

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



OLD NEW TERRITORY WORLDWIDE

Many cities around the world suffer from housing shortages, water shortages, and limited opportunities to realize the energy transition. All of these cities have large grey driveways that cut through the city and often lead right into the middle of the city.

Green bridges can be built over these sealed grey car roads all over the world, on which living space can be created, water can be collected and transferred and photovoltaic as well as geothermal energy concepts can be realised.

Autonomous traffic on the bridges can create connections in the city that can transport people "door to door" and "on demand" quickly and above ground – not in tunnels underground. At the same time, building can be done in traditional or artful modern construction, using only sustainable materials: renewable, or locally available as a natural resource.

In this way, the city of the future can develop everywhere, uniquely designed, of course, depending on the character of the respective city, but nevertheless sustainably worldwide.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The City of the Future

The city of the future is green, humane and alive. It is not a continuation of monstrous "conurbation aesthetics"



Singapore

Singapore can use bridges to relieve traffic on its roads, collect energy and water, and create new housing



Dubai

In Dubai, oriental architecture can flourish again on the bridges and a water system for greening can be created



China

In large Chinese cities, innovation bridges can create humane and sustainable neighborhoods in the middle of the city



Los Angeles

The bridges can provide space in LA for humane homeless shelters while collecting gigantic amounts of PV energy



The Bridges Worldwide

The bridges are a concept for pragmatically meeting the challenges of the future worldwide - and in the midst of existing buildings



Die Stadt der Zukunft

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Copyright © by Altes Neuland Frankfurt / GNU

The city of the future is green, humane and combines tradition with modernity

All aspects on the „innovation-bridges“ can be successively transferred to the existing city: Rainwater can be collected from the roofs along the bridges and used to green the city. More and more buildings next to the bridges can switch to heat pump technology and be connected to the underground geothermal probe and pipe structure: for heating as well as for cooling the buildings. Digital lines can be laid in the bridges as well, allowing significantly higher computing power to reach across the cities - similar to a bypass. And the power lines of the bridges can be similarly relieving for the urban power grid: They can conduct both the electricity of the bridges' own photovoltaic modules to energy storage systems and the volatile photovoltaic energy from buildings along the bridges.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future

- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

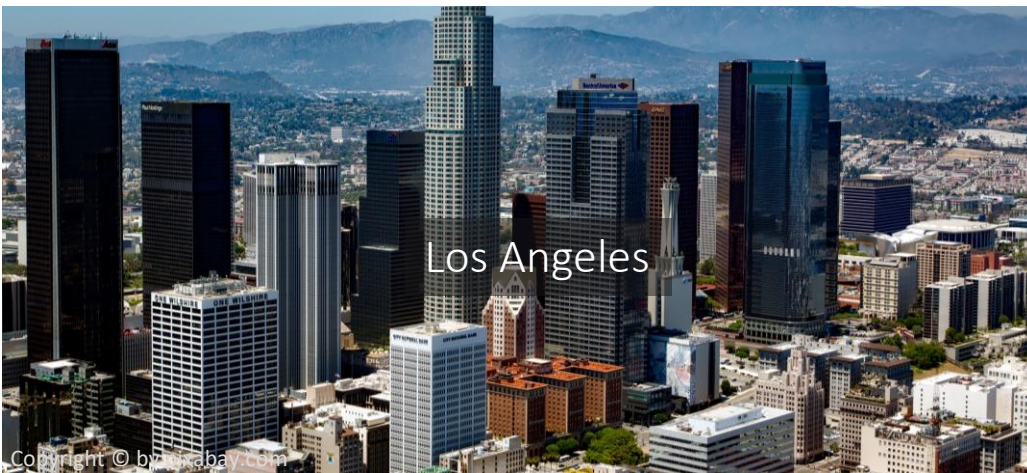
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Cities around the world face similar challenges, despite differences in geography

Creating affordable housing close to the city centre, improving the urban climate, water management, the urban energy turnaround - all issues that need to be addressed in the 21st century, worldwide.



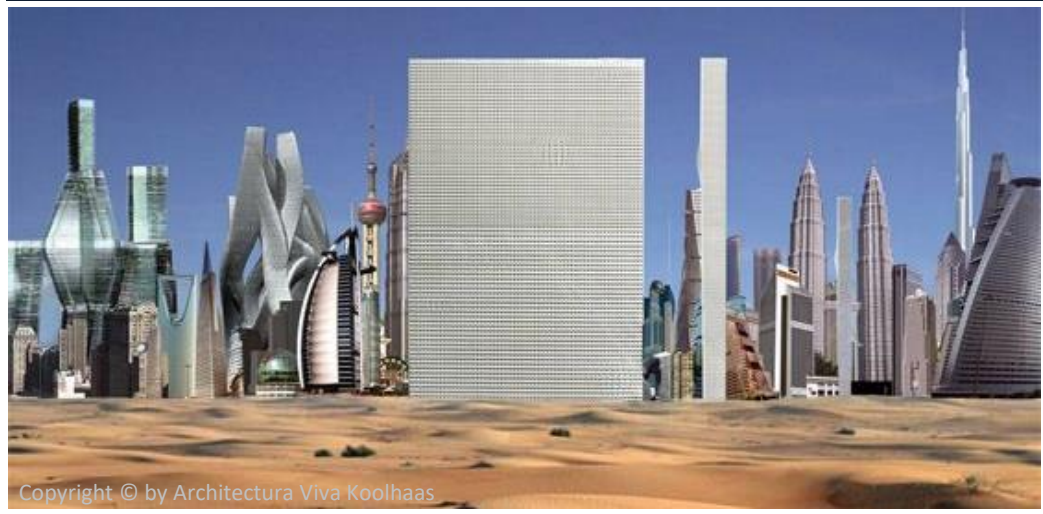
For these existing cities, solutions must be found that can be implemented in the existing buildings and not only somewhere on a greenfield site.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Mostly, however, the city of the future is unfortunately planned or "reinvented" separately



Many visions of the "city of the future" are a continuation of today's conurbation architecture and seem more threatening than "progressive" - and above all rarely humane

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Even the positive aspect of a green building is counteracted if it becomes merely a postulate or a continuation of conventional conurbation-aesthetics - only with green design features



Copyright © by Lehrte Wohngebiet am Stadtpark



Copyright © by bauvernetzung - planquadrat



Copyright © by Vincent Callebaut - Antelope Towers Paris 2015



Copyright © by BAMBOO NEST TOWERS Callebaut Archibiotect

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The solutions for the city of the future should primarily be realised in the existing cities, not somewhere in the surrounding countryside or by demolishing entire city districts

Cities are built up and inhabited, so it's hard to implement the innovations we need for a sustainable global future ex post. But in all cities around the world, there is a kind of "building area" that belongs to the public and runs through the cities: the airspace above the broad traffic arteries that can be found in every major city - no matter on which continent. The charm of the solution: the state can dispose of this "building ground" in the interest of society without having to take anything away from anyone - and it can do so close to the city centre.



Copyright © by wikimedia.org
Paris



Madrid



Copyright © by wikimedia.org
Toronto



Copyright ©.orb / Wikimedi
Buenos Aires



Copyright / dreamstime.com
New Delhi



Copyright © by dreamstime.com
Jakarta

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



In the foreseeable future, vehicles in inner cities worldwide will switch to electric or hydrogen power, turning the newly built-up innovation-bridges over motorways into quiet "prime site" neighbourhoods: That's why it pays to invest in traditional arts and crafts in these new high-value downtown locations

With the green innovation –bridges, beautiful Old New Territories can rise above grey large traffic highways.



The city of the future must solve a few urgent problems worldwide, as humanely and sustainably as possible. With a network of "innovation bridges" on a second level in the middle of the city, many challenges can be mastered – in the existing built-up areas

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future

- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Water

Most cities around the world want to add more urban greenery to their concrete landscapes, but do not have the water resources to do so.

Some cities -such as Singapore through the rainy season- have such large amounts of rainfall that it makes sense to explore all options for rainwater collection and storage, not only for irrigation of city greenery, but also for drinking water supplies.

A structure like the Frankfurt Bridges can be the key to success here, especially if the bridges can penetrate the city like a net and are thus able to collect and to distribute the water.

Energy

It is difficult to integrate photovoltaic surfaces in existing buildings, especially as the existing city power grids and their control systems are not designed to absorb, let alone store, the volatile amounts of electricity that are generated.

However, when building the bridge network in the city, aesthetically unobtrusive photovoltaics can be integrated into all suitable surfaces from the outset, together with the necessary control mechanisms and storage locations at the ends of the bridges.

The bridge pillars can be geothermally probed for heating or cooling, depending on the climate zone.

Traffic

The streets of many metropolises are overloaded. Especially in extreme weather conditions, masses of people prefer to drive door to door, so that traffic jams often occur and parking spaces are scarce.

Autonomously driving traffic could provide a remedy: it is more efficient and can reduce the number of vehicles in the case of car-sharing. But it cannot be implemented on our existing roads as long as the routes are not proprietary and only available for centrally controlled vehicles.

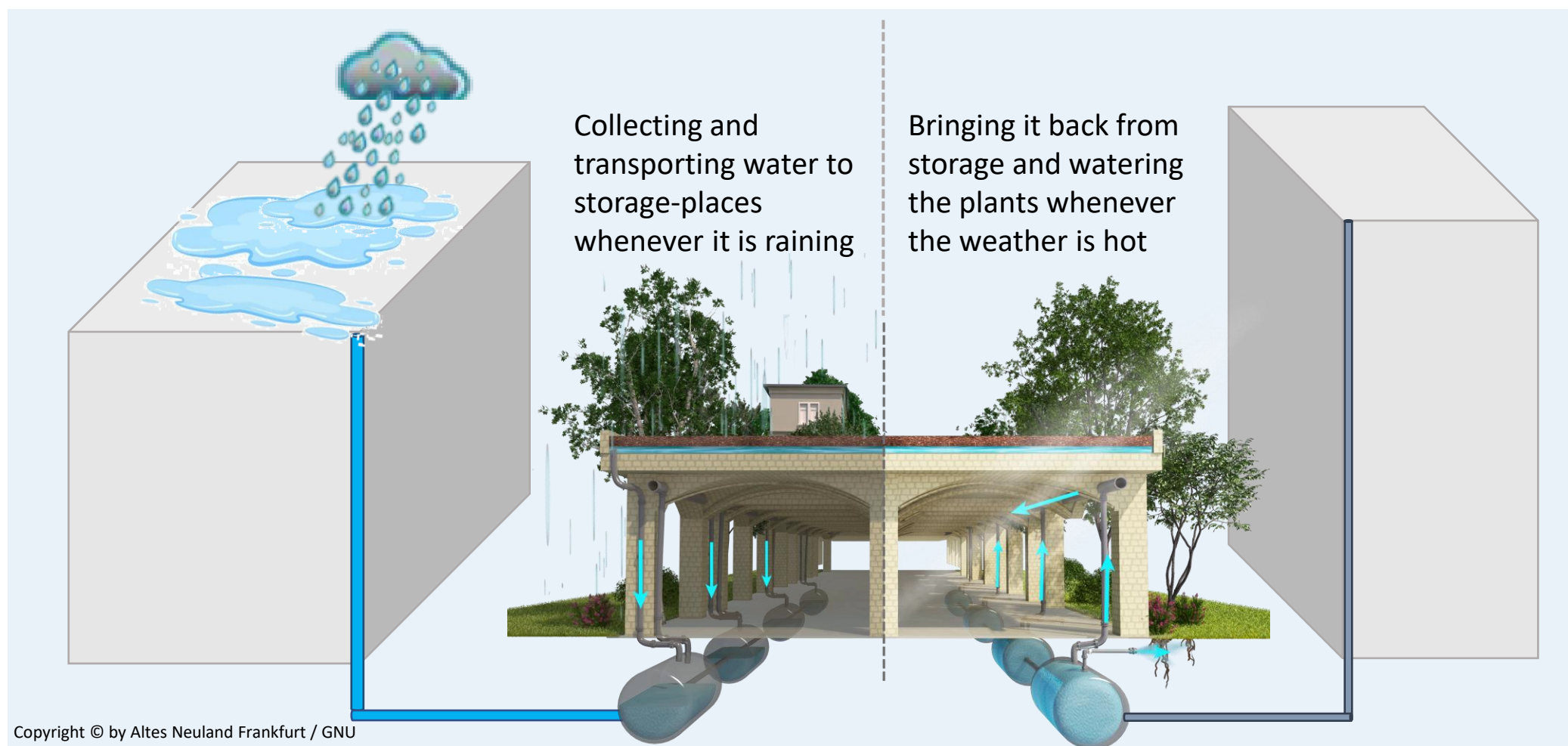
Autonomous traffic could be realized on the innovation bridges and corresponding control systems could be researched and optimized for this purpose.

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
 - Singapore
 - UAE - Dubai
 - China - Shanghai
 - USA – Los Angeles
 - Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



An important factor for the city of the future: rainwater collection and transport to storage locations

There are two main points to consider for each city: (1) How well can rainwater be drained separately from wastewater, i.e. is there a combined sewer system or not? (2) Is it possible to store water by infiltration in the groundwater body or must other storage possibilities be found?



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In order to save water, all cities with water shortages in summer should minimise evaporation when watering urban greenery by using subsurface irrigation



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

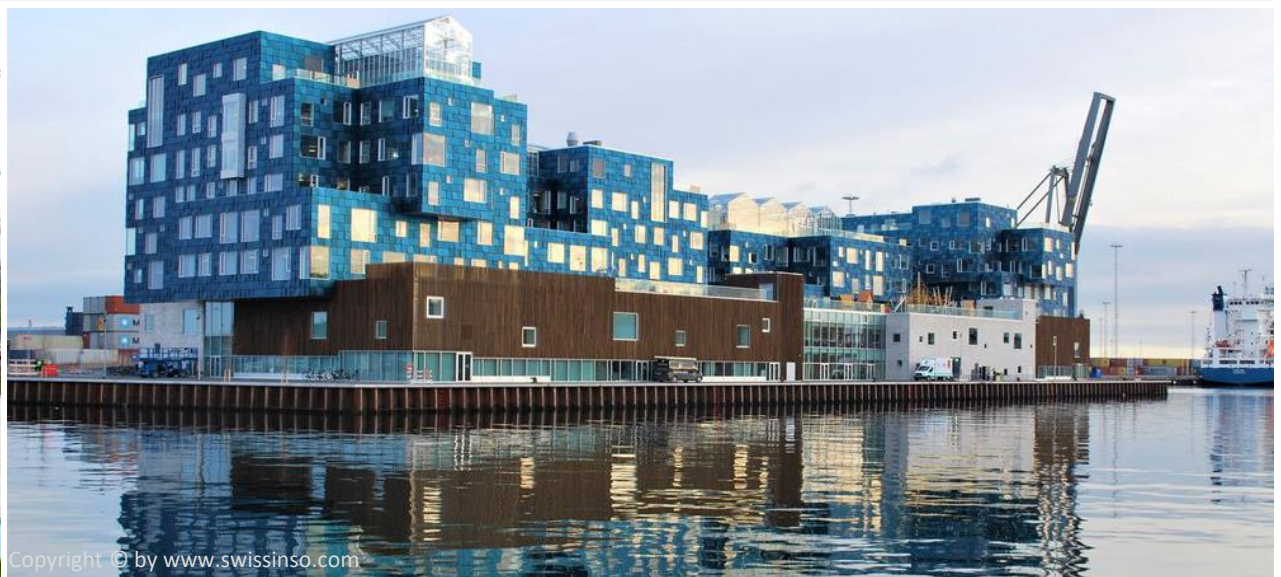
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



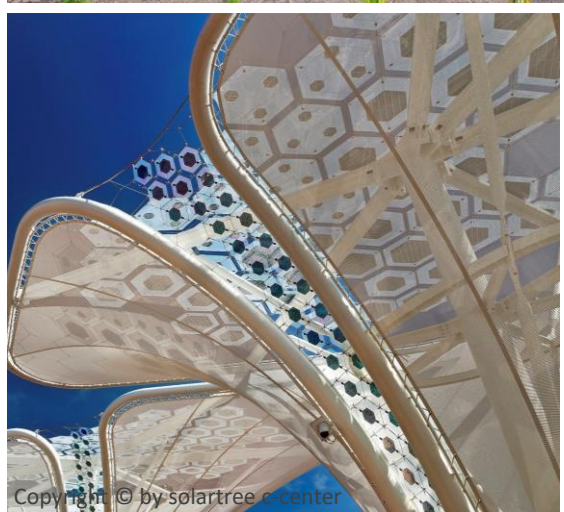
A colorful variety of photovoltaics can decorate facades as well as other areas in public spaces in all metropolises as soon as the control infrastructure for large amounts of volatile, decentrally generated energy is established: This becomes possible with the Innovation Bridges



Copyright © by pixasolar benelux



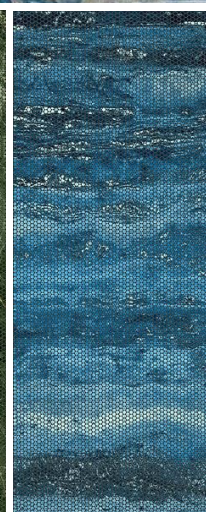
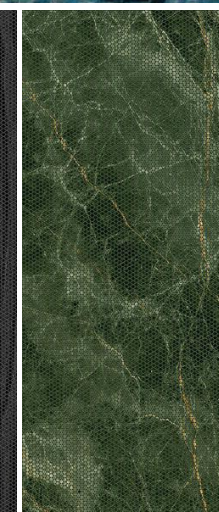
Copyright © by www.swissinso.com



Copyright © by solartree e-center



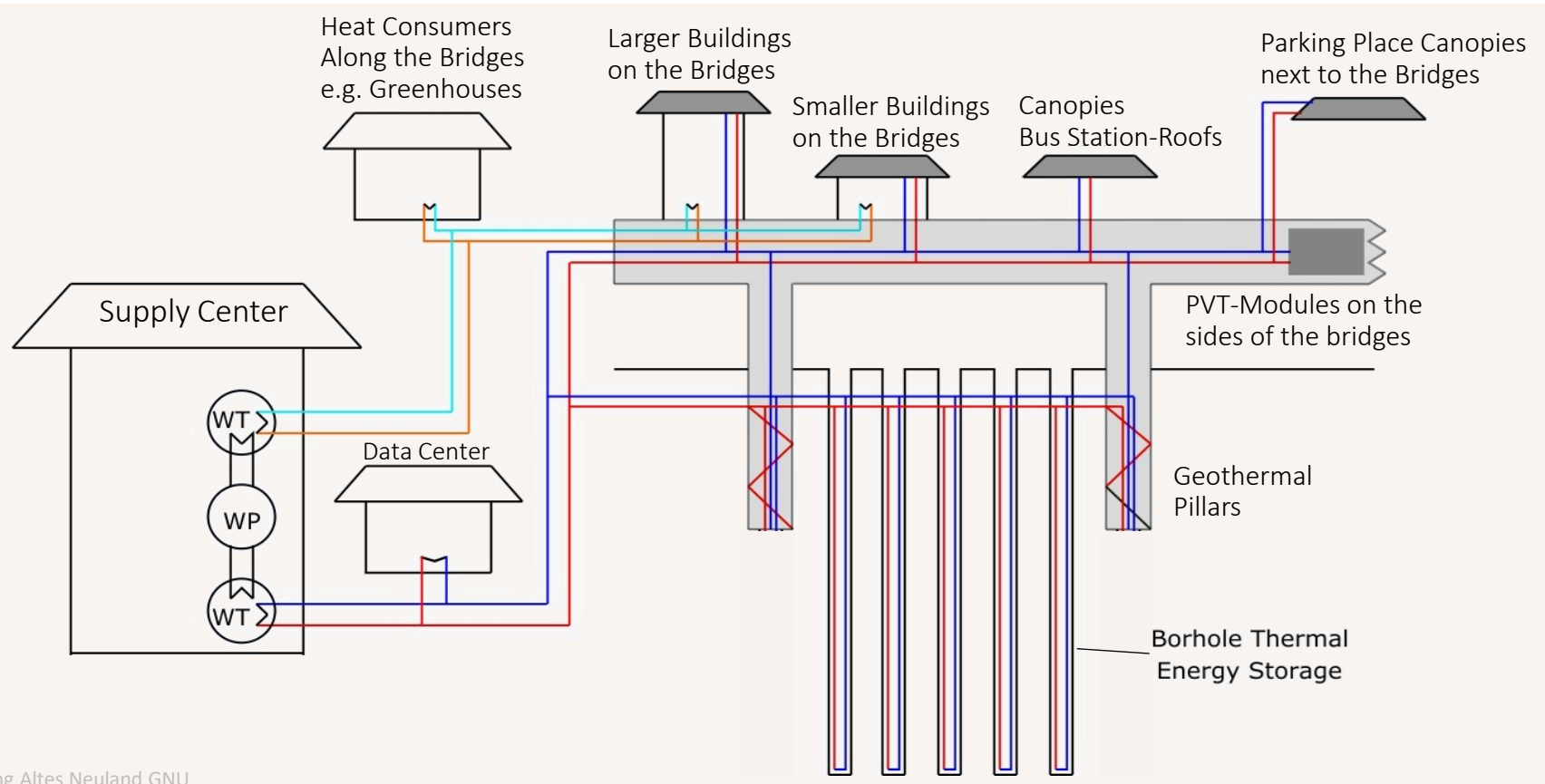
Copyright © by www.pixasolar.com





Another lever on the way to the city of the future: the use of near-surface geothermal energy - both as a source of heat or cold and as a thermal storage facility

On the one hand, the pillars of the innovation bridges themselves can be geothermally activated to transport the ambient temperature in the ground (up to 20, 25 meters deep) upwards (geothermal pillar); on the other hand, the fact that large parts of the road surface have to be renewed anyway can be used when building the pillars, so that "thermal borhole" fields can be created there before renewal of the road surface, which serve to store temperature deeper in the ground (up to 250 meters deep).



