

CLEAN ENERGY CHALLENGE

WHAT
DESIGN
CAN DO

SÃO
PAULO

SÃO PAULO BRIEFING PACK

GLOBAL PARTNER

IKEA Foundation


ENDORSED BY



United Nations
Climate Change

SÃO PAULO CITY PARTNERS

MANDACARU



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THE GLOBAL CHALLENGE



WHAT DESIGN CAN DO TO PROVIDE CLEAN ENERGY FOR ALL

Fossil fuels are the biggest cause of climate change and are still our primary source of energy. Cities consume over two-thirds of the world's energy and contribute to more than 70% of global CO2 emissions. That's why What Design Can Do is focussing its second Climate Action Challenge on urban energy issues. Together with IKEA Foundation and many local partners we invite designers and creative entrepreneurs to rethink how we produce, distribute and use energy in our cities. Globally, carbon footprints could be further cut by favouring other forms of clean transport powered by and for people: walking, cycling and mass transit.

Everyone in the world should have access to enough energy to live a comfortable life, with access to clean water, nutritious food, shelter, healthcare, education and economic opportunities.

Many in the world have this, but at the cost of the climate. We need to end our reliance on fossil fuels, while also ending energy poverty by providing access to reliable and affordable energy to everyone.

To achieve this, we need to generate more energy overall, and it needs to be clean and green – meaning, renewable, passive, kinetic, anything but fossil fuels. We will also need to use energy more wisely: more efficiently, and with less waste. We have to think differently about how we source our energy and how we use it.

FIVE CITIES CHALLENGE YOU!



Cities, home to more than 50 percent of the global population, consume the majority of the global primary energy supply – and a lot of that still comes from fossil fuels. At the same time, cities emit 70 percent of the world's carbon—and that's likely even more when consumption-based emissions are accounted for.

Cities therefore offer a huge opportunity to transform the way we generate and use energy: to end dependence on fossil fuels, radically expand usage of renewable energy, conserve energy and secure clean energy for all.

We have worked closely with researchers, experts and designers in 5 globally influential cities to craft locally specific challenges informed by real stories, global key issues and local design capacity.

Across São Paulo, Mexico City, Delhi, Nairobi and Amsterdam we found that key elements of sustainable urban energy systems include clean and energy efficient transportation, waste management, building practices, food supply chains and public spaces.

We would like to mobilise the power of both local and global creative communities to take on the challenges in these 5 cities. Designers and creative thinkers from all over the world are encouraged to apply. So even if you don't live in one of the 5 cities, you can still make a difference!

THE DESIGN BRIEF

HOW CAN WE ENCOURAGE CLEAN AND GREEN MOBILITY IN SÃO PAULO?

São Paulo's infrastructure was not built to accommodate large numbers of private vehicles and trucks, and plans that cater to them will quite literally pave the way for further increases in car ownership, congestion, wasted fuel and emissions. And that's not to mention more wasted hours sitting in traffic.

Initiatives to extend and upgrade São Paulo's public transport and freight network move slowly. That's why we are calling on designers to find creative and radical solutions for more sustainable flows of people and goods through the city.





GLOBAL CLEAN MOBILITY ISSUES



Cars, buses and trucks are a major source of greenhouse gas emissions in many cities around the world. While the move to electric vehicles is a step in the right direction, the rush to cleaner vehicles alone will not solve the problems that cities are grappling with: a 'green' traffic jam is still a traffic jam.

Globally, carbon footprints could be further cut by favouring other forms of clean transport powered by and for people: walking, cycling and mass transit.

Some cities are leading the way for the future of urban transport. In recent years, grassroots activists and visionary city leaders have joined forces to truly clean up their transport in cities like Madrid, Copenhagen and Chengdu. While some cities zoom forward, others face major roadblocks.

SÃO PAULO'S TRAFFIC PROBLEM



São Paulo's metropolitan region is the world's fourth biggest city in terms of population. Unfortunately, it also has a large population of vehicles: 8.5 million. Every day, more than 5 million cars, 1 million trucks and more than 40 thousand buses circulate in São Paulo.

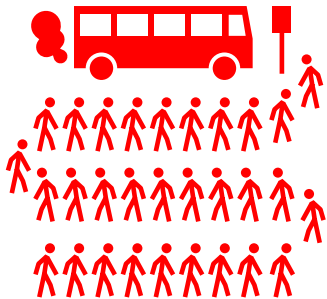
Cars, trucks and buses are a huge problem for both global climate change and local pollution. In São Paulo, they belch out 97% of carbon-monoxide emissions, 82% of the nitrogen oxide, and 90% of air pollutants. Together, diesel trucks and buses represent two thirds of direct PM 10 (micro-dust) emissions in the city.

