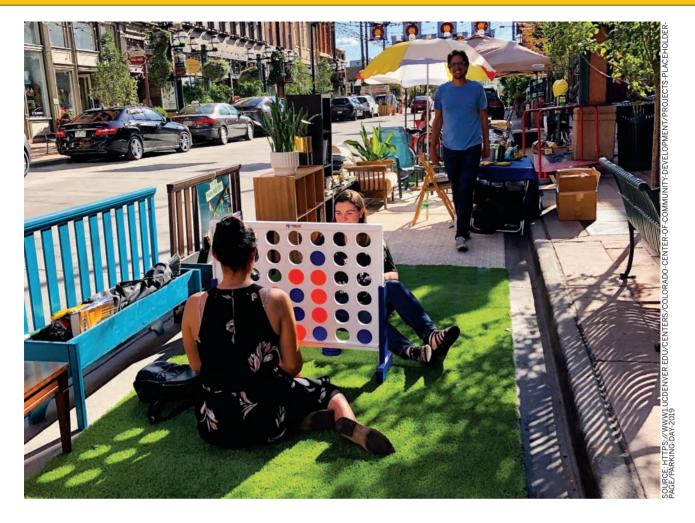
At the low end of the repurposing scale, tactical urbanist initiatives often arise from the desire of a few authorised or non-authorised individuals to transform a public space. Also known as 'city repair', 'guerilla urbanism' and 'D.I.Y. urbanism', these changes to the public realm are defined as short-term local collaborations that are deliberate and low-risk. The street or parking lot becomes a laboratory of sorts for testing spatial theories both inexpensively and with flexibility. The effects of these small-scale actions can be observed in real time, allowing for moderate adjustments to be made before attempting to implement large-scale modifications.

Perhaps the most famous example of tactical urbanism is Park(ing) Day, an annual observance of people reclaiming spaces ordinarily designated for a rotating cast of automobiles. The Washington Post claims this phenomenon originated in 2005 when a San Francisco art studio established a tiny park in a metered parking space for two hours. Although originally a one-time occurrence to demonstrate the benefits of green urban space to residents and city officials, Park(ing) Day is now observed in hundreds of cities around the world on the third Saturday of September. As an accessible path for any urban dweller to reimagine public space, the possibilities have expanded to include a kaleidoscope of creativity: dinner parties, lawn games, art galleries, free bike repair shops, health clinics, bowling lanes, chess tournaments and even a wedding ceremony.

'Chair bombing' is similar to Park(ing) Day in scale and objective. This tactical urbanist technique is used when ordinary city dwellers determine that an area of the public realm lacks communal amenities, leading to an illegal remedying of the problem by adding chairs typically made of found materials. Ciudad Emergente states the first registered occurrence of this guerrilla intervention was performed by DoTank, a Brooklyn business design company.

According to Garden Collage magazine, an

These concrete fields are welcoming to automobiles, buses and trucks, but create a decidedly unpleasant environment for pedestrians



older form of D.I.Y. urbanism known as 'guerrilla gardening' began in 1973 when a frustrated resident of New York's Lower East Side gathered a small team to plant vegetables, flowers and trees in an abandoned lot. While commonly associated with vegetable gardens, guerrilla gardening involves any non-sanctioned act of gardening on either private or publicly owned land. These illicit urban horticulturists typically do the initial planting in the middle of the night, or use 'seed bombs' - truffle-sized mixtures of clay, compost, and seeds - thrown into the desired location from a bike or car, or simply dropped surreptitiously while passing by. The official Guerrilla Gardening website has a forum organised by region for interested parties to share tips, determine best locations or collaborate on local projects.

Low Intensity (Sanctioned): Temporary Installments

The advantage of tactical urbanism is that residents and city officials alike catch a glimpse of a possible future for their cityscapes. These oftenfleeting views of an alternate urban environment sometimes inspire more permanent changes

such as parklets, pop-up cafes, people plazas and farmers markets.