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Conclusion: All metropolises worldwide need to solve similar issues for the future. Green Innovation Bridges along the lines of the Frankfurt Innovation Bridges can offer a humane and sustainable solution path

The space above the streets belongs to the public. Every metropolis can use this space for social and environmental challenges that are important for the future of its population without having to buy land from private owners.

If the space above traffic roads is built over, areas are created for research, local transport, housing, social services, greenery and all kinds of innovation.

These "innovation bridges" have the extraordinary advantage of hosting new neighbourhoods which they run from the metropolitan outskirts right into the urban centers, thus implementing the innovative structures not somewhere detached on a greenfield site, but exactly where the multitude of people already live and where many problems urgently need to be solved.

Mankind will not be able to tear down and rebuild its metropolises worldwide in order to implement geothermal energy, rainwater collection, photovoltaic control, proprietary routes for autonomous driving traffic, etc. etc.; rather, solutions must be found that penetrate what already exists and take it along on the path to the future without destroying it.

Destruction of existing structures is not sustainable, anyway, since every new construction consumes enormous amounts of raw material and energy resources. Moreover, it is not sensible to take away the home environment of the people who live there, especially in the case of traditionally grown, historic or artisan-designed building areas, and also in the case of grown urban greenery - in any case not without at least having first thoroughly examined whether the building stock can be taken along on the way into the future.

Which aspects of the Frankfurt Bridges' innovation concept are suitable for the respective metropolis must be examined by feasibility studies conducted by local experts. Within the framework of the present study, only initial ideas and indications for some cities in various regions can be expressed.

Singapur

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Singapore

Due to its limited land area, Singapore has to solve numerous challenges through innovation and technological progress that other countries overcome with the help of their natural resources or land area: limited drinking water resources, dependence on fossil fuel imports, high traffic volume in limited space, global warming due to dense development and sealing of land surfaces, or lack of residential space.

Accordingly, it is attractive for Singapore to use the space above its large wide roads by building „Innovation Bridges“ over them to create new areas: greened, inhabited, passable and suitable for collecting and transmitting rainwater or photovoltaic energy.

Singapore Innovation Bridges provide an opportunity to implement or use on a second level right through the country all the innovations in which Singapore is a pioneer, be it water management, autonomous driving, smart city solutions such as district cooling and many more. In addition, Singapore is strong in implementation and eager to implement - the best prerequisite for meeting the challenges of the future on green Innovation Bridges.

Old New Territory Frankfurt

The Frankfurt Bridges will function like a large live-laboratory for all kind of innovations: regarding urban energy concepts, city water-management, autonomous driving and many more – turning Frankfurt into the innovation center of Europe

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Singapore could play a similar role in East-Asia

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Solutions developed on the Singapore Innovation Bridges could be rolled out in all other major cities in East Asia – thus Singapore could become the Asian Innovation Center for all city planning challenges faced in this part of the world



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Summary: Singapore can create solutions to many of the country's challenges with the help of innovation bridges across its motorways

Singapore faces the challenge of providing sufficient resources for its growing population and industry. At the same time, it will foreseeably suffer from the consequences of global climate change and is therefore paying particular attention to all aspects of sustainability and the environment in the further development of the country.

With the help of the Singapore Innovation Bridges, numerous complementary measures can be implemented:

1. Singapore gets hotter and hotter

In Singapore, average temperatures are rising more than in most other parts of the world due to climate change, as it is not only close to the equator, but also has a particularly dense population and thus widely sealed surfaces. The Singapore Innovation Bridges will create unsealed green space over sealed, dark, busy roads. The streets shaded in this way can no longer heat up during the day as before. This leads to an improvement of the small-scale urban climate in the affected areas of the city and thus to an upgrading of all properties along the course of the bridges.

2. Singapore needs more renewable energy

Currently, the main source of energy is imported gas. In order to become independent of this, Singapore needs, among other things, more large-scale photovoltaic plants – for which land is required. By using the infrastructure of its highways for photovoltaic systems, Singapore can generate around **3.2 TWh p.a.**: On the one hand, photovoltaic energy can be generated in the form of „Energy-Bands“ along the highways; on the other hand, the Singapore Innovation Bridges could themselves carry photovoltaic modules and also collect energy from photovoltaic systems on roofs to the right and left of their course, in order to compensate for volatility by bundling or to bring the energy to storage locations. The prerequisite is a competence that Singapore is already successfully building up: **energy controlling** for the **smart city** of the future.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



3. . Singapore needs water

Singapore covers almost half of its annual water requirements (approx. 600 million m³ p.a.) until 2061 through imports from Malaysia. Independence from this is being sought through New Water (treated wastewater) as well as desalination of seawater and collection of rainwater in reservoirs. The Singapore Innovation Bridges could collect up to **13 million cubic meters of rainwater** in large parts of the country and transport it to new deep reservoirs to be drilled, which are not as land-intensive as the water reservoirs. Over the past few decades, Singapore has developed the necessary expertise to use the subsurface for its infrastructure. Deep reservoirs with boreholes up to 100m deep could be implemented accordingly quickly and efficiently.

4. Singapore needs housing

Singapore is an attractive country for companies as well as for immigrants. The forecasted population growth is correspondingly strong, for which building space is needed. The area of the Singapore Innovation Bridges is 6.4 million square meters. On them, **7.5 million square meters of building space** can be created, 6.5 million of which could become living space for more than 215,000 people. A prerequisite for the rapid and sustainable implementation of the Singapore Innovation Bridges is a competence in the production of prefabricated concrete elements with special shapes - such as Singapore has already been building up for years.

5. Singapore aims to reduce car traffic with the help of autonomous driving vehicles

While the Singapore Metro and busses provide excellent connectivity on many routes, and the number of vehicles in Singapore is limited by the government, there are areas with heavy car traffic, and there are still large parts of the country that are not connected, as well as routes that are difficult or impossible to travel by public transport. Singapore's Innovation Bridges over the highways could be used to quickly and comprehensively build an autonomous driving transport network that would significantly relieve the traffic flowing underneath. With a length of 250km, the bridges would carry traffic routes of over 500km.

6. Singapore has a strong awareness of sustainability and wants to reduce plastic waste.

A microplastic-free, sustainable packaging system can be implemented on the Singapore Innovation Bridges, for consumer goods as well as for take-away food. In addition, massive greening of the bridges and their buildings can be created above the sealed motorway areas through microplastic-free underfloor irrigation. This green bridge-network can primarily serve as a stepping stone biotope for animals and plants and is in line with Singapore's goal of creating a "city in nature".

In Singapore, over six million square metres of green unsealed area can be created
over sealed, darker trafficked area

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

There are many wide roads that could be covered with green innovation bridges: In many cases it has to be decided to which extend the median strips of the roads, that are already planted with scrubs and trees, should be sacrificed for it

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Copyright © by Google Earth

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In the present concept, it is proposed to build mostly with recesses in the bridge-corpus for the trees, both on the roadside and on the median strip

Singapore has placed great emphasis on urban greenery for decades, true to its motto of being a "city in a garden". Accordingly, there is a beautiful old tree population along the roads that must be preserved. There are also plans to plant a further one million trees.

Leaving several-metre recesses/cutouts and holes on the body of the bridges especially for trees, reduces the number of possible bridge-buildings on one hand, but contributes overall to a much more pleasant cityscape on the other hand.

A wide variety of concrete forms are used for the recesses and holes in the bridges' concrete, which is now possible with the aid of so-called "3D Concrete Printing for Building and Construction" - a field in which the Singapore construction industry has built up considerable expertise in cooperation with the Nanyang Technological University.

Old New Territory Frankfurt

THE PLAN

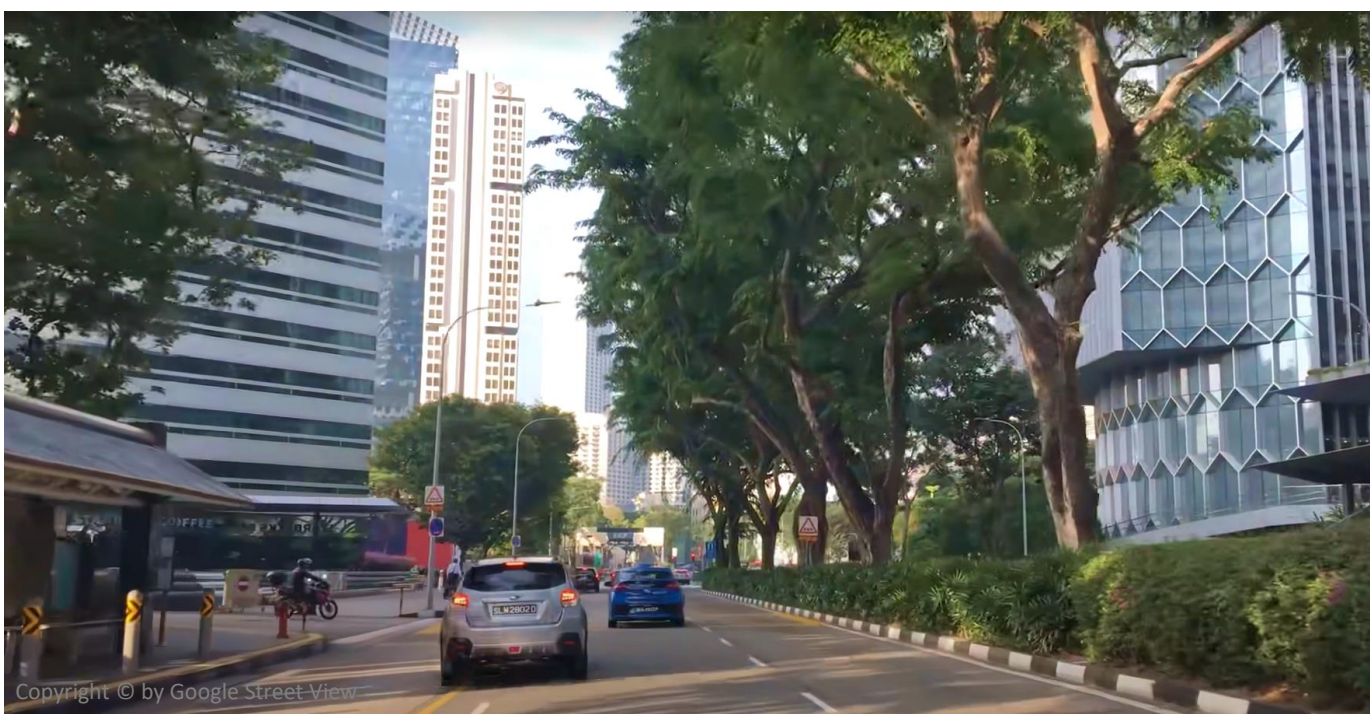
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Singapore's city centre is therefore not suitable for the construction of innovation bridges, as the cityscape is characterised by beautiful old trees and - despite wide streets in some places - an aesthetically pleasing streetscape.

However, despite the exclusion of the city centre, the bridge network will still make a positive and cooling contribution to the city climate.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

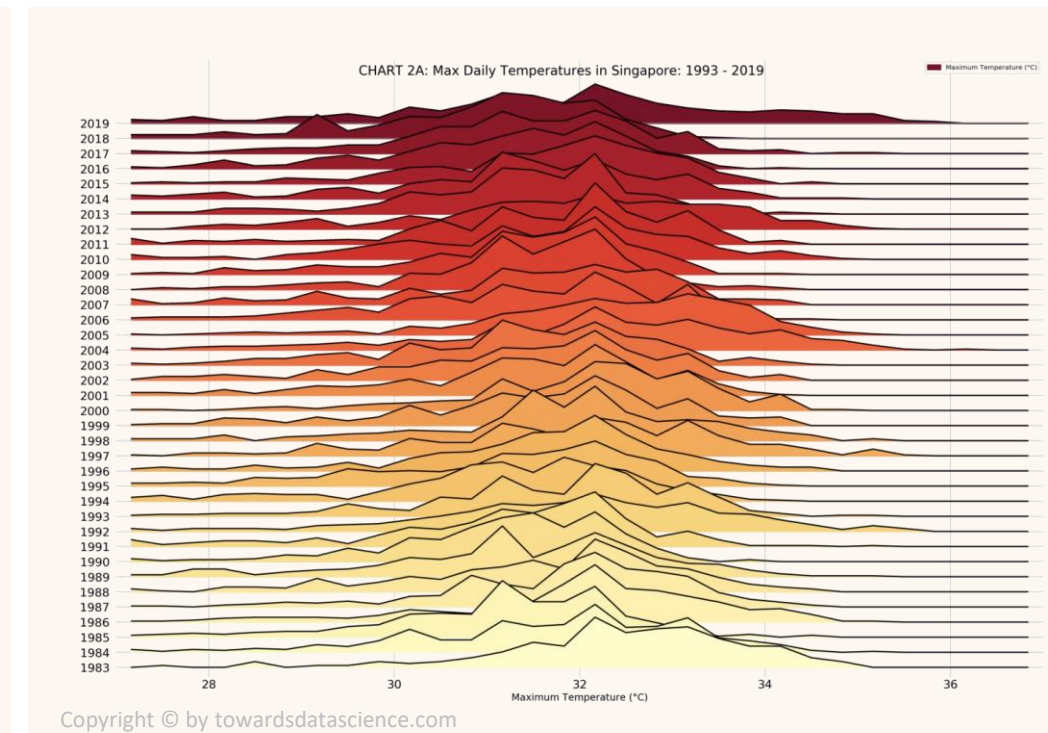
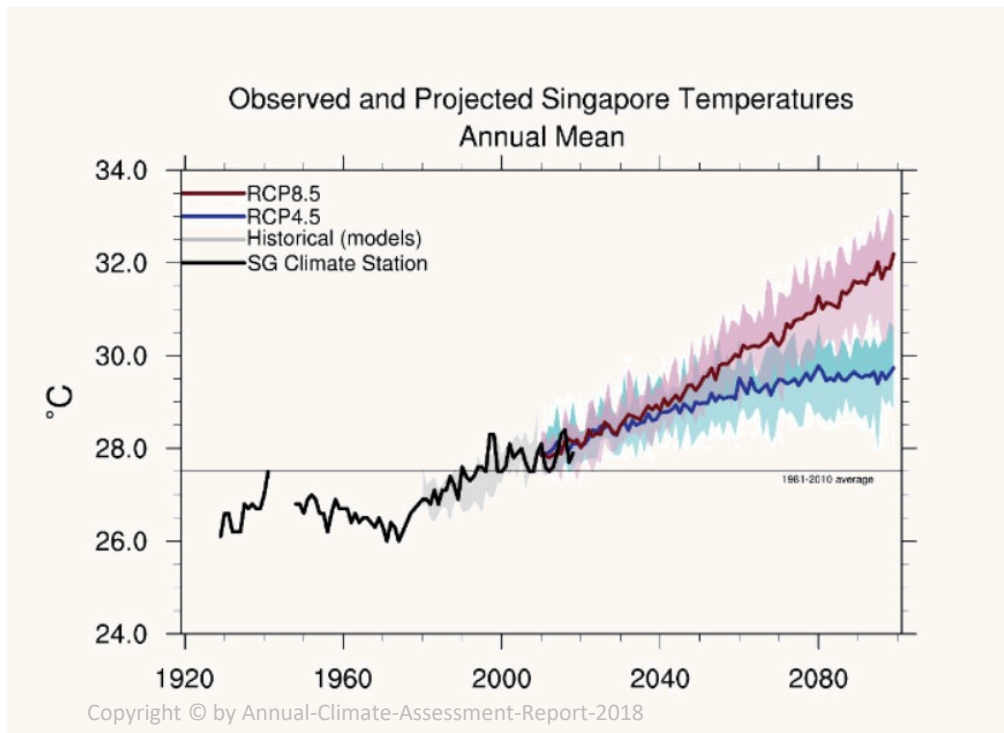
THE TEAM

CONTACT & IMPRINT



(1) Singapore suffers from increasing heat - the government relies on massive greening of facades and the planting of one million trees as a countermeasure: unsealed bright or green bridge surfaces above dark sealed roads are an optimal complement to this strategy

Global warming due to global climate change is hitting Singapore particularly hard, as it is comparatively close to the equator and has had to intensively build on its limited land area for its continued economic growth. To counteract the rising heat in the city, Singapore is greening its facades and strictly controlling further sealing occurring through new construction projects. With green and bright innovation bridges over wide dark car streets, the negative albedo effect over six million square meters of car space is cancelled out: The Singapore Innovation Bridges not only provide a bright, green and thus climatically better surface, but they also cool -on a smaller local scale- through the shading beneath them.



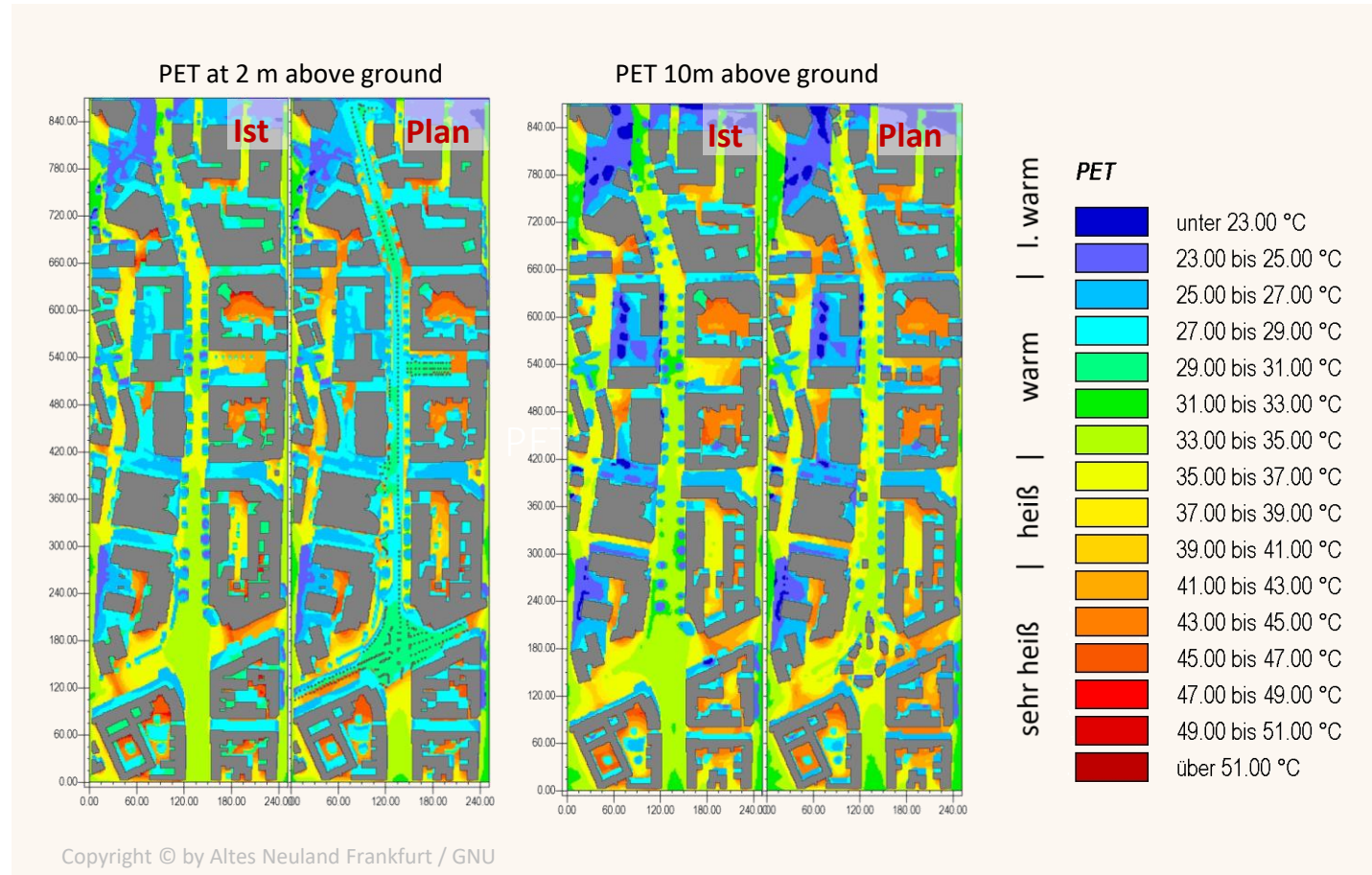
Analysis of the impact of bridges over wide streets in Frankfurt city centre has shown: Without a shady bridge, PET rises to up to 37 degrees on a hot summer's day - with a bridge, on the other hand, it is only 27 to 29 degrees.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION

For the Frankfurt Innovation Bridges, the physiologically equivalent temperature (PET) was simulated for a heavily trafficked critical section in the city: When comparing this road section in ACTUAL (without bridges) and PLAN (with bridges), the model shows a significant cooling in the road area as soon as the bridges are built above it.