Many cars and vehicles in São Paulo are also outdated and therefore more inefficient and emit more carbon and pollutants. Buses are fitted with diesel truck engines, which produce lots of fumes. And lacking a functional train network, the city is overrun with diesel freight trucks bringing in goods from all over the country. Just this year, a truckers' strike against rising fuel prices caused food shortages in the country. In response, the government moved to subsidise diesel.

The situation isn't only bad for the climate: it's stressful for people, too. São Paulo's infrastructure was not built to accommodate such a large numbers of private vehicles, and traffic jams can stretch up to 295km on a bad day. Commuters lose one month per year sitting in traffic. Because public transport is so bad, many see driving as the only option: 82% of drivers said they would switch to public transport if the service was better. Bus use declined as more people could afford their own cars.

SÃO PAULO CLIMATE / TRAFFIC PROBLEMS

São Paulo's public transportation is not extensive enough to meet the demands of the city's population.



Every day more than 5 million cars circulate, together with 1 million trucks and 40.000 Buses. Together, they produce 97% of carbon-monoxide emissions & 82% of nitrogen oxide emissions.

5 M



1 M



40.000



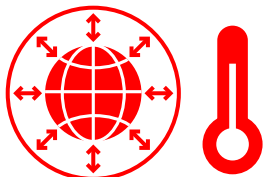
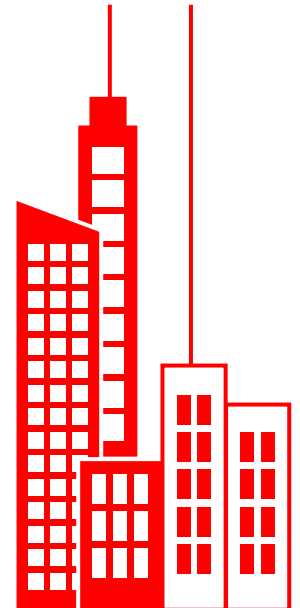
Paulistanos spend an average of 2.4 Hrs in traffic per day, losing a month of every year. Idling cars produce a lot of greenhouse gases even though they're not moving.

2,4 HRS / DAY




**METROPOLITAN
POPULATION:
21 MILLION**

**POPULATION:
12.1 MILLION**



IN SÃO PAULO ROAD TRAFFIC IS THE MAIN SOURCE OF CARBON EMISSIONS, WHICH CONTRIBUTE TO CLIMATE CHANGE



**“IT ISN’T JUST FOR LACK OF PUBLIC
TRANSPORT THAT PEOPLE DRIVE...
BRAZILIANS LOVE THEIR CARS. THEY
BELIEVE THE ADVERTS THAT SAY CARS
WILL MAKE THEM HAPPIER, SEXIER,
MORE BEAUTIFUL.”**

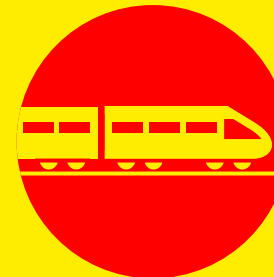
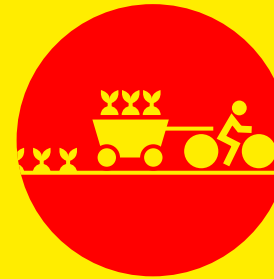
**– GABRIELA VUOLO,
CAMPAIGN DIRECTOR FOR BRAZIL AT PURPOSE**

WHERE DESIGN CAN MAKE A DIFFERENCE



Only the local government can build new public transportation infrastructure. But while putting pressure on them to do so, design can do lots more to solve the problem.

Think about reducing the burden on transportation by making trips possible on foot or bicycle, or by encouraging ride-shares to reduce the number of cars on the streets. Look into making public transportation more attractive to use, so that the number of cars on the streets is reduced. Consider how to make certain journeys unnecessary, by encouraging remote working, or by better distributing services and facilities around the city.