Park(ing) Day, the unofficial mode of imaginatively transforming streets into creative urban realms, resulted in a more permanent modification: the parklet. The San Francisco art studio's tiny green space sparked an interest in converting parking spaces into colourful oases of outdoor seating, greenery and bike parking. With urban planners recognising their mistakes of building an auto-centric public realm, the ascent of parklets in cities across the U.S. signals a dawning comprehension that we must design streets for people. Parklets invite passersby to sit, enjoy the day, talk with a friend or stranger and appreciate the convivial nature of city life. The National Association of City Transportation Officials (NACTO) now has recommendations in its Urban Street Design Guide for best applications and considerations in implementing parklets.

On streets with insufficient sidewalk area for tables, restaurants work with the city to exchange parking spaces for outdoor dining accommodations, offering restaurants an attractive way to advertise their business while

Park(ing) Day 2019 in Larimer Square, Denver, Colorado

On streets with insufficient sidewalk area for tables. restaurants work with the city to exchange parking spaces for outdoor dining accommodations

also improving the pedestrian realm. Like many trends, these pop-up cafes began in New York City, but have since sprouted up around the country.

The Covid-19 pandemic has made their utility even more pronounced. With indoor dining restricted in capacity or altogether banned in many places around the country, more than half of US restaurants transitioned to take-out and delivery only options, and over 70% had to decrease staffing in March and April of 2020 (Sowder, 2020). In order to respond to the pandemic crisis, restaurants had to find creative solutions to sustain their customer base while staying safe and following local and state-level guidelines.

Many city codes require restaurant owners to provide 10 parking spaces for every 1000 square feet of restaurant floor area, which translates to three times more room for cars than for diners (Grabar, 2020). Expanding seating to these generous parking spaces and lots allowed restaurants to increase capacity, leading to heightened revenue and the ability to rehire staff. By August of 2020, over a third of New York City restaurants were participating in the city's sidewalk and curbside seating initiative (Sowder, 2020). The gradual emergence of outdoor and cafe seating across the country has demonstrated what urban planners have been promoting for the last decade or so: we can and must reimagine the streetscape if we are going to have active, healthy, vibrant cities.

The parklet movement also gave rise to 'pavements to plazas' installations around the nation. According to re:Streets, this initiative began in New York City with the 'Greenlight for Midtown' programme, which initially developed as a traffic-calming measure in one of the city's most hazardous pedestrian areas. The temporary closure of Broadway between 47th to 42nd Streets for all vehicle traffic, along with the installation of chairs, umbrella-covered tables and planters, resulted in such widespread approval and drastic reduction in pedestrian injuries that the city implemented a permanent plaza.

Medium Intensity: Private Development

With larger private and public investments, developers have the ability to completely transform individual parking lots. These transformations can range from simple additions of green space and sidewalks to a full repurposing of property.

In areas where a large amount of parking is still necessary due to zoning regulations or actual need, alterations can be made to lots to provide an environment that is friendlier to people and natural surroundings. Sidewalks and swaths of green spaces create a safer, more welcoming atmosphere for pedestrians, while peoplefriendly plazas and areas for outdoor dining invite the individual to linger. Replacing traditional asphalt with permeable pavements can restore hydrological balance to reduce stormwater runoff and prevent erosion.

Other areas may summon a more drastic redevelopment of space dedicated to parking lots. Real estate experts predict that wide-spread adoption of ride hailing services and dwindling levels of car ownership will cut the need for parking spaces in the U.S. by half over the next three decades. As a result, many developers are replacing parking lots with mixed use development. This is especially true in growing urban centers, though suburban areas are also taking note. The redevelopment of underutilised land, often referred to as 'infill', promotes changing vacant space such as parking lots into more walkable and inviting areas where citizens can work, live and play. While cars do not dominate this landscape, they can certainly be accommodated: parking can be discreetly located behind buildings or in parking garages. Further, many developers are designing parking areas in a manner that supports future conversion to office spaces or residential units.