A comparable simulation is to be carried out for Singapore, which is made possible by the fact that a complete 3D model for the country is currently being created by the Singapore Land Authority, anyway.



Residents living near the Singapore Innovation Bridges should see at least a comparable, but probably even greater reduction in PET

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

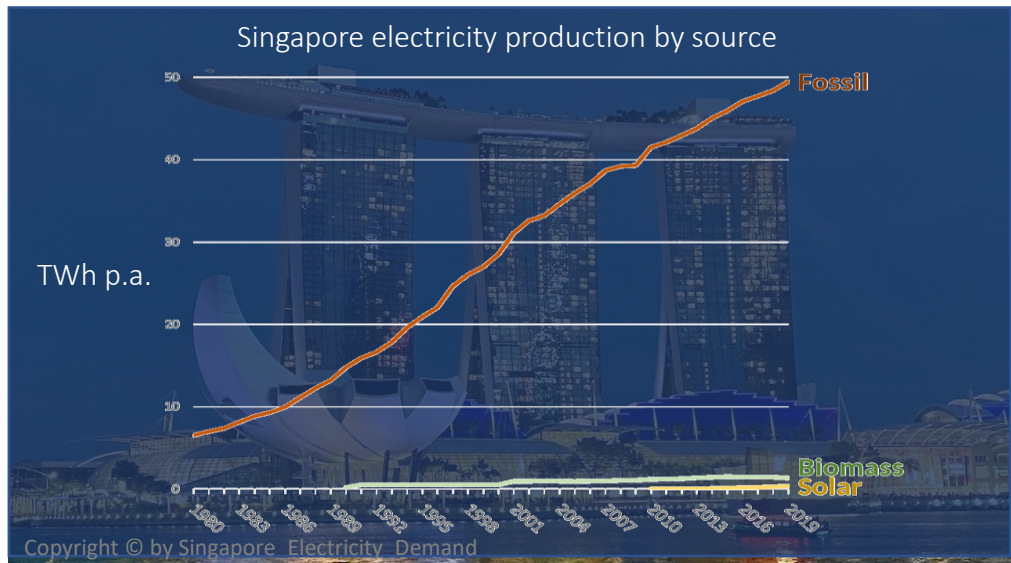
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



(2) Singapore needs about 50 TWh of electricity per year – tendency increasing – and is therefore stringently looking for sources of renewable energy in order to become independent of fossil fuels



In Singapore, photovoltaic offers itself as the most important source of renewable energy: Therefore, the country even floats photovoltaic modules on its beautiful water reservoirs due to lack of space. Another major solution is the purchase of 7.5 TWh/a of solar power through an undersea cable from Australia.

However, there is one much more fragmented photovoltaic potential to be explored, and that is the use of surfaces on buildings or canopies on a large scale. The main challenge here is to control so much finely distributed volatile energy generation.



Copyright © by Tengoh Reservoir - straitstimes.com

Copyright © by Google Earth

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Photovoltaic modules can be installed on the surfaces of the Singapore Innovation Bridges, which can produce a total of 320 GWh - supplemented by „Energy-Bands“, which generate a further 750 GWh.

In all countries, Energy-Bands offer the possibility of quickly and easily setting up an infrastructure for generating energy (see below), and this is also the case in Singapore: With the help of Energy-Bands that run on poles along or across the roads, about 750 GWh can be generated in Singapore per year. However, due to the intensive tree planting along the roads in Singapore, the potential for Energy-Bands is limited to 750 GWh p.a., as trees create shadow and interruptions for Energy-Bands.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The potential for Energy-Bands in Singapore, while attractive, is low compared to other countries

Many roads in Singapore are wide, but still not suitable for Energy-Bands, which is primarily due to the fact that in Singapore roadsides and median road strips are often intensively planted with trees and large shrubs, so that the photovoltaic modules of the Energy-Bands are shaded. In some areas, this dense and valuable city greenery leaves no space for the masts of the Energy-Bands.

However, as an extension of the body of the Singapore Innovation Bridges, the Energy-Bands always have an additional function, which also has a positive effect in Singapore: just like the bridges collect photovoltaic energy generated to the right and left of their course, Energy-Bands can collect photovoltaically generated electricity from roof surfaces or canopies along their course and forward it to consumers or storage locations.

Energy-Bands (like the bridge corpus) are an "electricity collection network" for scattered and volatile photovoltaic electricity generated by the areas to the right and left along their course.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



On thousands of roofs and canopies along the green Singapore Innovation Bridges and their „Energy-Band extensions", a further estimated 2.1 TWh/a of photovoltaic electricity can be produced

Distributed and volatile power-generation is a challenge for utilities around the world, since the conventional energy infrastructure is designed for centralized generation and distribution of power everywhere. Singapore could generate vast amounts of electricity photovoltaically on thousands of rooftops and canopies of parking lots or walkways - but the current utility grid is not designed for such volatility, nor does it have the appropriate control mechanisms.

With the Singapore Innovation Bridges and the Energy-Bands as carriers of a completely new network, the volatile energy can be collected and distributed or routed to temporary intermediate storage facilities. An appropriate control system must be developed for this purpose, which can be used to connect continuously all areas in Singapore that can be used for photovoltaic, throughout the country. Their additional generation potential is likely to be more than 10 TWh/a in total.



Copyright © by Google Earth

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT

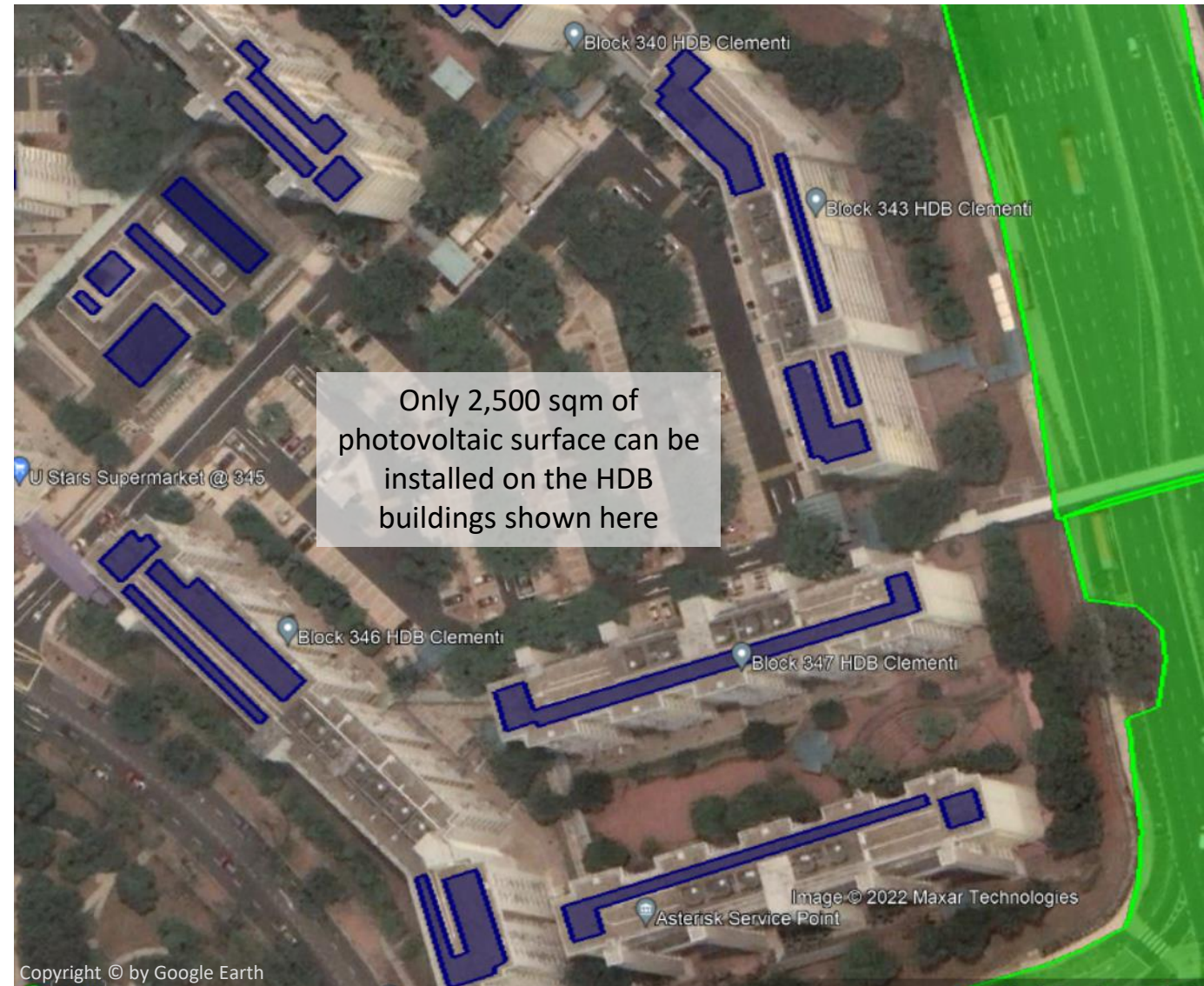


For all areas along the Singapore Innovation Bridges and Energy-Bands, it is necessary to check which type of PV installation is suitable for them

(A) Roofs on high-rise buildings

In high-rise buildings, which make up a large part of the building stock in Singapore, the ratio of roof area to building area is already very unfavorable. In Singapore, this is compounded by the fact that the roofs are occupied by satellite dishes, water tanks, outdoor air conditioning units and other equipment. In addition, walkways around the PV-modules must be maintained on the roofs, which also take up space.

Nevertheless, all high-rise residential buildings along the Singapore Innovation Bridges should be considered because of their uncomplicated implementation potential - since in most cases they are public housing properties to which the Housing and Development Board (HDB) has more direct access - unlike properties that are entirely privately owned.



PV systems that make optimal use of the space on the roofs can already be found for almost all typical roof shapes in Singapore. So far, however, these are special solutions that are not yet available as standardized subsidy packages from the government.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Old New Territory Frankfurt

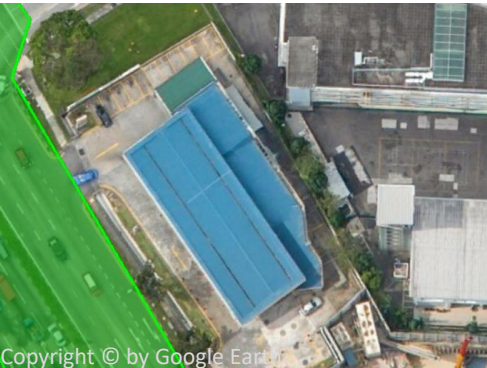
- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



A comprehensive photovoltaic cadastre should be created for Singapore

In the photovoltaic cadastre, each building along the Singapore Innovation Bridges and Energy-Bands can be recorded as to whether or for which type of PV modules it is suitable.

Many roofs present special challenges: Some are so full of equipment so that installing PV modules becomes difficult. Others have particular colors (e.g. blue) or shapes (e.g. barrel shape) that should be replicated with PV modules. And still others have roof surfaces that are interrupted by ridges, tiny windows or air shafts around which the PV modules have to be elaborately installed.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



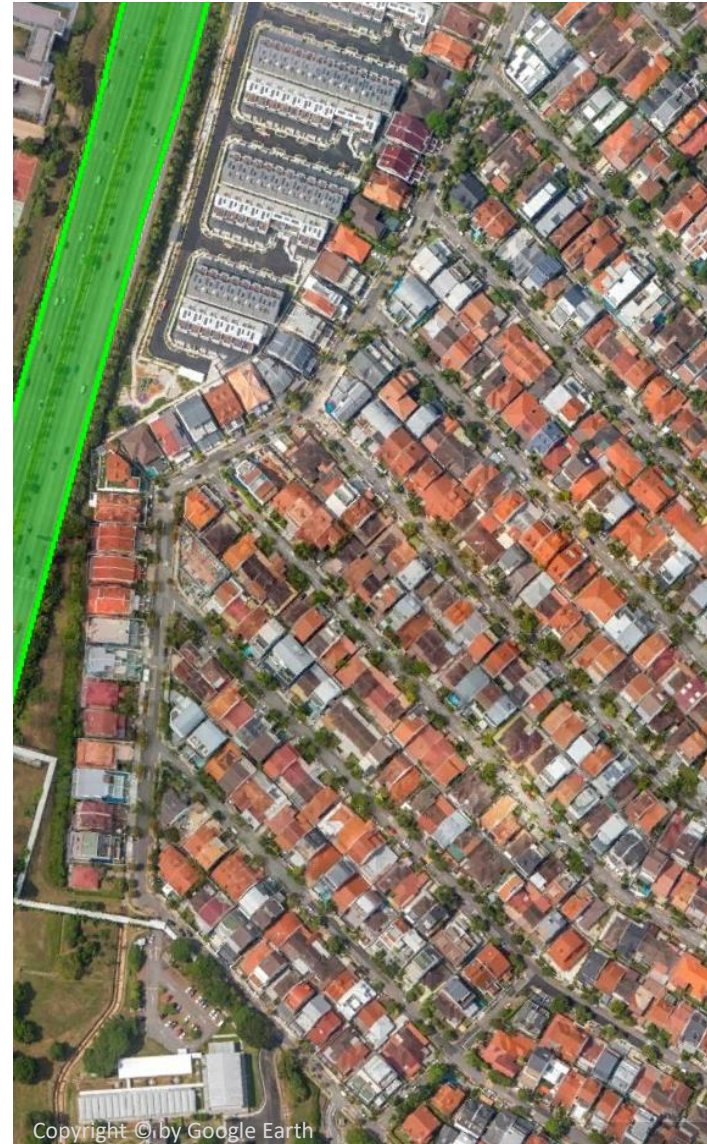
For all areas along the Singapore Innovation Bridges and Energy-Bands, it is necessary to check which type of PV installation is suitable for them

(B) Tiled roofs

Some districts in Singapore have a building landscape whose roofs are covered with red tiles.

Here, it does not make sense for the cityscape to install black photovoltaic modules. An alternative in the future could be red-colored PV modules in tile form. While red-coloured PV modules already exist, no red PV modules have yet been developed that also have the right tile shape. Only black PV modules with a convincing tile shape are already on the market.

However, adequate rooftop PV for districts with special roofs are under development and are expected to come on the market in the near future. The potential of these districts should then be added to the generation quantities calculated here.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



For all areas along the Singapore Innovation Bridges and Energy-Bands, it is necessary to check which type of PV installation is suitable for them

(C) Parking roofs

On many buildings in Singapore, one still finds parking roofs that are more or less intensively used.

The areas there can be provided with photovoltaic canopies (whereby the supports for the canopies must not be located in the driveways).

While the surface of the canopies generates photovoltaic electricity, the canopy also has a shading and thus cooling effect for the cars parked underneath.

However, for adequate shading as well as for stable statics, the construction (unlike ground-covering photovoltaics) must extend to the edge of the roof.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



For all areas along the Singapore Innovation Bridges and Energy-Bands, it is necessary to check which type of PV installation is suitable for them

(D) Parking spaces

Singapore aims to reduce the number of vehicles, and thus parking spaces, by expanding public transport and promoting taxis and Uber - but there are still large parking lots for „PV harvest“.

However, because many parking lots have been planted with trees, canopies will often be fragmented. Nevertheless, even a small-scale PV canopy will make sense at the latest when a large proportion of the vehicles in Singapore will be e-cars and the electricity for these will be produced on site and can also be fed directly into vehicles parked there.

Whether special designs are worthwhile for recesses in trees or not, must be examined on a case-by-case basis, as must the question of whether PV canopies are worthwhile for parking lots on the rather shadowed north side of buildings.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Car parks with dense tree cover should not receive photovoltaic roofs

There is enough space for photovoltaic installations in Singapore, so that no trees have to fall victim to the production of renewable energy.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

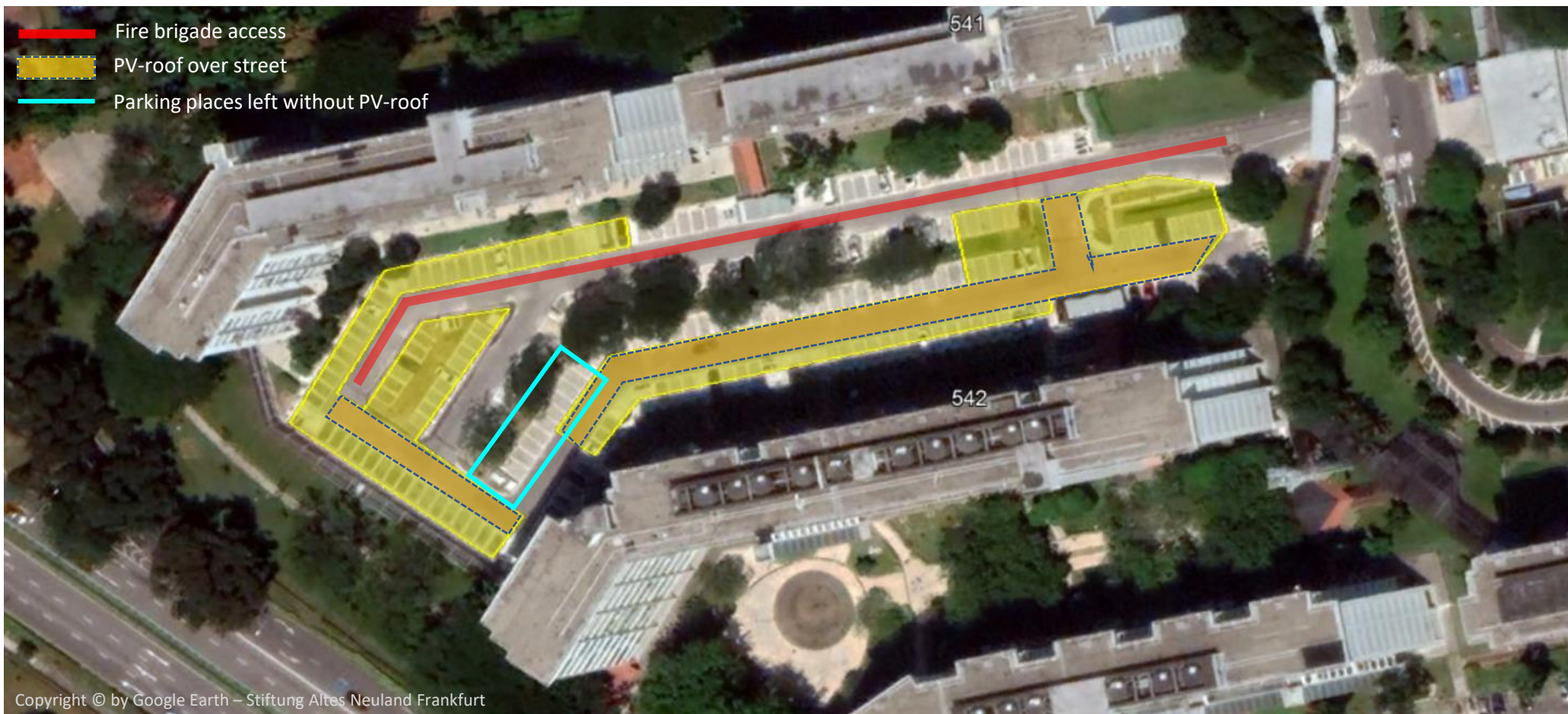
THE TEAM

CONTACT & IMPRINT



In order to protect trees and still generate as much energy as possible directly at the parking lot, in special cases the traffic routes on the parking lot can be covered on top or even instead of the parked cars

The prerequisite here, however, is that access routes for the fire brigades are maintained. Furthermore, covered traffic routes can only be driven on by vehicles that have the appropriate height - because if it is a pure car parking area, the roofing there only has a certain height, and this piece of traffic route can then no longer be driven on by trucks.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



For all areas along the Singapore Innovation Bridges and Energy-Bands, it is necessary to check which type of PV installation is suitable for them

(E) Walkway canopies

A walk can sometimes get very hot in Singapore - so there are already many walkways and waiting areas that are covered.

PV modules can also be installed on these canopies, provided they are located near the Singapore Innovation Bridges or the Energy-Bands, so that their volatile energy can thus be fed into a grid optimised for this purpose.

Other paths can also be provided with canopies that support PV modules, especially if there are properties nearby whose roofs are also covered with PV modules and which therefore have a line to the Singapore "Innovation Bridge Backbone,,, anyway.



Copyright © by ricemedia.co



Copyright © by Google Earth
Image © 2022 Maxar Technologies
Alexandra Hospital



Copyright © by Google Streetview

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**
- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**
- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



If Singapore opts for widespread installation of PV modules, however, white PV modules should also be used specifically, as otherwise significant local heating could result from the numerous black surfaces

Photovoltaic is the cheapest and easiest form of renewable energy to install. It has only one disadvantage: It is most efficient when it is black, but then it unfortunately also heats up the most. If you plan large-scale PV solar parks for an entire region, you always run the risk of regional warming.

Accordingly, roofs in Singapore that are already bright white or light today should be covered with white PV instead of black PV. True, white PV has only 11%-13% efficiency, while black PV has 23%-25%. But The total amount in Singapore along the innovation bridges and on them is 1.35 million square meters of area for which bright PV is recommended. This generates about 290 GWh of electricity - a considerable amount, contributing 7.25 TWh/a of electricity over a 25-year lifetime.