WHERE DESIGN CAN MAKE A DIFFERENCE



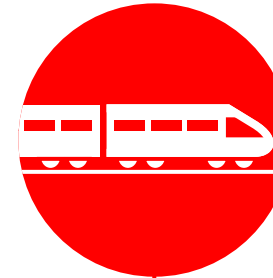
CREATIVE SERVICES THAT REDUCE FOOD-RELATED FREIGHT TRAFFIC INTO THE CITY

Consider creating better connections between urban consumers and farmers on the outskirts, encouraging sustainable urban production of food, or developing innovative last-mile green parcel distribution solutions.



A MOVEMENT TO MAKE SÃO PAULO MORE PEDESTRIAN AND CYCLE FRIENDLY

Think about how to encourage people to reimagine the future of clean mobility in the city.



STORIES, CAMPAIGNS AND SERVICES THAT ENCOURAGE A CHANGE IN THE MENTALITY AROUND CAR JOURNEYS, CAR OWNERSHIP AND 'CAR CULTURE'

Inspire a groundswell of support for sustainable transport options and anti-car measures.



INTRODUCTION

THE BRIEF

MAKE A DIFFERENCE

WHAT'S BEING DONE

KEEP IN MIND

WHERE DESIGN CAN MAKE A DIFFERENCE



A CAMPAIGN, PRODUCT OR SERVICE THAT MAKES SOME CAR JOURNEYS UNNECESSARY

Reimagine a future where remote working is the norm, and cities are designed in creative ways that reduce the need for long commutes.



A CLEAN-ENERGY-POWERED MOBILITY PRODUCT

Think beyond electric cars; trucks, busses and motorbikes need rethinking too. Or venture even more out of the box and imagine completely new clean vehicles, bikes, skateboards or jetpacks!



A SERVICE THAT MAKES VEHICLE USE MORE EFFICIENT

Consider ways to get people to shift to car-sharing, or making it easier for people to switch to vehicles powered by cleaner forms of energy.



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“ONE THING THAT DESIGNERS CAN DO: DESIGN BETTER BIKES, OR VEHICLES, THAT CAN ENTICE CAR-OWNERS AND DRIVERS TO LEAVE THEIR CARS AT HOME AND GET TO WORK ANOTHER WAY. THEY HAVE TO GO FAST, BE SAFE, CARRY BAGS AND MAKE SURE THEY DON’T GET WET...”

**– MARJAN MINNESMA,
FOUNDER OF URGENDA, A DUTCH ORGANIZATION THAT SUED
THE DUTCH GOVERNMENT FOR NOT PROTECTING ITS CITIZENS
FROM CLIMATE CHANGE.**

WHAT'S BEING DONE



São Paulo's public transportation system is so bad that it has inspired countless protests over the years. It covers so little of the city that people are forced to drive: it has just under 90km of track, compared to 226km in Mexico City. Buses are rarely on time because of the traffic, and are uncomfortable to ride because of the fumes from their engines. Just this year, the city tried to cut bus plans, but due to social media, they cancelled their plan.

The city has listened to its citizens, and the long-awaited expansion of the public transportation network is finally underway, with several metro and monorail lines under construction. Some 25% of São Paulo residents live near public transit, but, when the city's Master Plan and Metropolitan Corridors Program are completed, that is expected to grow to 70% by 2025.

The lack of cycling paths has also inspired protests. Cycling was always limited in São Paulo, but a strong lobby movement and support from the mayor resulted in the opening of new cycle routes, including one on Paulista Avenue, creating a total network of more than 500km.

The local government also decided to pedestrianize some roads, such as the Minhocão, on evenings and weekends, to bring walking back to the city. And to reduce the number of cars, the city has long had 'rodízio veicular', restrictions on driving on certain days according to the last digit of the vehicle's number plate.

GET INSPIRED



LEARN FROM SOME INSPIRING LOCAL AND GLOBAL INNOVATORS WHO HAVE USED THE POWER OF DESIGN AND CREATIVITY TO ENCOURAGE GREEN MOBILITY IN SÃO PAULO AND CITIES AROUND THE WORLD:

CYCLING INITIATIVES

- Bike Anjo (Bike Angels), a network of voluntary cyclists who help other people use bicycles as a means of transport – from teaching how to ride a bicycle to identifying safe cycling routes for São Paulo inhabitants.
- Vadé Bike, an informative campaign to stimulate cycling from the City of São Paulo.
- Documentary Bikes vs. Cars featuring Aline Cavalcante: This documentary stimulates discussions about urban planning, politics and bicycle usage.
- SP Bike to work Campaign: The NGO Bike Anjo rewards organizations that encourage people to commute to work.
- The CycloCable, a sort of ski-lift designed for cyclists on steep hills.
- The Copenhagen Cargo Bike Car: Secure parking for four cargo bikes in the same space on the street occupied by one car.