Left & Right: Customers enjoying outdoor dining





Parklets invite passersby to sit, enjoy the day, talk with a friend or stranger and appreciate the convivial nature of city life

Another option for redeveloping underutilised parking spaces focuses on the restoration of natural ecology. The City of Seattle, WA, transformed a large parking lot into the Thornton Creek Water Quality Channel. According to its website, this development not only offers housing units and retail space, but also features nearly three acres of lush plantings, pedestrian pathways and a waterway. These channels and pools mimic the performance of a natural creek. Not only are they lovely to look at, but they also treat stormwater runoff for 680 acres of surrounding land. Landscaping with plant species that are native to the area is another element of natural restoration. Native plants are naturally adapted to the climate of their regions, meaning they are lower maintenance. They restore natural biodiversity by attracting pollinators and insects, which in turn attract the birds and mammals that feed on them.

Conversion of parking lots to natural areas can occur in tandem with for-profit developments, such as the example of Thornton Creek, or independently through community efforts. Local groups or nonprofit organisations can initiate transformations, or municipalities can choose to fund and support these projects.

High Intensity: Policy Transformation

The aforementioned developments must work within the boundaries of existing codes or with variances approved by the municipality. To make a larger impact, policy must be adjusted to allow for developments with fewer parking lots, and to create a less auto-dependent landscape overall. University of California Los Angeles (UCLA) professor Donald Shoup explains that there are three elements of modern zoning that promote an auto-oriented, parking-lot dependent lifestyle: single-use zoning, maximumdensity zoning and minimum on-site parking requirements.

Single-use zoning designates that residential, commercial and other buildings must be located in separate spheres. This means residents live in one place, work in another and shop and dine in yet another. Driving from one realm to the next becomes a necessity and, at each stop, cars need a place to rest. Maximum density zoning ensures that spaces remain low to the ground, are spread out and thus difficult to traverse on foot or bike. Zoning that creates high-density and mixed-use spaces can create '15-minute neighbourhoods' where people can walk from their homes to retail and recreation spots all within 15 minutes. When people don't need a car to get from point

Bethesda Row: Parking lot to infill development



Restored native prairie in Illinois



A to point B, they don't need a spot to park.

Most municipalities also have minimum on-site parking requirements, which call for developers to build a certain number of parking spaces with every building. The Congress of New Urbanism promotes policy changes to lessen these requirements. When parking is necessary, zoning should require it to be behind buildings so as to deflect from its prominence. A popular alternative to on-site parking comes from the 'park-once' strategy. With this, municipal parking structures are provided within a pedestrian-shed, enabling people to park in one spot and walk to various destinations within the shed.

Beyond zoning, municipalities can also do their part to help fund major development projects. They can offer tax incentives to developers who consider replacing parking lots with more human-scaled spaces and can even work side-by-side with developers on private-public initiatives. Funding can come directly from the municipal budget, or can be accessed through grants. Fortunately, there exists a multitude of federal, state and private programmes that offer grants for transit-oriented development.

Conclusion

Parking lots take up far too much space in the United States landscape, but the U.S. is not the only country drowning in seas of asphalt. Between 2011 and 2013, China used more

cement than the U.S did during the entire 20th century (McCarthy, 2015). It is easy to imagine there were more than a few parking lots built with that cement, yet with a rapid increase in vehicle ownership, many drivers perceive a large deficit in major Chinese cities. Similarly, the large Australian cities of Brisbane, Sydney and Melbourne boast between 25,000 and 42,000 parking spots each, yet in high-demand areas, parking spaces often cost more than cars themselves (ABC News, 2017).

This is a global problem: our planet cannot afford any more land covered in fields of asphalt. Fortunately, the fight against parking lots has also been widespread. The Institute for Transportation and Development Policy has successfully encouraged a decrease in minimum parking requirements in traditionally autooriented Mexican and Brazilian cities. Many European cities have implemented parking policies that not only reduce the number of parking spaces within a city, but also reduce the number of vehicles in general. Private citizens, community organisations, public developers and municipal, state and federal governments must all mobilise to transform our landscape back into one that accommodates more than unused vehicles. Canadian folk singer Joni Mitchell bemoaned the paving of paradise back in the 1970s; with inevitable depletion of fossil fuels and other natural resources, now is the time to change that tune.

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