Copyright © by Bisol



Copyright © by Bisol

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**
- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**

- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Over 2 TWh/a can be generated on rooftops and car park canopies along innovation bridges in Singapore

In the present analysis, only roofs that do not have to fulfil an aesthetically relevant task have been taken into account. Accordingly, no single-family or multi-family houses with sloping roof shapes have been included in the calculation; red tile roofs and pretty colourful roofs have also not been included, as aesthetics play an important role here and should not be destroyed by PV modules.

In the future, however, these roofs could also have PV potential as soon as PV modules that are visually adapted in terms of colour and shape are developed.

Furthermore, mostly only roofs and parking lot canopies with a minimum size of 200sqm were considered. A more detailed inventory would also include smaller roofs and canopies with an estimated additional 20% PV generation area.

Potential path canopies are not yet included in the present analysis. This must be done with detailed knowledge of the respective localities, the buildings adjacent to the paths and the paths use. Here, too, up to 20% PV generation area could be added.

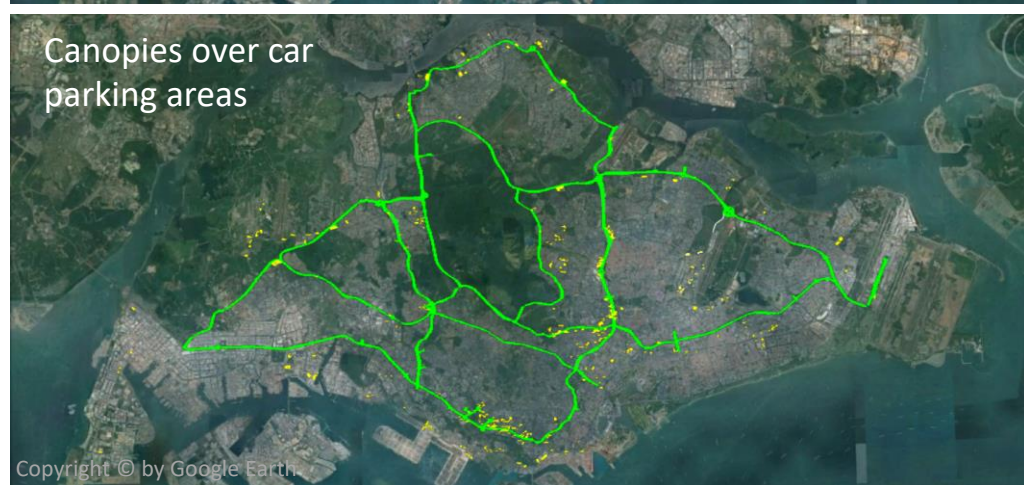
Roofs with black PV-Modules



Roofs with white PV-Modules



Canopies over car parking areas





In order to enable a systematic and comprehensive roof utilization along the Singapore Innovation Bridges and Energy-Bands, Singapore needs to create a photovoltaic cadastre in which all roofs and roofing possibilities are recorded and evaluated

In the photovoltaic cadastre, roofs and parking lots are to be analyzed and evaluated along various dimensions:

Roofs

- Aesthetics and function: Is it a flat roof (PV remains invisible) or a beautiful roof over housing? Has it a religious function? etc.
- Location: distance to the nearest PV grid feed-in point at the Singapore Innovation Bridges or Energy-Bands
- Size and shape: Can PV be installed using a standard "modular" process and modules?
- Construction: Can the roof bear the load of PV systems? If necessary, check thin-film and lightweight modules as an alternative
- Age: Is it worthwhile to install a PV system or will a roof renovation be necessary in a few years?

Parking

- Size and frequency: Is PV roofing worthwhile? (For intensive use without shading often effective from 2 cars).
- Trees between canopies: number, size and expected size of trees between a canopy in the parking lot: Are there standardized special canopies with recesses/cutouts for the existing trees which must not be sacrificed for PV-modules?

If individual building owners set out privately one by one to explore photovoltaic potential on their rooftops, to select the appropriate technology and type of PV, and to screen the market for it, then it is likely to take a very long time for Singapore to exploit its PV potential along the innovation bridges and Energy-Bands. Therefore, Singapore should commission the development of suitable modular PV units from the government side and incentivize or subsidize the installation of PV on all rooftops.

Singapore can exploit its PV potential most quickly if a modular "construction kit" for PV systems on roofs and parking lots is developed with government support and if its use is financially subsidized

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Copyright © by Vinh Dao - dreamstime.com

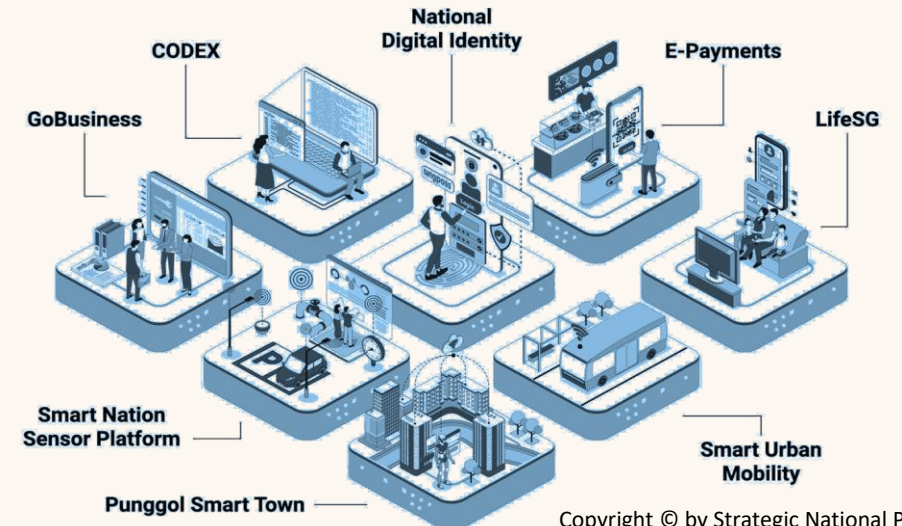
Control systems for balancing and storing the volatile energy "collected" along the Singapore Innovation Bridges and Energy-Bands are a challenge - but Singapore is on its way to becoming a "smart city,, anyway

PV modules can be installed on both sides of the body of the Singapore Innovation Bridges as well as on the roofs of the bridge buildings, so that the entire bridge world can generate its own electricity on a scale of around 320 GWh - and supply surpluses to the rest of the city. The Energy-Bands that branch off from the Singapore Innovation Bridges generate a further 0.75 TWh/a of electricity.

In addition, there are the large amounts of electricity that are collected from the areas to the left and right of the Singapore Innovation Bridges and the Energy-Bands, and are forwarded to various users once they reach a surplus at the place where they are generated: for example, from car park roofs where no vehicle is currently parked and charged with electricity, or from roofs of industrial companies where there is no business on Sundays.

Singapore will rise to this challenge, because it is considered the number one in the world on the way to becoming a smart city: For example, Singapore has already developed a complete district cooling system, the "Punggol Smart Town", and the government has set up numerous other "Strategic National Projects" to optimize the entire infrastructure in this way: Operational controlling technology for a PV grid fits perfectly into the competence profile that the city has built up, already.

Strategic National Projects



Copyright © by Strategic National Projects

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

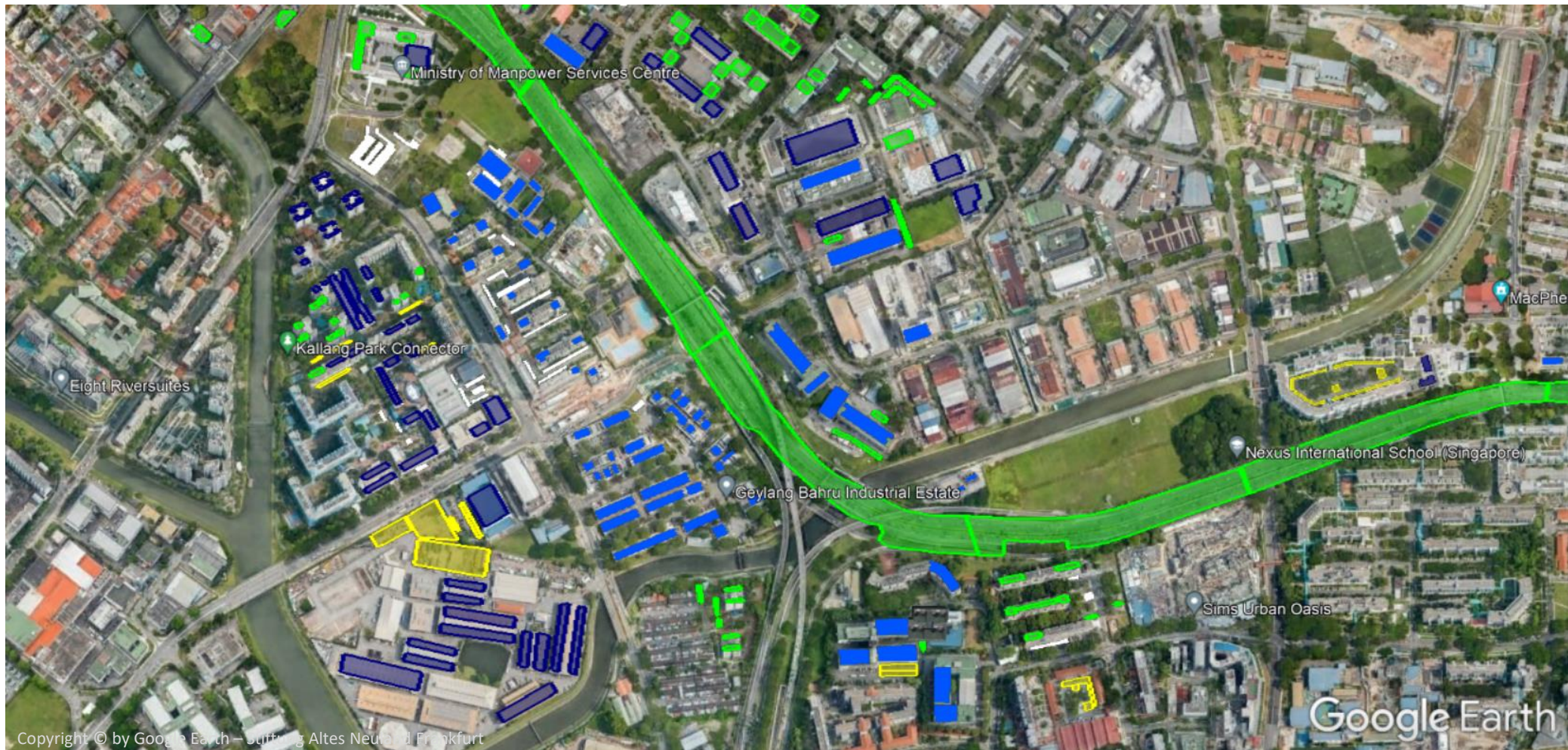
THE TEAM

CONTACT & IMPRINT



The location of the PV modules must not be too scattered: All areas suitable for photovoltaics along the bridges must be recorded in the PV cadastre

It must be defined for each bridge section how far away a property may be from the bridge line in order to still connect the photovoltaically activated area to the main power line in the bridge body with justifiable effort and an attractive return on investment. In this context, not only the size and location of the respective photovoltaic area in connection with the pure distance from the body of the Singapore Innovation Bridges are relevant, but also the degree of its "networking" to the bridges.



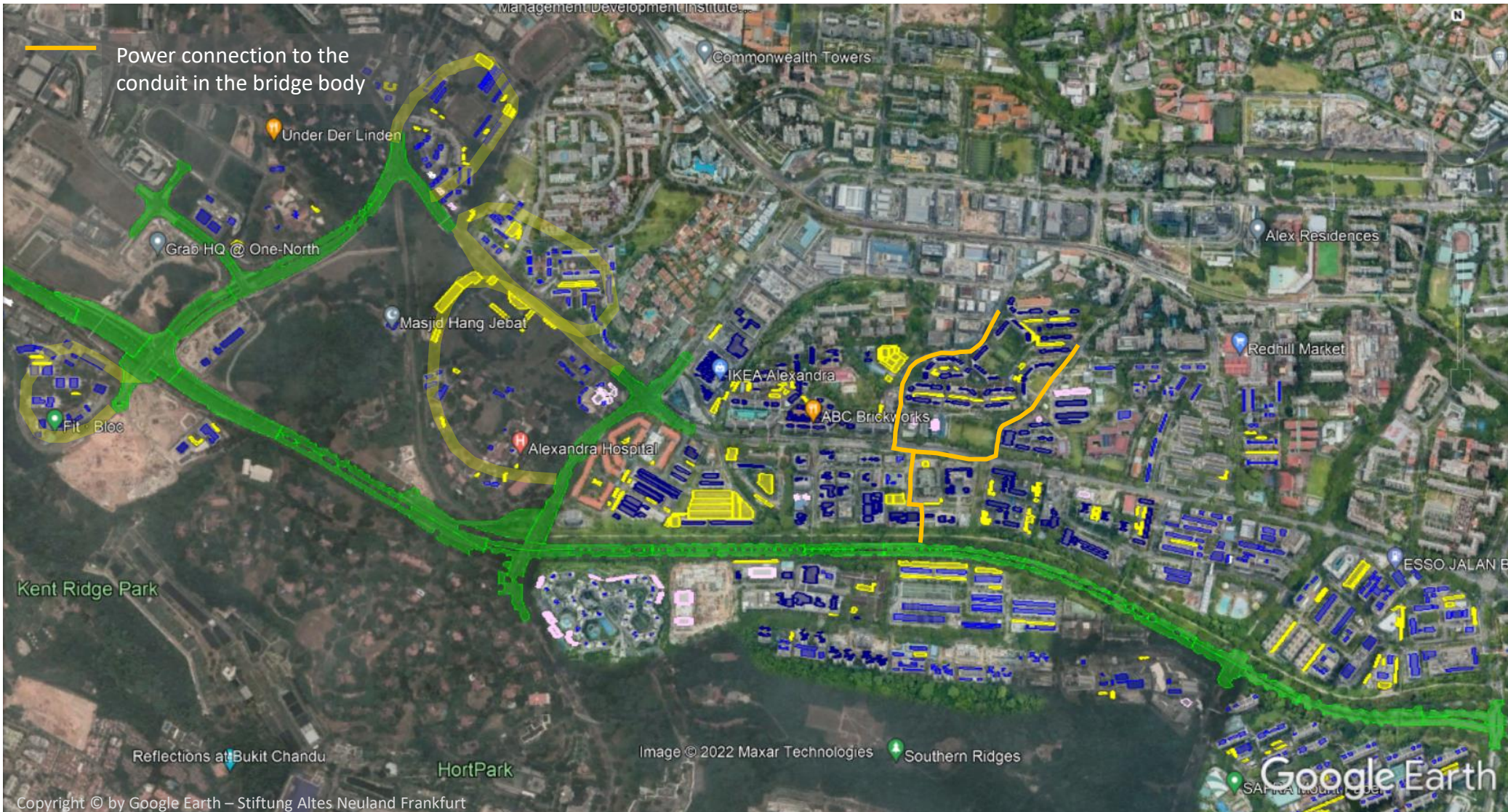
Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Photovoltaic areas further away from the body of the Singapore Innovation Bridges are only of interest if, in combination („networking“) with other areas, they economically justify a supply line to the "bridge electricity backbone"





Summary: The Singapore Innovation Bridges can collect over 2 TWh/a from areas right and left, and produce 320 GWh/a with their own bridge areas - another 750 GWh are added by the Energy-Bands

Of the approximately 3.2 TWh/a. collected with the help of the Singapore Innovation Bridges and the Energy-Bands, about 0.3 TWh/a could be transported to underground hydrogen storage facilities, which would cover an area of approximately half a square kilometre.

Photovoltaic Areas	Length (km) or Area (m2)	Power (GWh): 3.100
Parking Places along the Bridges (m2)	1.000.000	370
PV-Roof-Areas of Buildings next to the Bridges (m2)	4.050.000	1.480
White PV-Roof-Areas of Buildings next to the Bridges (m2)	1.280.000	260
SUM	6.330.000	2.110
Energy-Bands I (km)	27	160
Energy-Bands II (km)	31	45
Energy-Bands III (km)	29	235
Energy-BandsIV (km)	26	255
PV-Extensions (m2)	157.171	55
SUM		750
Sides of the Bridges	215.000	30
Roof-Area of Buildings on the Bridges	1.600.000	235
Facades of the Buildings on the Bridges	220.000	10
Canopies on the Bridges	305.000	40
Pillars of the Bridges	70.500	0
Elevators at the Bridges	4.000	1
Stations for Bridge Traffic	15.500	4
SUM	2.430.000	320

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

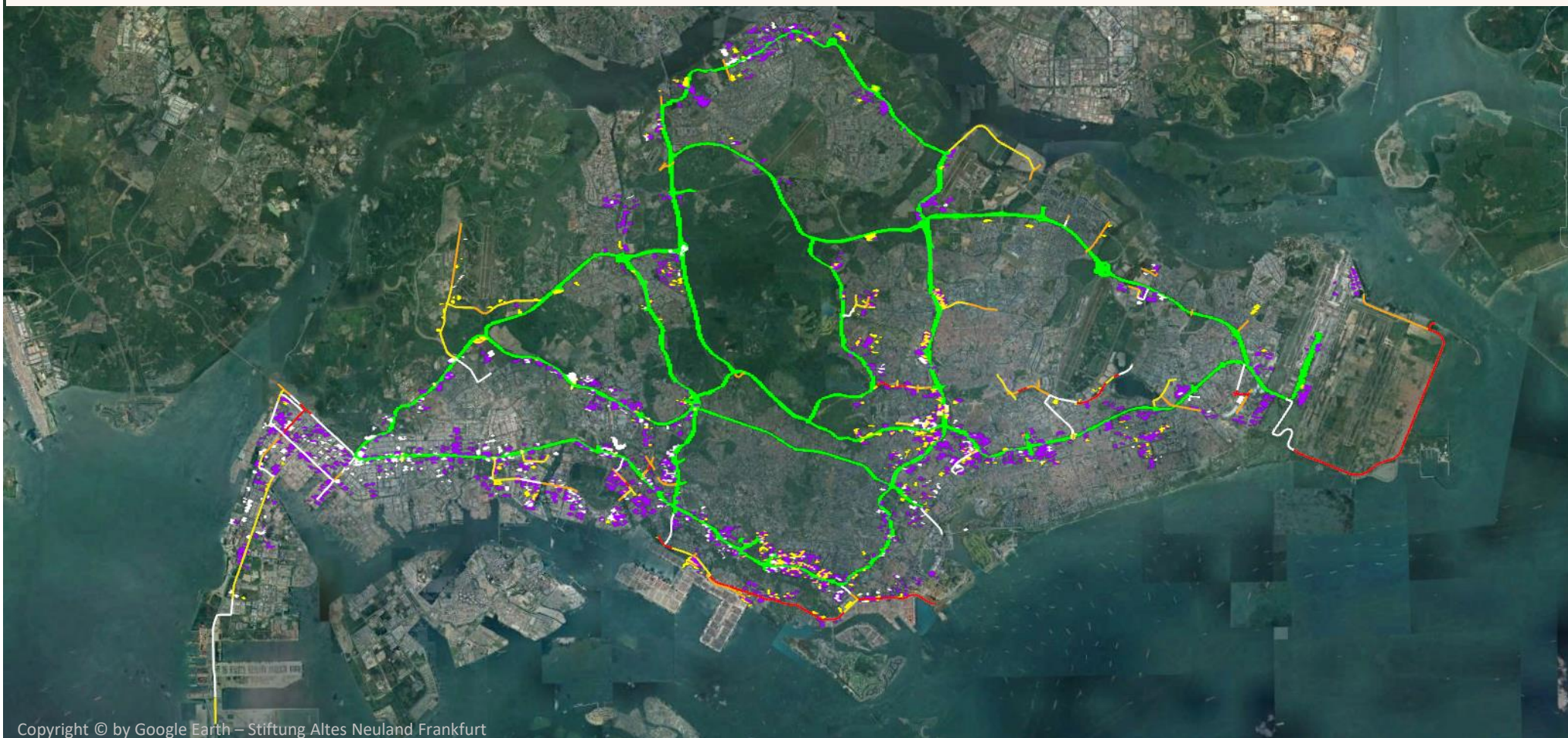
SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Singapore currently consumes around 50 TWh of electricity per year: The rather fragmented activation of 3.2 TWh/a generation potential on roof tops with the help of Singapore Innovation Bridges and Energy-Bands can make an important contribution to the electricity supply of the country

If smaller areas than in the analysis presented here are also taken into account when compiling the photovoltaic cadastre, the total potential along the bridges and Energy-Bands is estimated to be around 5 TWh/a.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