PHOTO: FOODLOGICA



PHOTO: SHOOT THE SHIT, QUE ÔNIBUS PASSA AQUI?, 2012

PUBLIC/SHARED TRANSPORT

- Citymapper, an app that is updated in real time to have more accurate departure and journey times for public transport (including walking time).
- Shoot the Shit: A Brazilian initiative that makes up for the lack of information about public transport with a simple, collaborative and low-cost approach.
- Lady Driver: A Brazilian ride-sharing app that connects female drivers to female passengers.

ALTERNATIVE VEHICLES

- An entrepreneurial Mexican duo has turned cacti into clean energy for cars.
- The O2 Pursuit is an air-powered motorcycle that can travel 100 km on a single charge.
- Tuk Tuk Factory is a Dutch-made range of 'e-tuks' in Thailand.
- Foodlogica is a logistical service designed to make the last mile of Amsterdam's local food system 'clean' by using e-trikes.

URBAN REDESIGN

- Barcelona's Super Blocks pedestrianize parts of the city to reduce traffic and encourage walking. The aim is to serve all their needs within a block (or a few) so residents no longer have to drive far.



“EVERY SELF-RESPECTING DESIGNER SHOULD DO SOMETHING. COME UP WITH NEW IDEAS, DUST DOWN OLD IDEAS AND PLACE THEM IN A NEW CONTEXT. SILENCE THE CYNICS. LET THE POLITICIANS KNOW THAT WHEELING AND DEALING ACHIEVES LITTLE. PROVE THAT ACTIONS SPEAK LOUDER THAN WORDS. DEMONSTRATE THE POWER OF DESIGN. DESIGNERS CAN DO MORE THAN MAKE THINGS PRETTY. DESIGN IS MORE THAN PERFUME, AESTHETICS AND TRENDS.”

**– RICHARD VAN DER LAKEN,
FOUNDER OF WHAT DESIGN CAN DO**

KEEP IN MIND



MAKE IT FAIR

It's important to remember that lower-income people are disproportionately affected by a lack of (public) transport options. Those who spend a high proportion of their income on transport are considered 'energy poor'.

São Paulo is a very unequal area, and fewer wealthy people spend long periods stuck in traffic, as they are more able to afford to live close to their work. That affects both their health and quality of life.

As buses and public transport often take longer than cars in São Paulo, it's understandable that many people want a car of their own.

Keep this in mind as you design. Try not to create a product or service that can only be used by the wealthier members of society. On the other hand, try not to create something that is directed at lower-income people and is therefore seen as less desirable by the middle and upper classes.

Create something that everyone can aspire to.



THINK LOCAL

With widespread corruption and so many political changes, many people in São Paulo have lost faith in politics, and don't want to engage any more. A lack of organisation and reliable leadership, as well as a polarisation of ideas and fear of police reprimand are barriers to activism in the city.

This means that social movements and campaigns need to organize themselves differently. Activism is vital, but it needs to adopt a different image, as a group of organizations did with the [Cidade de Sonhos website](#), to gain a bigger audience. Think about how to capture the hearts and minds of Paulistanos in an empathetic and inclusive way.

DIVE DEEPER



- **TRAFFIC IN SÃO PAULO:**

An article listing the causes and potential solutions for traffic.
Also in Portuguese [here](#).

- **SÃO PAULO'S PATH TO SUSTAINABLE TRANSPORT:**

How São Paulo is becoming more cycle-friendly.

- **MOBILITY FOR DEVELOPMENT IN SÃO PAULO:**

A detailed paper covering changes in mobility from 1967 to 2002.

- **UNMASK MY CITY:**

A campaign to reduce air pollution, with useful factsheets in English and Portuguese.

- **CIDADE DOS SONHOS:**

A collaborative initiative to collect citizens' desires and dreams and deliver them to political decision-makers, with the aim of transforming society.

- **WORLD BANK INITIATIVES:**

Advice and concrete initiatives to reduce traffic.

JOIN THE #CLEANENERGYCHALLENGE
WHATDESIGNCANDO.COM/CHALLENGE

DEADLINE FOR SUBMISSIONS:
5 DECEMBER 2018

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