LAW

- FINANCES
- IMPLEMENTATION

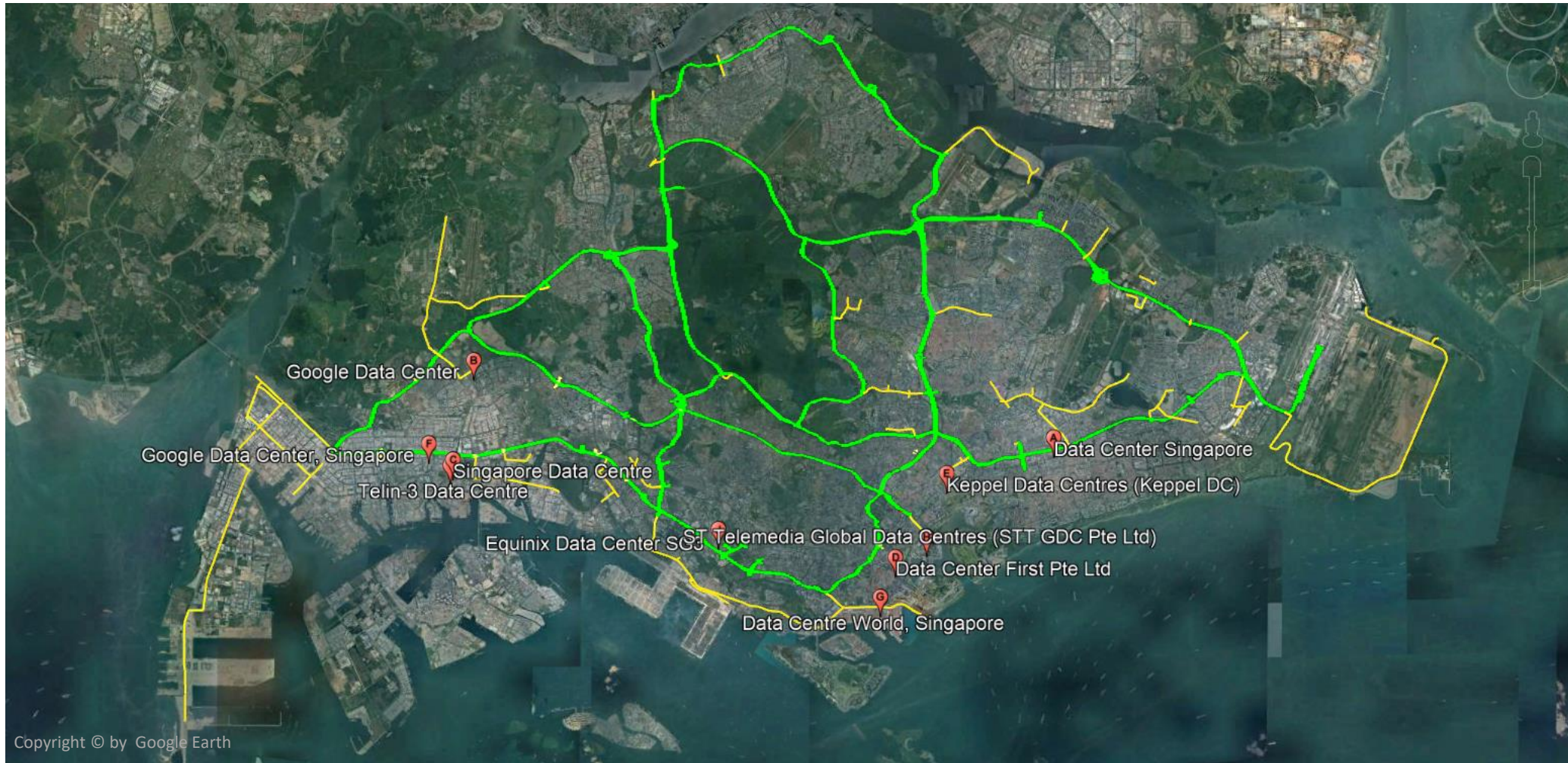
SPECIALIST INFORMATION

SEARCH

- THE TEAM
- CONTACT & IMPRINT



Singapore is a growing "data center hub in Southeast Asia. Supplying this area with power is becoming an ever greater challenge: energy belts and bridges can provide relief as power and data lines, especially as they run past the largest data centers



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

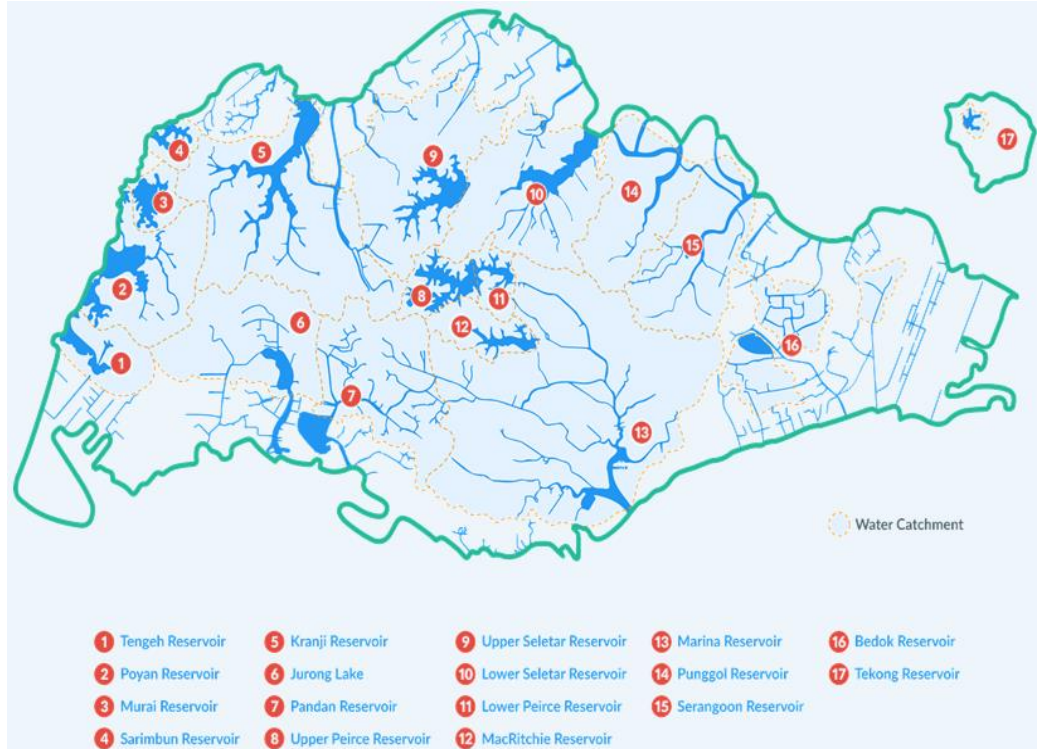
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



(3) Singapore needs water: The country consumes around 660 million cubic metres of water per year. Although rainfall amounts to 1.7 billion cubic metres per year, only 10% of this can currently be collected or used

Singapore suffers from water shortages for its growing population and industry, and currently still has to import almost half of its water requirements (which amount to 600 million m³ p.a.) from Malaysia. Of the 1.7 billion m³ of rainfall that falls on Singapore annually, only about **160 million cubic metres** is currently captured or stored in Singapore's 17 water reservoirs, the rest seeps away, evaporates or ends up in the sea. In order to store even more rainwater in reservoirs, more freshwater areas would have to be created, which will be difficult given the shortage of land in Singapore - even though the current water reservoirs are all beautifully integrated into the landscape and used as recreational areas.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

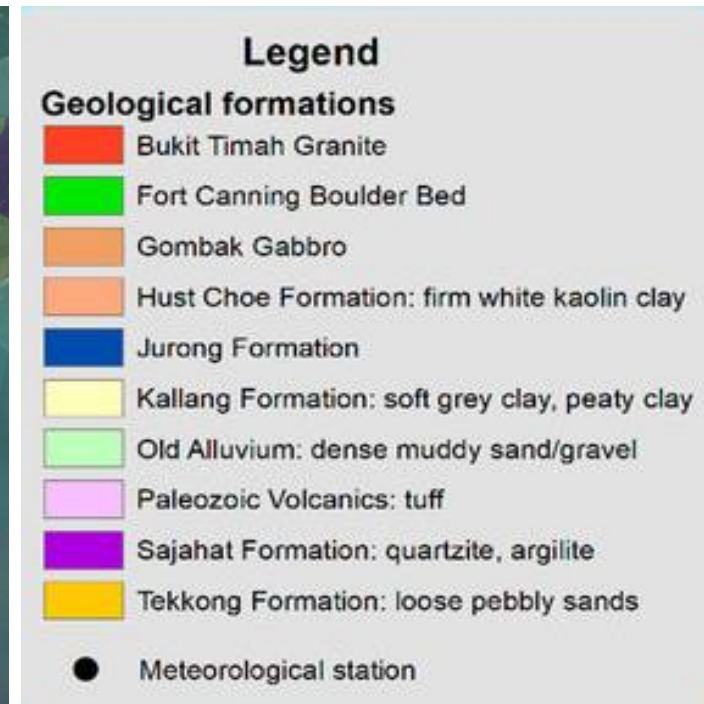
SEARCH
THE TEAM
CONTACT & IMPRINT



The Singapore bridges can collect 7 million cubic metres of water and transport it to storage facilities - which, because of the lack of space, should be deep rather than wide

As with many other infrastructure elements, Singapore can turn to underground space for water storage: About 15 million m³ of rainwater falls on Singapore's bridges, and about half can be directed from the bridges to cylindrical ground storage tanks, which take up space in depth rather than in area.

With a depth of 100 meters and a diameter of only 10 meters, 225 reservoirs would be sufficient for the approximately 7 million cubic meters of water that are delivered by the Bridges. The locations for these deep reservoirs can be selected along the entire bridge route, taking into account the respective to the geological conditions.



Old New Territory Frankfurt

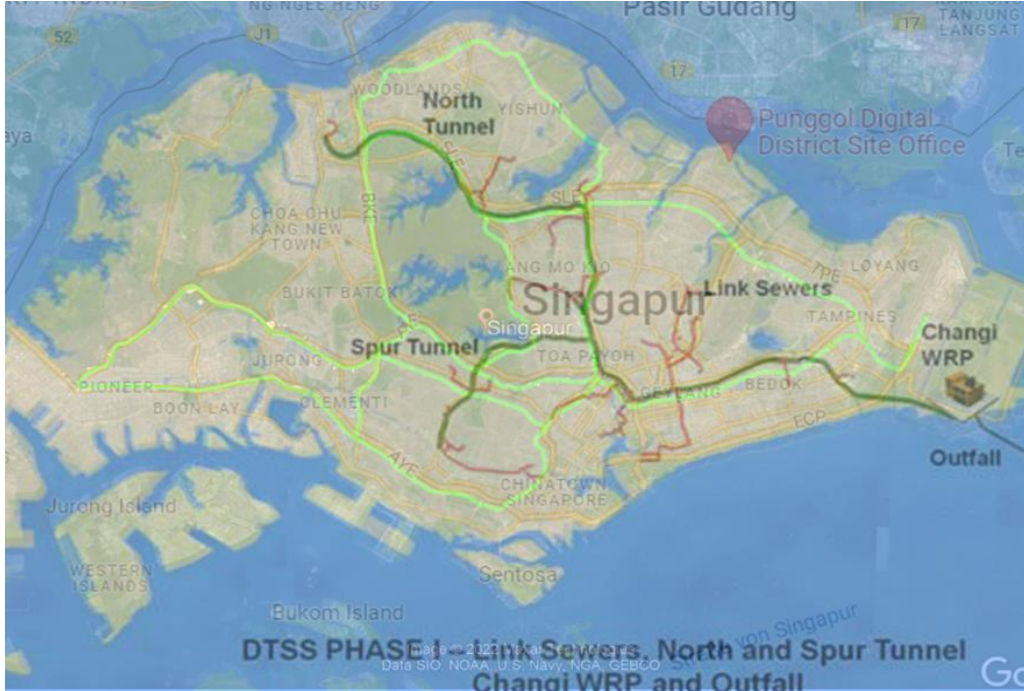
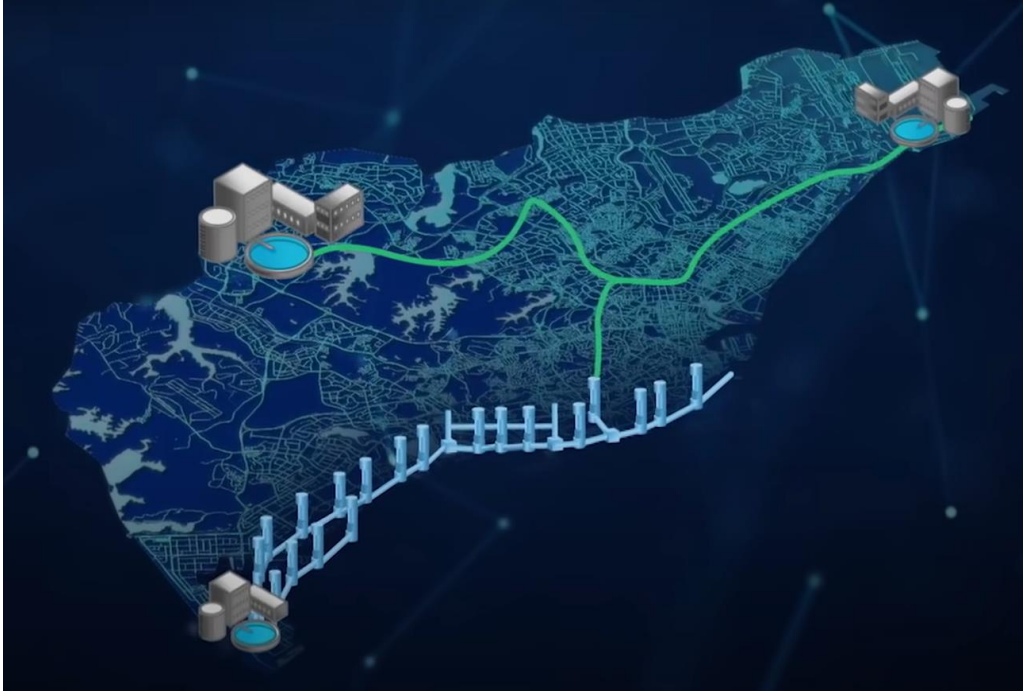
- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Singapore has significant expertise in burying infrastructure deep underground: it has already relegated its water management to subterranean depths with a sewerage system up to 40 metres deep



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

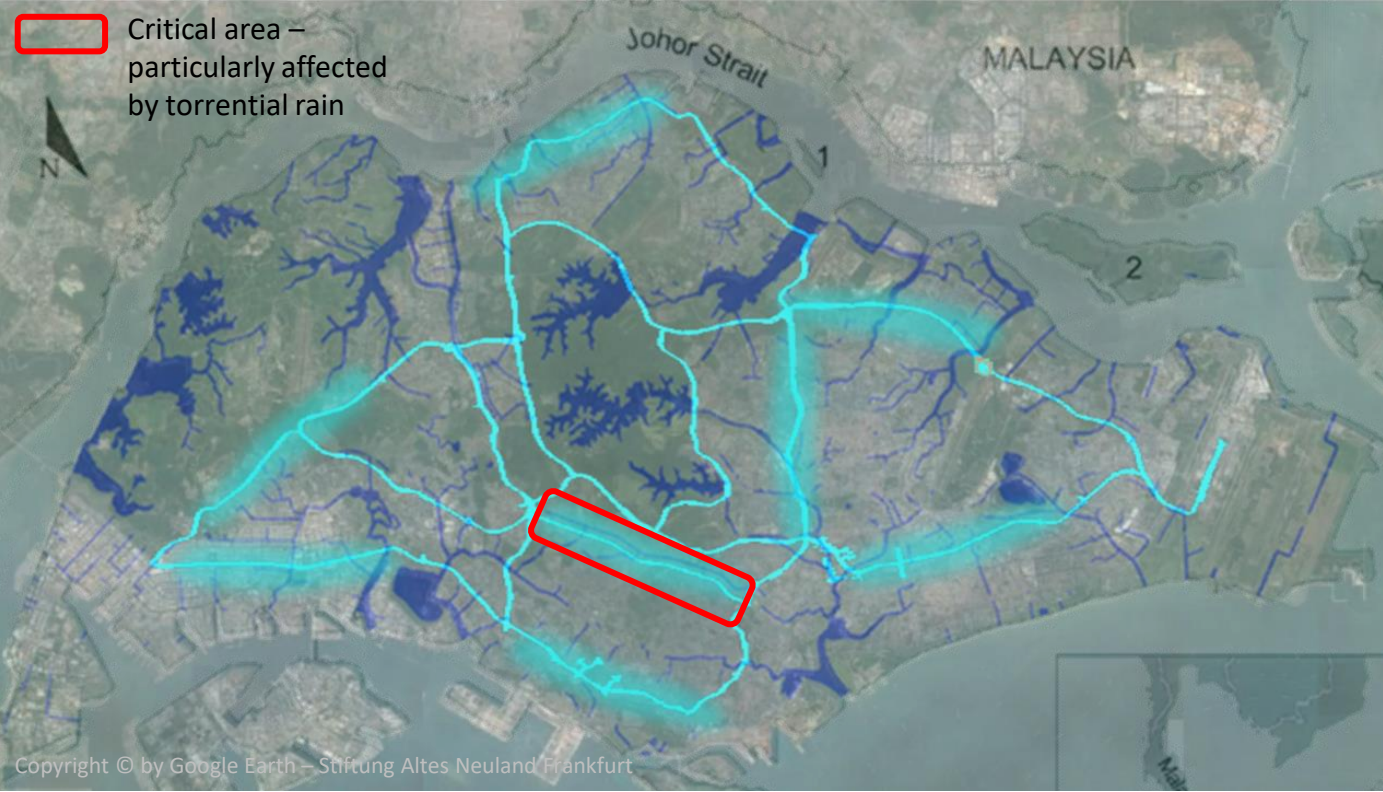
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



If the bridges also collect rainwater from properties to the right and left of their course, they can transport an estimated further 6 million m³ of water p.a. to storage locations - with their own 7 million m³ this would be a total of 13 million m³

The Singapore bridges cross parts of the country that are further away from the main canals and reservoirs. Some of the properties to the right and left of these have large sealed areas, large roofs or parking lots that will be covered with photovoltaic canopies. The bridges can help collect stormwater from these areas. The prerequisite would be that for larger properties with 1000sqm of rainwater area and more, a cistern bylaw is enacted that requires a cistern to be installed on one's own property that collects the rain as a buffer during rainfall events and then pumps it on to the bridges that transport it to the deep storage tanks. Their number (or size) would have to be almost doubled for this (i.e. 450 instead of 225 storage tanks).



Some roads in Singapore are more and more often affected by torrential rainfall: When building the Singapore Innovation Bridges, cisterns can be also installed under the street-surface, which is affected by the bridge construction, anyway.

When heavy rainfall floods the bridge-surfaces above the street, the water can partly be conducted to the deep reservoirs, and partly be channeled down to the cisterns beneath the road for later use.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



More than half of Singapore's water is used by industry - the bridges could transport more rainwater directly to deep reservoirs in regions populated by industry

Singapore's industry is receiving more and more "New Water" (treated wastewater), but the demand is huge and growing. Most of the water used is drinking water, even though most industrial processes do not require such a high degree of purity.

Singapore bridges can reach almost anywhere - accordingly, they can also specifically transport the rainwater they collect to deep storage tanks near industrial areas: Thus, the rainwater then only requires rough cleaning and does not have to be 100% drinking water quality.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT

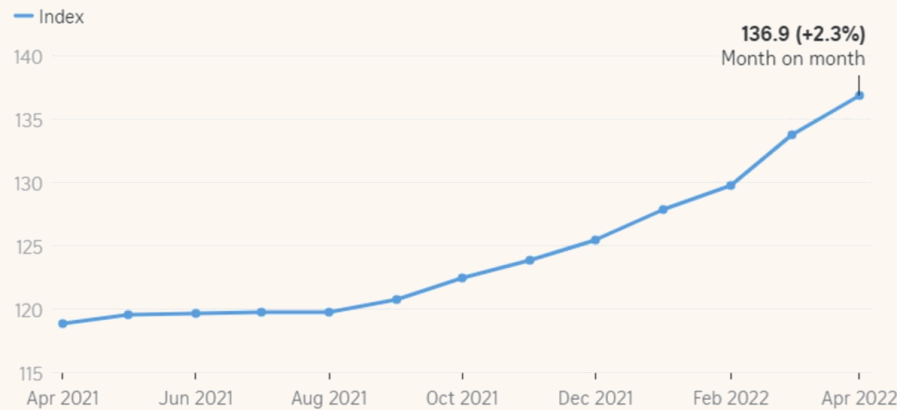


(4) Singapore needs housing: a growing economy, increasing number of single households and greater living space requirements per person are leading to an ever-increasing demand for housing – on the Singapore Innovation Bridges housing can be created for over 215,000 people

Singapore has the problem that its land area is scarce, and it would like to avoid further sealing in order not to exacerbate the trend of rising temperatures in the city. So far, the option of turning to the sea has been used, but even this option has limits, especially since for each building land must first be extracted at great expense.

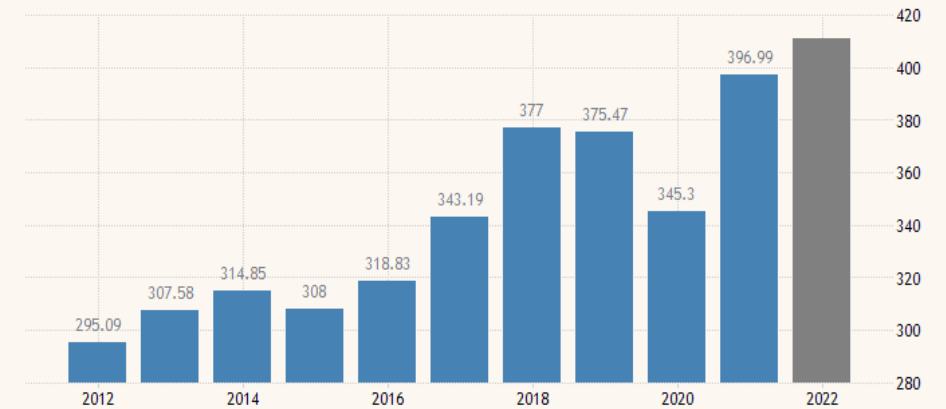
The bridges offer a new alternative: 6 million square meters of unsealed green space can be created above Singapore's roads. With regard to the tree population on the middle road-stripes, „bridge building land“ will not be created in all sections, as the recesses/cutouts in the bridge corpus for the trees take up a comparatively large amount of space. But even if only 25% of the bridge surface area is built on with buildings that have an average of 5 full floors, there will already be over 7.5 million square meters of bridge building space. If only 6.5 million of that is used for housing (and the rest for education, culture, shops, restaurants, etc.), over 215,000 people can live there.

Singapore Rental Prices



NOTE: Figure for April 2022 is a flash estimate.
Chart: STRAITS TIMES GRAPHICS • Source: 99.co, SRX

Singapore GDP



TRADINGECONOMICS.COM | WORLD BANK

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
 UAE - Dubai
 China - Shanghai
 USA - Los Angeles
 Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



All architectural styles of Singapore should be represented on the bridges: modern as well as old architecture

Singapore has impressive modern architecture - however, as everywhere else, it is primarily the museums, hotels or public buildings that are spectacular, and rarely the residential constructions.



Modern apartment buildings and blocks of flats in Singapore are, as in all parts of the world, mostly rather uniform - but there are also some architecturally successful exceptions.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Modern architecture can be particularly effective on bridge sites adjacent to wooded areas, where bridge buildings can be up to six or seven storeys high

An example: Approximately 100,000 square feet of building space can be developed on this bridge site at Upper Seletar Reservoir, with building heights ranging from 3 to 7 stories. The bridge construction is limited to the road and to those parts of the green land where only few trees are scattered on otherwise plain lawns.





However, many people in Singapore also have a strong sense for their traditional architecture - accordingly, it makes sense to also rely on Singapore's beautiful architectural heritage in large parts of the Bridges

The so-called "shophouses" are particularly popular in Singapore - among Singaporeans as well as expatriates, tourists and foreign investors. The price per square metre for such pretty little houses is currently 25,000 to 35,000 euros per square metre for well-maintained examples.

Traditionally, a business ("shop") is located on the ground floor and the operators live above it. Converted into residential buildings, both floors can contain living spaces, and the narrow seating area in front of the ground floor is often used as a terrace.

If Shophouses are built in the traditional way, the results are highly sustainable buildings, both because of the materials used in the region and because of clever ventilation systems.



Copyright © by istockphoto.com 1



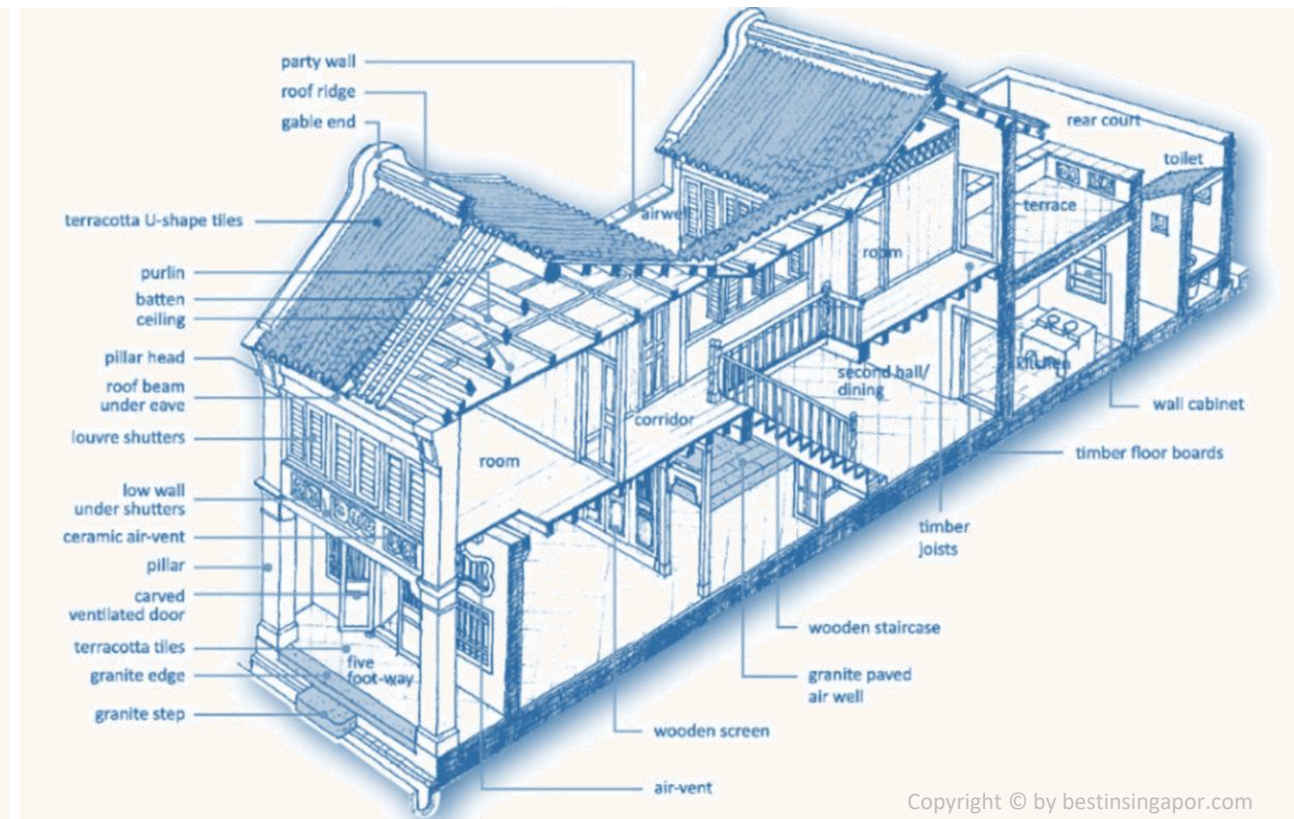
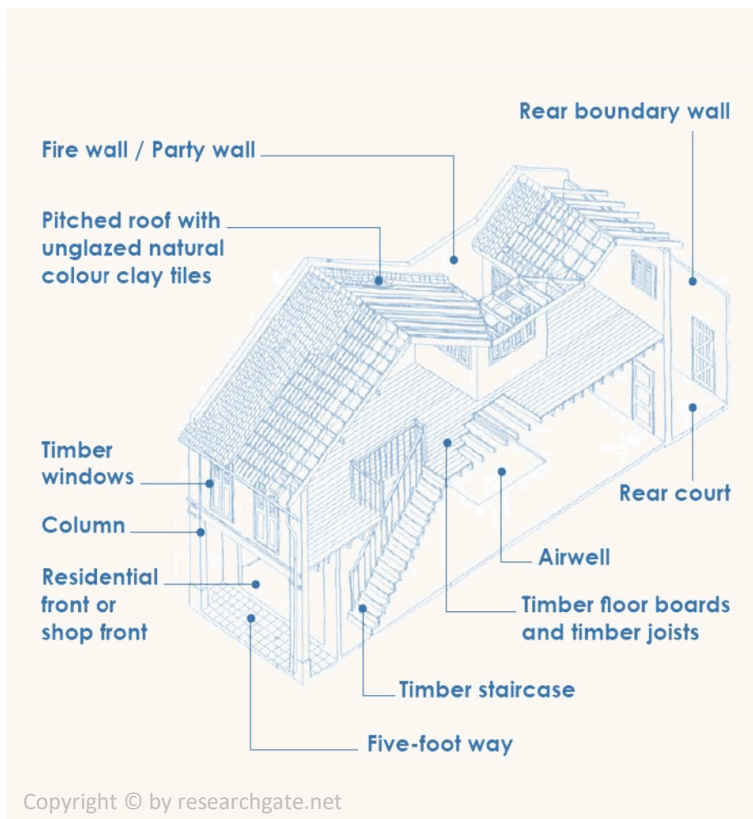
Copyright © by flickr.com



Shophouses are sustainable buildings by modern standards: Natural materials are used in their construction, and the traditional architecture is designed to ventilate and cool the building.

The roofs are made of clay tiles, the doors and window frames as well as shutters are made of wood, the building material of the walls are extremely durable bricks, and the beams are also made of wood.

There are ventilation shafts and ducts inside the houses and also sometimes on the outer facade hidden in the decorations, e.g. in the window parapets. The air circulation towards small courtyards is also so sophisticated that the buildings experience a pleasant light cooling. This sustainable construction method of the Shophouses reduces the use of air conditioning and meets state-of-the-art sustainability standards.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER
ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The special thing about the Shophouses is the mixture of styles from different regions: Chinese wall decorations can be found next to Ionic-looking half-columns, and Venetian Oriental roof friezes above Corinthian-inspired pilasters.

The internationality and peaceful coexistence of the most diverse cultures in Singapore finds its architectural expression in the Shophouses.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The Shophouse construction has Singapore in common with Malaysia, where similar eclectically designed houses can be found especially in George Town Penang

The resemblance is so great that only connoisseurs can distinguish which buildings are Singaporean and which are Malaysian - which is not surprising, since almost one seventh of the population in Singapore is of Malay descent.



Copyright © by dreamstime.com

Copyright © by dreamstime.com

Copyright © by dreamstime.com

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Shophouses in Singapore, however, often have bolder colours - a trend that is perhaps due to the stronger Indian influence in Singapore



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

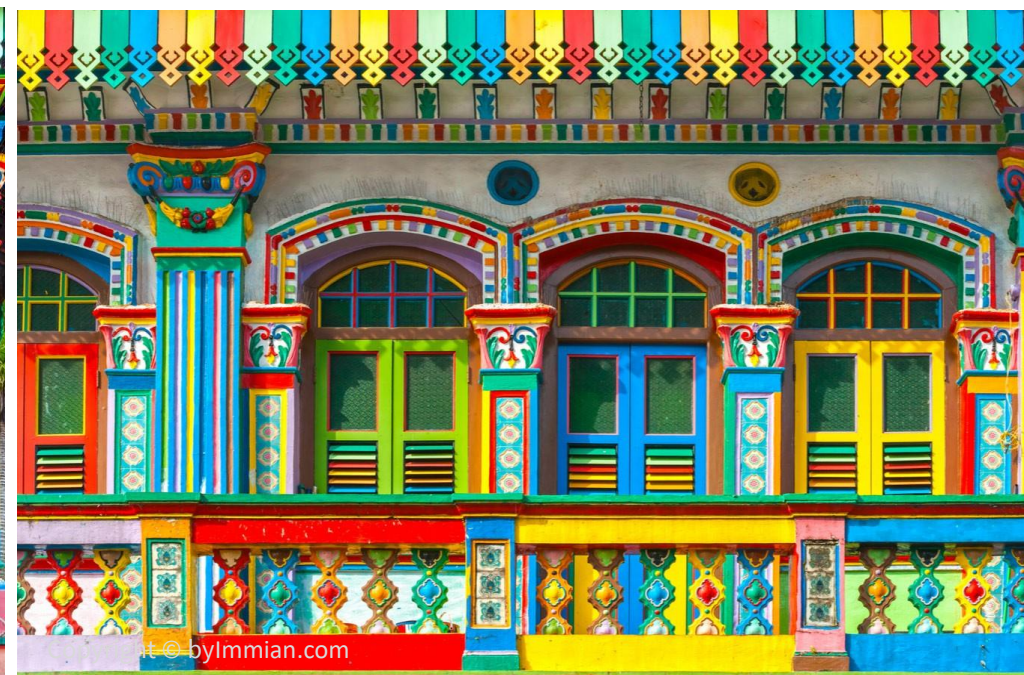
THE TEAM

CONTACT & IMPRINT



For the Shophouses in Little India the prices in Singapore are between 16,000 and 20,000 euros per square metre

Like other Singaporean Shophouses, the houses in Little India are precious cultural assets that are a unique part of Singapore's architectural heritage.



High-quality traditional Shophouses can be built, for example, on the narrower bridge sections close to the city centre - centrally located but still in the countryside

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



In addition, for all bridge sections it should be examined which buildings can be connected to the bridge corpus via so-called "building-bridges": For hotels, shopping malls, congress centres, etc., such a connection is of extremely high value, as it significantly increases their accessibility.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Also very popular are traditional "Black and White Houses" in Singapore - which fetch prices of up to 40,000 euros per square metre.

The houses date back to the colonial era and are a fascinating architectural mixture of British colonial style and local construction.

They are mostly designed as single-family houses, but the design as a multi-family house is also possible.

Because they are traditionally free-standing buildings, Black and White Houses fit particularly well in places on Singapore's innovation bridges where terraced houses or high-rise buildings are structurally impossible.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The construction method of the Black and White Houses is adapted to the climate: Integrating learnings from their construction into new architecture can help to reduce the energy-intensive power-consumption for air-conditions

The houses have window fronts that let in a lot of light, but are not so high that the midday sun could penetrate the rooms if the angle of incidence is steep. Most houses have verandas, sort of as an extension of the interior rooms, so that one can also sit outside in the "living room".

The buildings are kept light inside and outside, and traditionally have beautiful shutters or numerous awnings.



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The ideal area for Black and White Houses: on the Singapore Innovation Bridges near Alexandra Park

Alexandra Park is home to one of the largest clusters of Black and White Houses. Not only can a housing estate of Black and White Houses be built on the bridges next to it, but it also revitalises the area, as with all areas through which the bridges run: On them, in addition to residential buildings, there are restaurants, playgrounds, shops, kindergartens, and more – by having the Innovation Bridges in the neighbourhood, everything is suddenly within walking distance for the residents of Alexandra Park.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Bridge sections with conventional Shophouses or even Black and White Houses do not, however, exploit the maximum possible living space with their tendency towards low-rise development

Even though such streets are very charming and people usually love smaller, more manageable units, the precious bridge land that is created on the surfaces of the Singapore Innovation Bridges must still be utilized for as much building space as possible.

In some places on the Singapore Innovation Bridges, such areas of low-rise development may of course be created, especially where there are existing buildings very close to the bridges that would be affected by taller buildings on the bridges.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



There are also three- to four-storey traditional buildings, which sometimes even have a special roof structure: Buildings of this type are ideally suited for large parts of the green Innovation Bridges in Singapore

Multi-storey Shophouses combine the charm of heritage properties with the advantage of larger building spaces. They are quite common in both Singapore and Malaysia, although they are in the minority. Since Shophouses are mostly narrow, but have a lot of depth to the rear, enough charming building space can be created with the help of multi-storey buildings without having to build entire high-rise buildings on the bridges.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

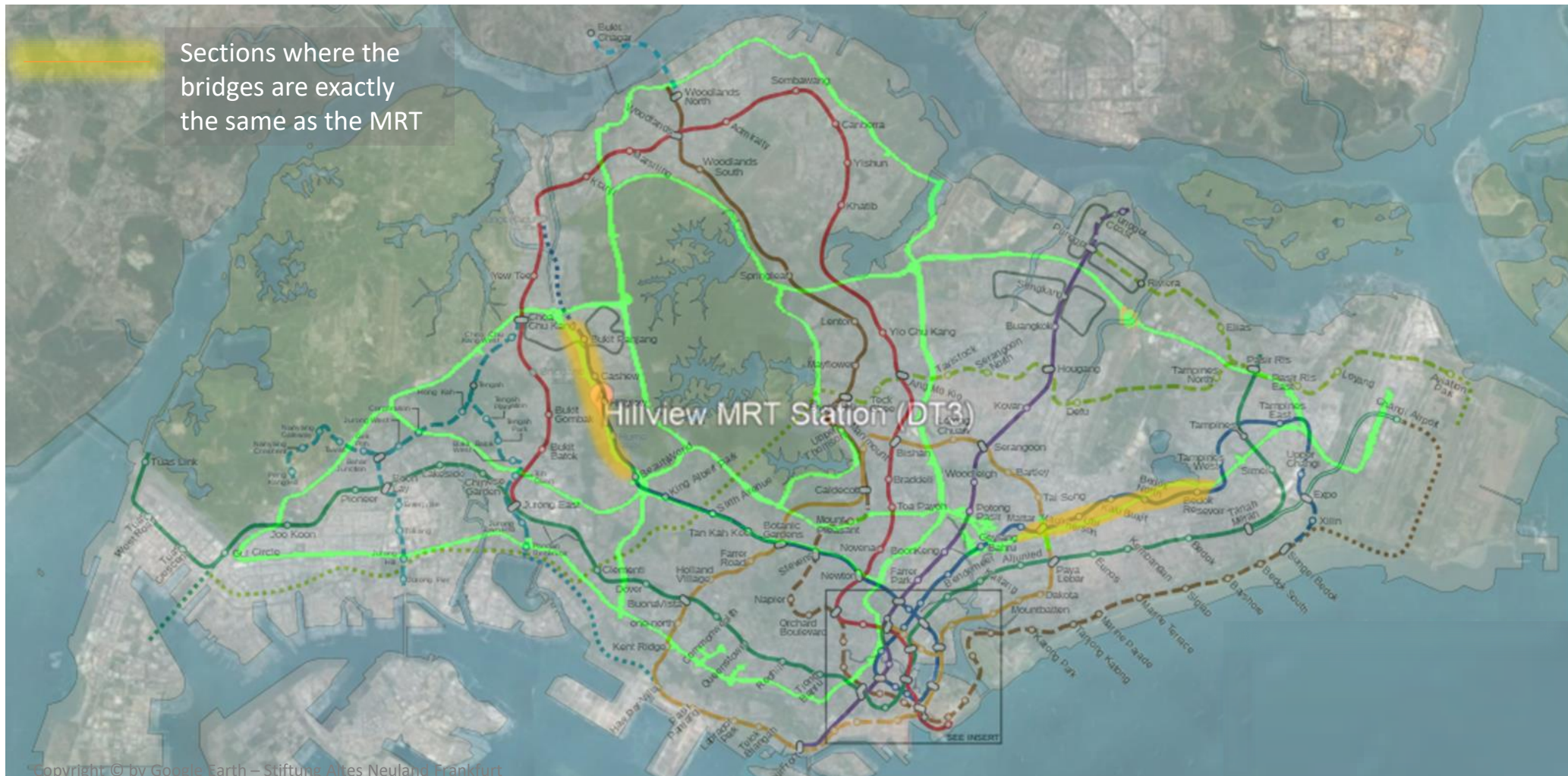
SEARCH

THE TEAM

CONTACT & IMPRINT



(5) Singapore aims to reduce private transport: Singapore already has an excellent public transport network consisting of MRT and buses - the green innovation bridges only run in two places like the MRT, otherwise they mostly access other areas of the city



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The existing transport network in Singapore can be supplemented with autonomous vehicles on the Singapore Innovation Bridges, for which e.g. WOHA Architects and the Singapore Ministry of Transport have already designed visions

Autonomous buses or trams will travel to specific bridge stations and transport several people at a time; individual vehicles, on the other hand, can be summoned via app to take people individually to drop-off points on and to places between Metro-stations, directly connecting significantly more points in the city than before.

This is similar to what is envisaged in the vision of the Singapore Ministry of Transport: Currently, the number of registered vehicles is limited to prevent the roads from becoming too crowded. However, the need for individually drivable routes will remain and the desire for door-to-door transport is likely to increase due to climate change.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Autonomously driving traffic drastically reduces the number of vehicles and is accordingly also the declared goal in Singapore - but it is difficult to integrate autonomously driving vehicles into the individual traffic that exists today

Autonomously driving traffic will only develop its full functionality and efficiency if there are no more "disruptive" individually self-acting road users. In order to create proprietary routes for an autonomously driving system, either today's normal self-driving traffic can be moved below ground level and the autonomously driving vehicles drive on the freed-up ground-level space; or normal traffic remains where it is and proprietary routes for autonomously driving traffic are created on a second level above. The bridges offer the latter solution option and are faster to build than deep laying entire road systems. On the bridges, autonomously driving "individual traffic" can be created without problems, and after going through learning effects, Singapore can start to transfer the system to its roads, later.



highways and other urban connections are moved to lower and subterranean levels.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

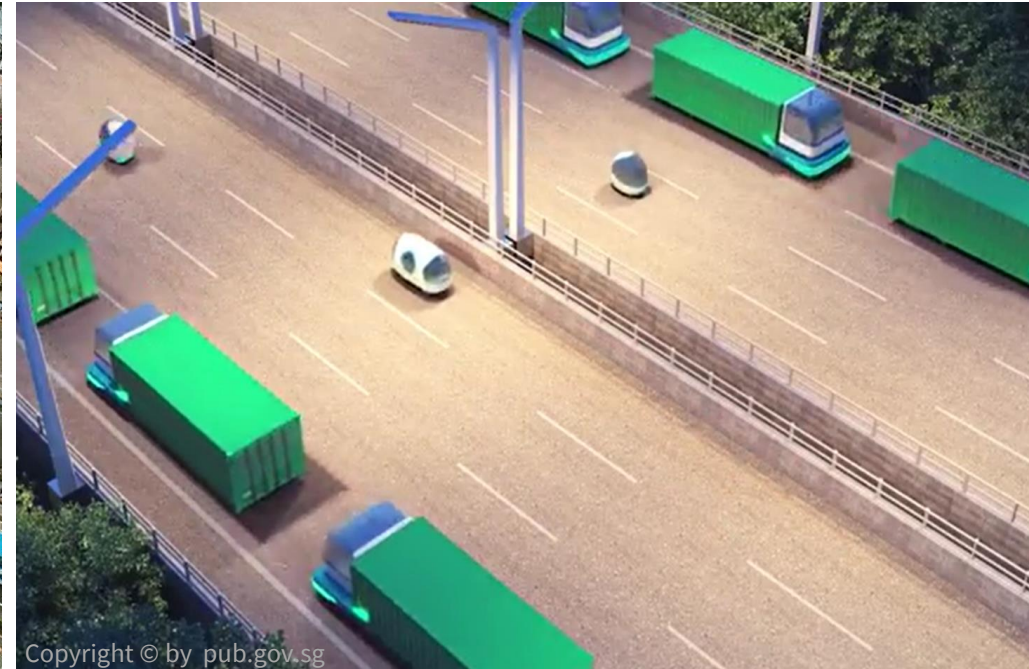
SEARCH

THE TEAM

CONTACT & IMPRINT



As an intermediate stage between "autonomously driving traffic only on the bridges" and "autonomously driving traffic on all levels", one solution could be that each traffic system gets its own lane next to other road users - however, the risk of disruptive "encroachments" remains



Successively converting existing traffic systems into autonomously driving traffic systems is virtually impossible, as the interaction between individually acting road users and artificial intelligence involves too many imponderables. If, however, separate lanes are created for autonomously driving vehicles, and if these lanes are possibly protected by guardrails, then coexistence in traffic is conceivable.

The Centre of Excellence for Testing & Research of Autonomous Vehicles in Singapore has been building up expertise in the testing and development of autonomous driving for years: Accordingly, there are already several autonomous driving vehicles in Singapore.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Copyright © by Mediacorp CNA Singapore



Copyright © by High-news.ru



Copyright © by science.orf.at

Currently, the design of autonomous driving vehicles in Singapore is not as modern and visionary as WOHA architects' visualizations, but rather they share the boring look with almost all autonomous driving vehicles worldwide.

On the green Innovation Bridges in Singapore, all models can be shown to advantage: ultra-modern cars that could have come from a science fiction movie as well as classic cars. Many people in Singapore love and appreciate oldtimer cars - for example, they are among the most popular wedding cars to rent for that special occasion.



Copyright © by Wedding Car Rental



Copyright © by aido.com 3



Copyright © by singaporebrides.com

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Singapore appreciates traditional cultural assets: More trams like the time-honored Singapore Trolley Tram can run on Singapore's Innovation Bridges

As on the Frankfurt Bridges, vehicles in lightweight construction can travel on the green Innovation Bridges in Singapore: A wide variety of vintage buses and trains can be built modularly, so that each vehicle does not have to be completely redeveloped, but can be equipped with a different body but the same "inner workings". Together with the ultra-modern vehicles, a diversified fleet is created in which there is something suitable for every passenger. Especially in the case of the cars, this can make up for the fact that in the future, Car-Sharing will no longer allow you to select or equip your own car according to your individual taste, as you do nowadays purchasing it.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



If normal traffic is one day replaced by autonomously driving traffic and the number of vehicles drops massively, the number of lanes can probably be reduced on many wide roads.

The space freed up under the bridges can be used for cyclists or walkers, but also (if it's wide enough) to build shops, nurseries, loft-style apartments and the like.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



(6) Singapore has a strong awareness of sustainability and wants to reduce plastic waste - especially in the growing take-away sector

Due to its proximity to the equator and its high degree of ground sealing, Singapore suffers particularly from global warming. Accordingly, the willingness to use all possibilities to become CO₂ neutral is high.

A particularly insidious form of CO₂ pollution is caused by microplastics, which mostly enter nature through plastic waste: plankton contaminated with microplastics can bind less carbon dioxide from the atmosphere. As a result, the function of the oceans as a global carbon dioxide sink is reduced.

On the green Innovation Bridges, Singapore can establish a take-away system with containers made of glass and enamelled stainless steel, similar to the system on the Frankfurt Innovation Bridges.



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



When it comes to takeaway food packaging, there are two sustainable alternatives without any microplastics: enamelled thin stainless steel and more break-resistant, relatively thin - and therefore slightly lighter - glass

Compared to disposable packaging, stainless steel and glass packagings are sustainable: with stainless steel, one can assume a shelf life of several decades, with robust glass quite some years. In the former German Democratic Republic (Eastern Germany), extremely durable, thin glasses were produced that are still doing their job in some restaurants today, more than 40 years later.

The technology was developed in the 70s of the last century. But since glasses that do not break are not a profitable business model, production was discontinued after Germany's reunification and no further research was carried out.

Research into glass technology for smartphones has led to rapid improvements in break resistance of glass over the last two decades: a wide variety of tempering processes and laminated glass materials have been developed. The experience gained from these research fields should be used for the further development of take-away tableware and containers made of break-resistant glass.



Even though both materials, stainless steel and glass, are relatively energy-intensive in production, the energy expenditure is amortized relatively quickly through the long period of use. If the glass and steel table ware and containers are recycled, the energy balance is even better.

Transport-, cleaning- and other process-energy can always be expended during the day when photovoltaically generated electricity is abundant. They are cleaned with the aid of steam and UV radiation, i.e. with comparatively little water or detergent.

In addition, packaging made of lightweight shatterproof glass or thin enamelled stainless steel meets another important criterion: Even if it ends up somewhere in the environment, breaks or is disposed of incorrectly - it leaves no microplastics behind.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



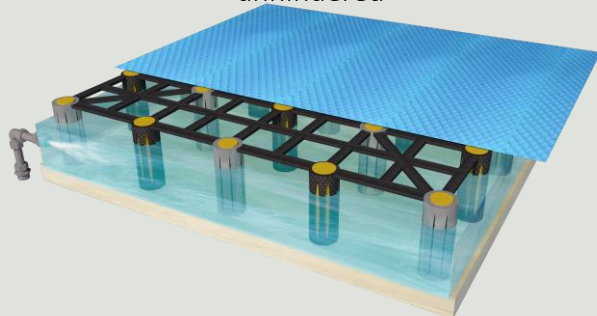
Another major source of risk for water contamination through the formation of microplastics: green roofs and facades

Green roofs and facades have only been available on a large scale worldwide for two decades. Accordingly, no comprehensive studies are yet available on how the materials used for waterproofing and fastening as well as irrigation behave after 30, 40 or more years. Although it is an advantage that the mostly used synthesized plastics are hardly exposed to UV light or wind, they are not completely free from environmental stress: Especially the irrigation of plants and the associated minerals and (often acidic) substances dissolved in the water represent a plastic burden whose effect on the variety of plastics used for green roofs and facades has not yet been researched.

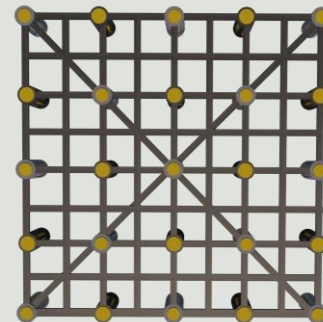
Singapore has been pushing the greening of its roofs and façades for many years, and thus runs the greater risk of having a flood of microplastics from corroding plastics or plastics that dissolve due to mechanical influences in rainwater runoff in the future: This is because roofs, like facades, are not renewed in short cycles, but often fulfil their function for decades before they have to be renovated.

The Singapore Innovation Bridges are therefore to be greened using inert materials and subsurface irrigation, following the example of the Frankfurt Innovation Bridges, and serve as a huge research area for low-plastic greening systems.

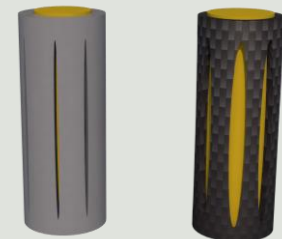
Columns of carbon concrete and carbon between the bridge floor and the substrate: water can wash around them unhindered



On top of the columns are carbon concrete slabs with slits through which waste water from above (mostly rainwater) can drain off.



Many of the columns themselves are also hollow inside and have slits: this allows water to reach the rock wool filling (yellow) inside them



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Conclusion: With the bridges over its roads, Singapore has the opportunity to gain almost 6 million square meters of high-quality land in the middle of its populated areas: At the same time, it can solve energy, water, transport and housing problems on a second level with the help of the country's innovative strength and willingness to implement

Singapore is already on its way to becoming the "sustainable city of the future": Technological expertise and political will to implement have led to modern and sustainable solutions. But the country still has numerous challenges to overcome, for which one thing in particular is lacking: space.

With the Singapore Innovation Bridges, additional land area is created, not in the sea, but running through the middle of populated areas. With the bridges, Singapore has the opportunity to implement all the innovations that cannot be implemented immediately in existing living areas but require long development cycles, such as an electricity grid with a control system for volatile photovoltaic energy and the like.

As the bridge surfaces should be greened throughout wherever there is no house, pedestrians walking or vehicles driving on them, Singapore can apply its sound and broad expertise of facade and roof greening, researching and applying microplastic-free fastening and irrigation elements on this huge area, following the example of the Frankfurt Innovation Bridges.

At the same time, Singapore has the opportunity to expand a somewhat small-scale, varied, two- to five-storey traditional building stock on these green innovation bridges to complement its ultra-modern architecture, especially in places on the bridges that do not permit six- or seven-storey buildings. Singapore has the means to have such traditional residential areas competently built from sustainable raw materials by bringing in not only its own artisans but also skilled craftsmen from the Malay-Chinese or even Indian cultural environments.

With the Innovation Bridges, a supplement to the existing city is created - and transferring learnings from the bridges, the existing living areas of the city can also be further modernised and optimised.

Dubai

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Dubai

The urban structure of Dubai has been designed from the outset for intensive car use, so that mature neighborhoods exist only between the wide six- to eight-lane roads. With green innovation bridges, the various quarters of the city can be connected continuously for the first time without huge aisles cutting through it. Shading wide hot dark car streets with green and unsealed bridges is another lever to significantly enhance the attractiveness of Dubai further, as they bring cooling and thus improve the overall city climate. Bridge greening can be conducted economically through subsurface irrigation, and the bridges can bring irrigation water from a desalination plant outside the city to all parts of the city like a grid line - not only for its own greening but also for other urban greening.

With the help of the bridge infrastructure as well as Energy Bands, a wide green belt can also be created around Dubai, whose climatic effects could represent a globally unique example of climate engineering. Dubai will thus become an even stronger magnet for tourists and expatriates, which will also be decisively supported by artisan architecture from all the Islamic cultures of the Orient: There will be areas created on the bridges where people can take a walk, like in other old towns or metropolises in the world. This is an ideal complement to the fascinating high-rise architecture and the mega-buildings of Dubai.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Dubai has excellent prerequisites for the creation of innovation bridges similar to the Frankfurt bridges

The emirate of Dubai expects a population growth in the next decades, for which living space has to be created. The government has been working successfully for years to make the metropolis increasingly attractive for expatriates and tourists. The existing large wide motor roads, though, provide good inner-city connections, but do not allow people to live within walking distance of the city itself. The Innovation Bridges would be a whole new and more fundamental "dimension" of upgrading for Dubai than any previous approaches:

1. The space above the wide downtown streets can be built over with bridge space. If only one-third of the **bridge space is used as building land**, over **30 million square feet of building space** can be created with only 3 to 4 stories of development. If only 27 million square meters is used as residential space, over **600,000** people can be housed on the bridges. The remaining 3 million square meters can be used for shops, educational facilities (toddlers' day nurseries, kindergartens, schools, etc.), gastronomy, leisure facilities or even service providers of all kinds.
2. As the roads under the bridges in Dubai will also be increasingly used by e-cars in the coming years, the noise and exhaust pollution under the bridges will fall significantly. Accordingly, the living space on the bridges will be of particularly high quality, so that with an average price per square metre of 7,500 Euros/sqm, a **total real estate portfolio value of around 22,5 billion euros will be** created on the Dubai Innovation Bridges.
3. The high quality of the bridge residential and commercial areas is favoured by several parameters:
 - A green garden landscape: when two thirds of the bridges are greened and well watered, it will have the appearance of an oasis in the middle of the city
 - Optimal connection to everything Dubai has to offer: The bridges run de facto through the middle of the city's building stock, so that with the help of autonomously driving traffic on the bridges all points of the metropolis can be reached as well as all offers on the bridges.
 - An oasis in the middle of a great ultra-modern metropolis : life similar to the one in old towns takes place on the "Bridge of Islamic Peace" section, with culinary delights, international educational opportunities, medical-therapeutic services and social facilities. On the "Dubai Bridges of Paradisiacal Gardens" magnificently planted areas are created with fruits of all kinds, which become wonderful recreational areas for people.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



- In addition, all **properties along the bridges** will be massively upgraded: Whereas they previously had only impassable car wasteland on their doorstep, they are now within walking distance of a paradisiacal bridge quarter, with lush greenery not only on its surface but also on the sides: The bridges can distribute water like a net, not only for the plants on them but also for the vegetation along their course. Moreover, the bridges lead to prominent areas such as the two palm trees, which are suddenly connected to a green world. The value enhancement of the thousands of properties along the resulting park-like green strips is likely to add another **50 to 60 billion euros in property value to the existing stock**, given a bridge length of 300km.
- Dubai has excellent conditions for the **generation of photovoltaic energy**: On the large parking lots and the largest roofs along the Dubai bridges, a total of about 2.1 TWh/a can be collected, and on the largest roofs of buildings next to the bridges in industrial and commercial areas, a further 0.6 TWh/a can be generated. A total of more than 2.1 TWh/a can also be generated on a wide variety of surfaces on the bridges themselves. The bridges can collect this **4.8TWh/a**, distribute it further or transport it to storage locations.
- The bridges are also a research area for lush greenery in a hot desert climate: The expertise that Dubai has already gained in the cultivation of arable land can be further expanded by researching drought-resistant plants and fruits. The area resembles paradisiacal gardens in large parts, through which people can walk and easily pick fruit, berries or grapes. With the help of underground irrigation, it can be supplied with water very sparingly, as is the case everywhere on the bridges, without any evaporation losses.
- The bridges can also serve as a network to supply a wide belt behind the Dubai City area with water from a desalination plant. This (newly to be built) plant can desalinate around **2.5 billion cubic meters of water per year with the help of Energy Bands that produce more than 5.1 TWh/year**. The bridges can convey the water to nodes where distribution pipes transport it to underground irrigation systems for the wide agricultural belt being built there around Dubai City.
- With the help of bridge irrigation, **600 square kilometers of desert can be irrigated** and converted into research and agricultural land once a water-impermeable soil layer has been created with bio-cement or clay, similar to natural oases. Annual irrigation with 2.5 billion cubicmeter of water is expected to increase cloud formation and rainfall, which will positively change the climate in Dubai in the long term.

Old New Territory Frankfurt

Already today in Dubai, emphasis is being placed on decorating the sides of the huge motorways with bright ornate structures and making them aesthetically pleasing

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Green innovation bridges with a total length of over 300km can be built over these wide roads of Dubai - and with 30 million sqm of building space they can meet the increasing housing demand of the Emirate.

Of the 30 million square meters of bridge space, a third would have to be built on to provide new living space for over 600,000 people. By comparison, the total population of Dubai is around 3.3 million.



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The piles of the 75,000 pillars on which the green Dubai Innovation Bridges rest can all be geothermally activated for cooling, i.e. they can conduct heat into the ground in summer - in winter, in turn, this heat can be brought back up from the storage tanks for heating, especially at night

Air conditioning accounts for more than 50% of household and building electricity consumption in countries like the United Arab Emirates.

On the Dubai Innovation Bridges, however, around 70% of this electricity consumption can be eliminated if all buildings are provided with thermally activated surfaces: On the one hand, this allows buildings to be cooled with the help of geothermally assisted heat pumps by extracting heat from the buildings in summer and sending it through the 75,000 columns of the bridges into the earth.

On the other hand, however, in order to prevent the soil from heating up over the years, the heat collected in the soil must be released again during the winter months, which leads to the second potential electricity saving:

The heat stored underground in summer can be used to heat the buildings on and near the bridges in wintertime, as temperatures in Dubai drop to as low as 10 °C in winter. In addition, the stored heat can be used to heat outdoor swimming pools in winter.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



White photovoltaics can be used to supplement the power supply on the bridges

In addition, around 90 GWh/a of electricity p.a. can be generated photovoltaically on the sides of the Innovation Bridges using white or very bright photovoltaic modules. The restriction to very bright PV-modules is good for the small-scale urban climate, because thus the heating up the body of the bridges and their surroundings is avoided: If one were to use conventional black photovoltaic modules, the yield would indeed increase to over 160 GWh/a - but at the same time this would affect the albedo effect, negatively, in the urban area where the Dubai Innovation Bridges run along, which is not advisable in hot regions. White photovoltaics are less than half as efficient as black ones, but much more comfortable in a hot environment.



In principle, white photovoltaics should be increasingly used in Dubai for residential buildings or residential areas, as this avoids small-scale heating - and white PV is also more visually appealing.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Currently, most roofs in Dubai and also many parking lots are kept in light color. Even in commercial areas, light-colored surfaces are the rule. Therefore, it is also important in commercial areas not only to rely on black PV, but to consider white PV in between, as well:

In Dubai, government incentives for rooftop PV or parking lot PV canopies would be very useful. And for white PV, these incentives should be particularly strong, since the yield of white PV is 13% efficiency, and not 25% efficiency as is the case with black PV modules.



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Dubai has the key ingredients for green innovation bridges in the desert climate: state-of-the-art desalination plants and solar farms

To irrigate around 20 million square meters of green bridge surface (i.e. the entire bridge surface minus the building construction windows), more than 80 million cubic meters of water are required per year. And Dubai has the expertise for desalination on a grand scale: The Jabal Ali complex is the largest desalination plant in the world, producing over 700 million cubic meters of drinking water per year.

Energy must be available for the desalination of seawater: Just over 2 kWh per cubic meter, or about 160 GWh/a, is needed for the 80 million cubic meters of bridge irrigation water. This energy should not be fossil, but should come from renewable generation. But Dubai has the expertise in this area as well: the reverse osmosis plant in Al Taweelah is already 30% powered by solar energy. And Dubai basically has enough solar energy: The Mohammed bin Rashid Al Maktoum Solar Park is expected to generate a total output of 2,800 GWh per year in the final expansion phase.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Dubai's bridges are expected to be CO₂ neutral after a very short period of time: In order to generate significant amounts of green energy in a timely manner using simple methods, Energy Bands can be created along the emirate's major roads

In order to build more than 300 km of bridges with concrete, a lot of energy is needed, which should definitely be generated green, so that the Dubai bridges can become CO₂-neutral after a very short time due to their other CO₂-saving effects, or even have their targeted positive CO₂ balance in a timely manner. Energy Bands are best suited for this purpose: Another 300 km of highway in Dubai can be equipped with them quickly and easily. They can generate over 5.1 TWh/a of electricity. Once the bridge is built, the power of the Energy Bands can be used to desalinate the water, which would be needed for the greening of Dubai.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Energy Bands in Dubai can produce 5.1 TWh/a – that’s around 10% of Dubai's annual electricity consumption of about 50 TWh. Moreover, the concept can easily be extended to all emirates of the UAE



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

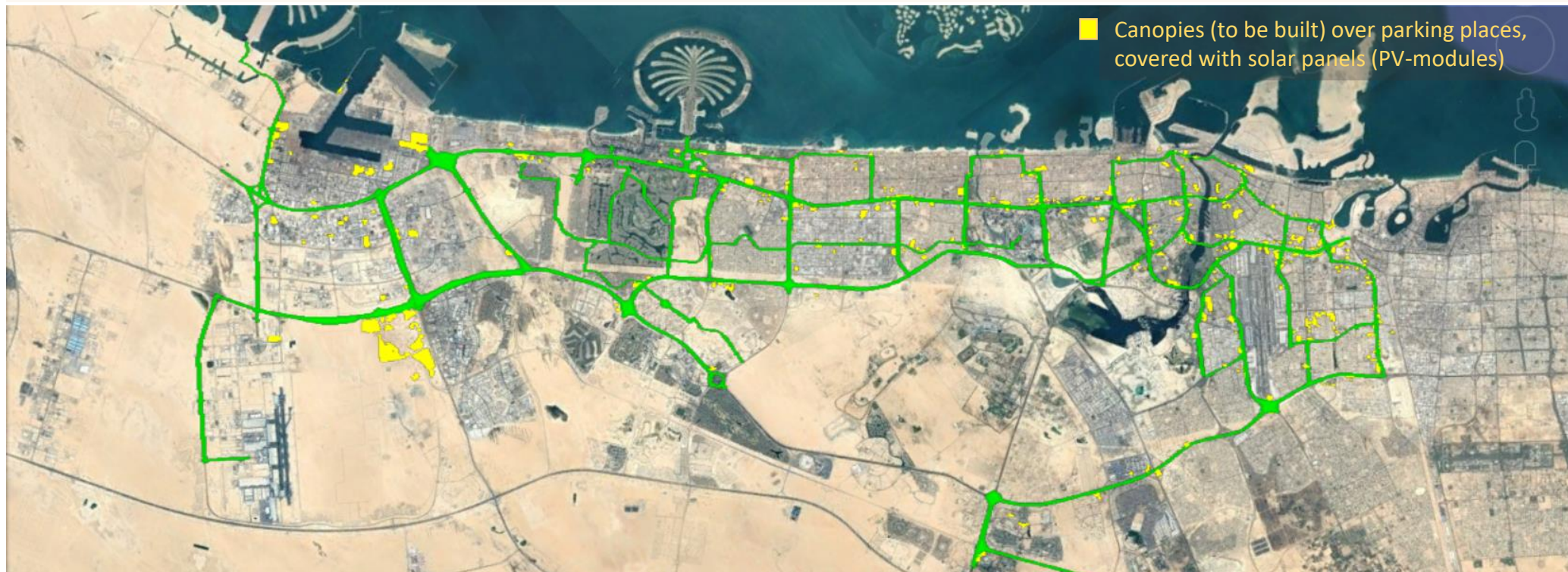
CONTACT & IMPRINT



If the large parking lots along the Dubai Innovation Bridges are covered with photovoltaics, up to 2 TWh/a can be generated

Of the 2 TWh/a, 0.2 TWh/a come from white PV modules: This is because bright white surfaces are a visual enhancement, especially in parking lots at mosques, near the sea, on high-rise residential buildings and in street canyons; in addition, bright surfaces prevent residential areas in the city from being heated up by dark surfaces.

The future e-vehicles in the parking lots will thus not only be protected from the sun, but can be charged while parked there. The pillars of the bridges can also serve as "filling stations,, (i.e. charging points) on the ground besides the bridges. And last but not least: All vehicles on the bridges can also be supplied with drive energy - be it electricity, or hydrogen: Because with the bridges as a distribution network, either electricity or hydrogen can be brought to all areas of the city.





In total, Dubai can generate or collect and use 10 TWh/a with the help of the green innovation bridges and the Energy Bands - about one fifth of its current energy demand

The photovoltaic potential of Dubai is far from exhausted with the areas that have been included in the simulations within the framework of the present concept.

However, there are not yet a comprehensive recycling options developed for solar panels. Therefore, in regions such as the Arabian Peninsula, it makes sense limit the electricity production with photovoltaics to 10 TWH/a for the time being, and to continue to generate a large proportion of electricity through solar towers.

Photovoltaic Areas	Length (km) or Area (m2)	Power (GWh)
Parking Places along the Bridges (m2)	4.168.915	1.959
PV-Roof-Areas of Buildings next to the Bridges (m2)	941.069	592
White PV-Roof-Areas of Buildings next to the Bridges (m2)	701.820	181
SUM	5.811.804	2.733
SUM (Energy Bands) (km)	410	5.116
Sides of the Bridges	600.000	132
Roof-Area of Buildings on the Bridges	8.580.000	1.615
Facades of the Buildings on the Bridges	904.097	71
Canopies on the Bridges	1.200.000	310
Pillars of the Bridges	285.144	2
Elevators at the Bridges	15.332	5
Stations for Bridge Traffic	63.882	20
SUM		2.155

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT

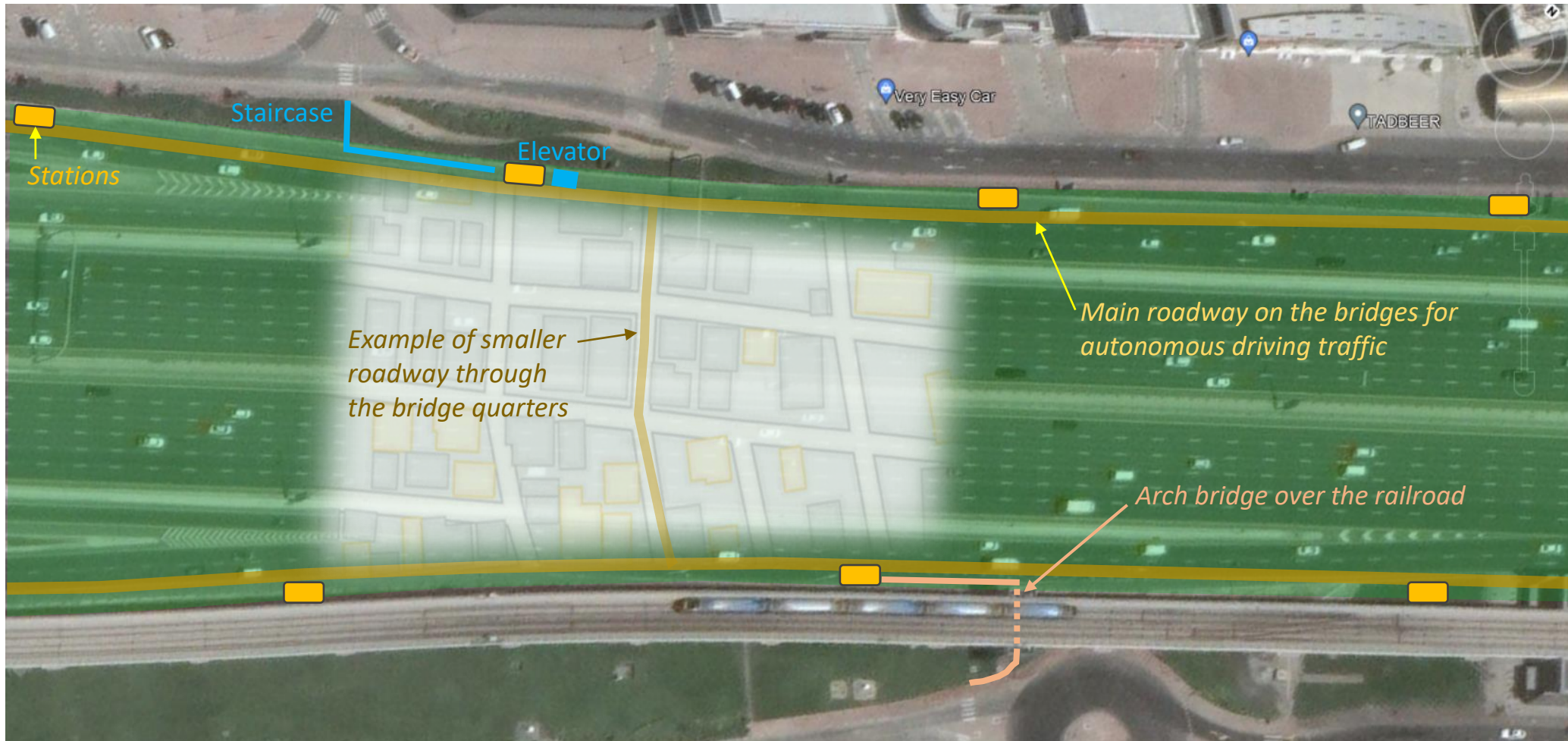


With the autonomously driving traffic on the Dubai Innovation Bridges, the city gets yet another additional transport network

As on the Frankfurt Bridges, you can get on a train or bus on the Dubai Innovation Bridges, or else call an individual vehicle via an app.

The main lanes are always on the edge of the bridges and have many stations that can be used to reach not only everything on the bridges, but also many destinations along the bridge for the first time without a car.

In addition, from the main lanes at the edge, smaller lanes pass through the bridge quarters again and again, whereby they do not represent a real traffic road for the pedestrians with only 15km per hour there, but they fit in pleasantly.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



As on all bridges worldwide, there should be buses and trains for passenger transport, but also passenger cars that can be called via app for individual trips

The modular concept of the Frankfurt Bridges vehicle fleet can also be applied to the Dubai bridges, allowing a variety of different vintage car bodies while maintaining the same technically advanced equipment inside: autonomously driving and powered by electricity or hydrogen.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Future visions of Dubai should be designed in such a way that people like to live there or like to stay there as tourists

Glassy skyscrapers with wacky steel and concrete constructions are no longer a specialty nowadays, because many skylines around the world now look exactly like this. Such skylines are undoubtedly beautiful as photo motifs from a distance, but they are not very attractive when you imagine that you have to stay in these street canyons or even live there.

Concrete, steel and glass also heat up and are therefore less suitable for hot regions. The popular impressive nocturnal illumination of such skylines is also very energy-intensive and therefore not sustainable. What used to be modern is therefore still beautiful or fascinating as an overall view, but it is clearly no longer forward-looking nowadays. Traditional buildings, on the other hand, which are adapted to the heat with materials and construction methods that have been tried and tested for centuries, are designed in terms of urban planning in such a way that small green spaces, arcades, seating areas, etc. invite people to linger between them. They are particularly well suited to attract people, have a relaxing and refreshing effect and thus correspond to the actual modern ideals of life in the 21st century.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



In Dubai, however, impressive modern architecture is also being built that doesn't just have a sky-scraper look: for example, the Museum of the Future



Old New Territory Frankfurt

The United Arab Emirates have proven that they can do both: Building ultra-modern creative structures as well as creating breathtakingly beautiful traditional architecture

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



And modern buildings in Dubai often "quote" traditional architectural forms



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Traditional techniques such as wind towers are also used in newly constructed luxury buildings in Dubai - the competence to build in the traditional way has been promoted in an impressive way in the United Arab Emirates



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

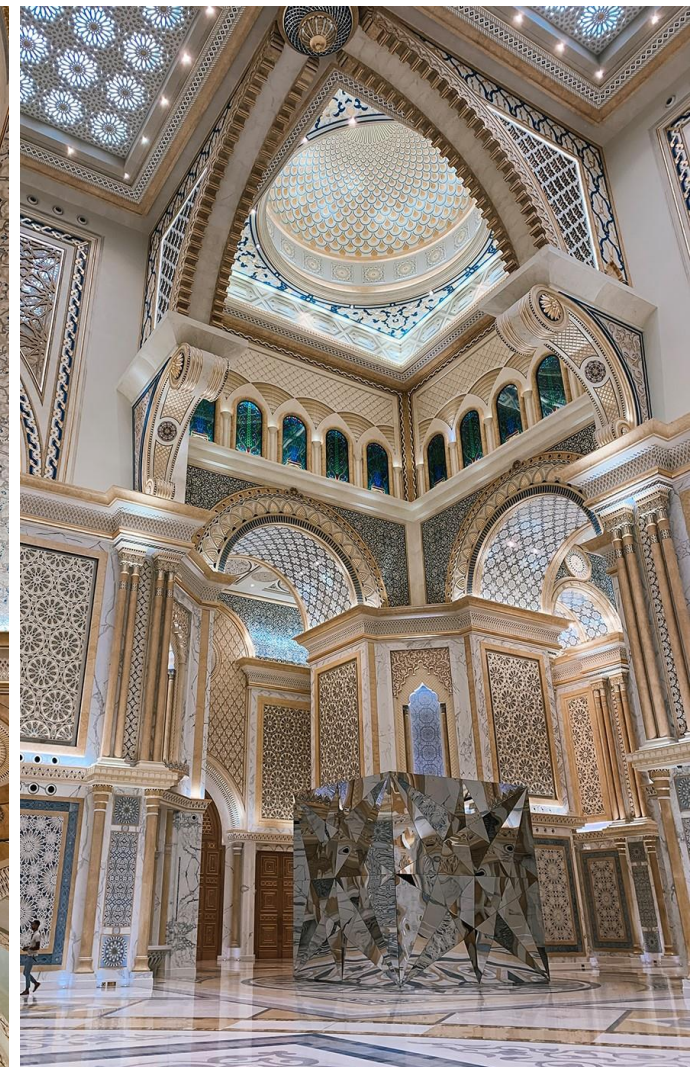
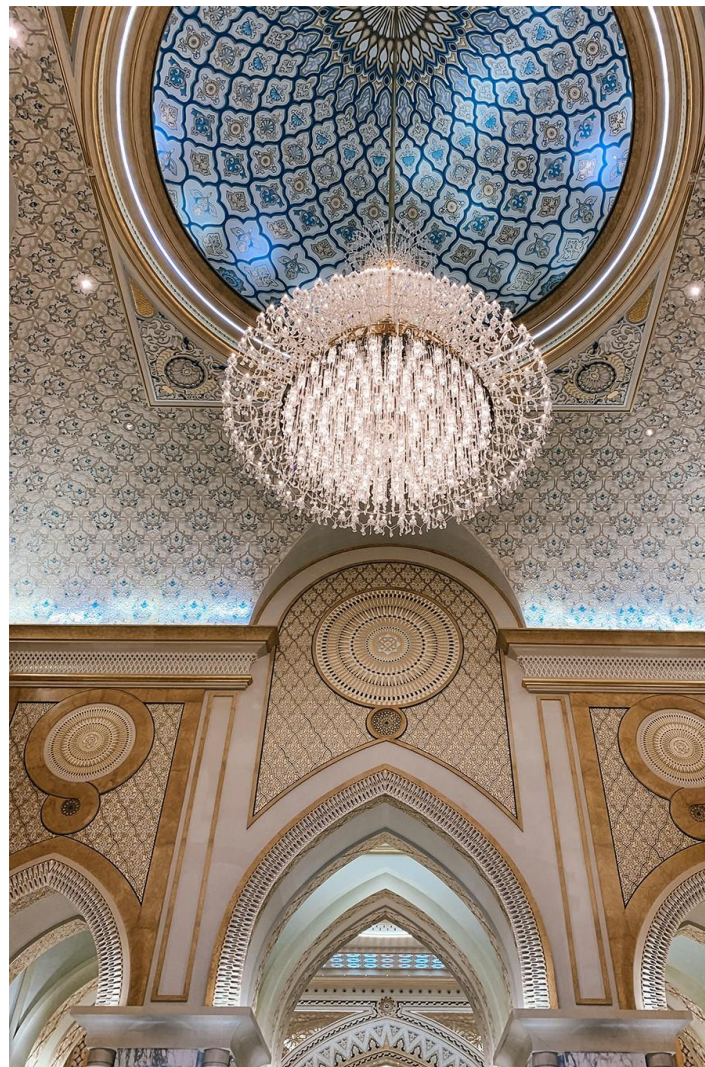
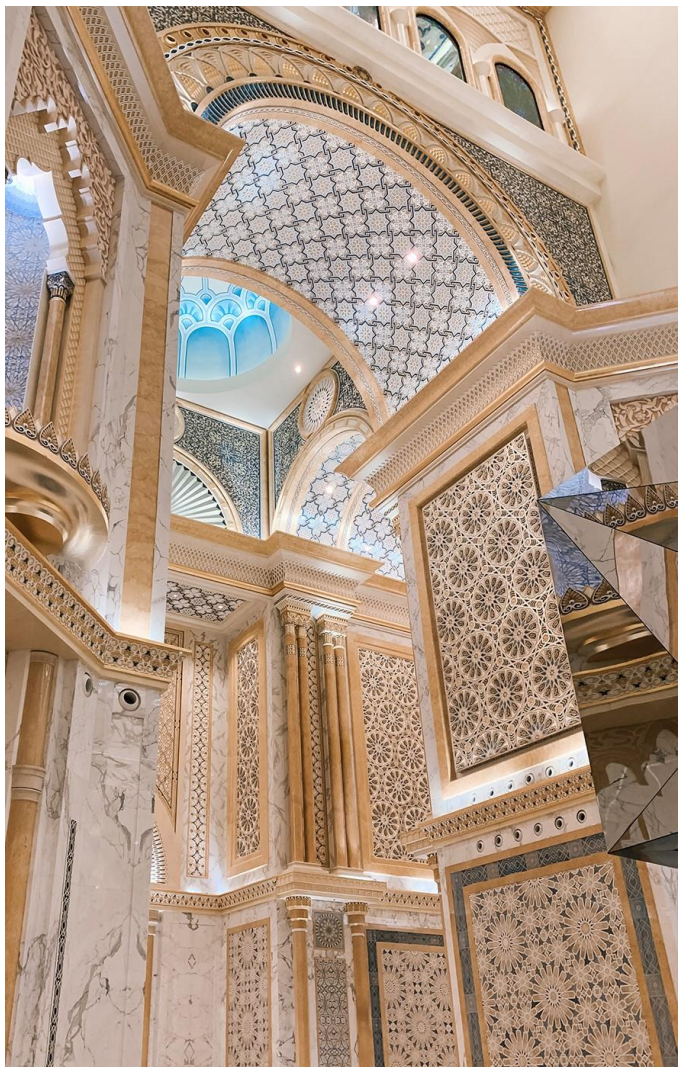
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Accordingly, in the 20th and 21st centuries, the most beautiful buildings with handicrafts from the world of Islamic architecture have been created there



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

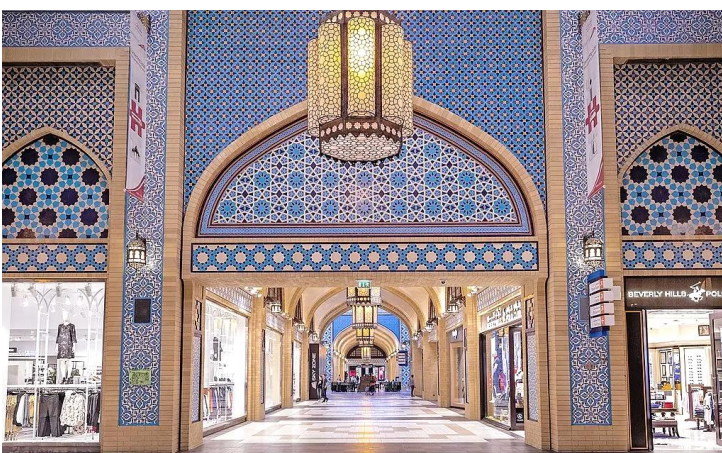
ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Dubai has magnificent Islamic architecture even in secular buildings

In Dubai, all the traditional designs of Islamic architecture can be found again, newly built: impressive tile art, widened pointed arches, window and door grilles pierced with bobbin lace, impressive domes, battlements and towers, ornamentation in all colours and much more.

While the Jumeirah Mosque in Dubai and the Sheikh Zayid Mosque in Abu Dhabi, like the Presidential Palace, radiate a fascinating clarity with their bright exteriors, their interiors display all the magnificent craftsmanship that the Orient has to offer.

Even in shopping malls, the interiors are often executed with great love for traditional arts and crafts: a homage to the tradition of one's own cultural region, which is rarely found in Western countries - last but not least, because it is becoming increasingly rare to find the right craftsmen for craft challenges throughout Europe who would be still able to master traditional artistic building methods (see the difficulties in the reconstruction of Notre-Dame).

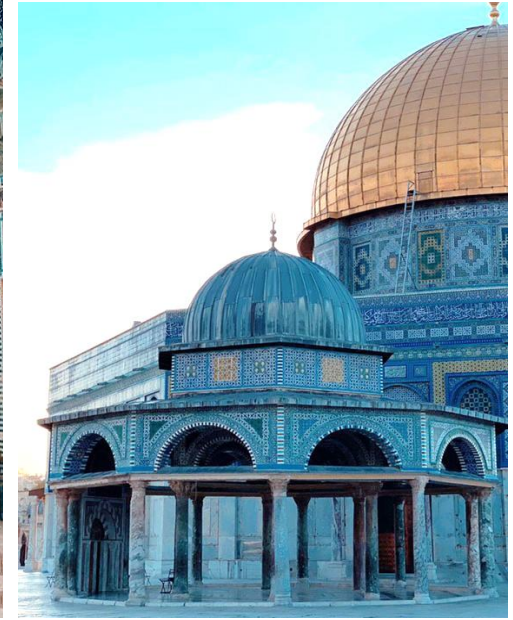
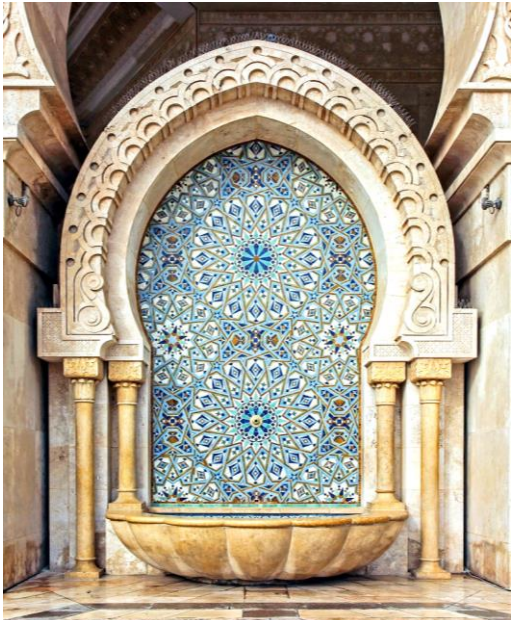
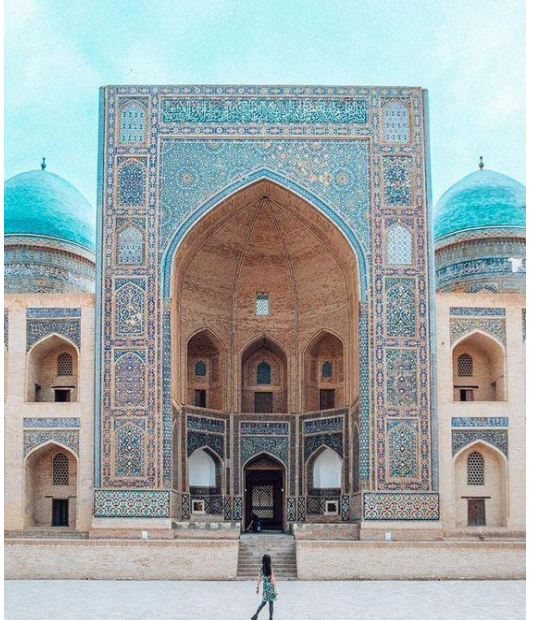
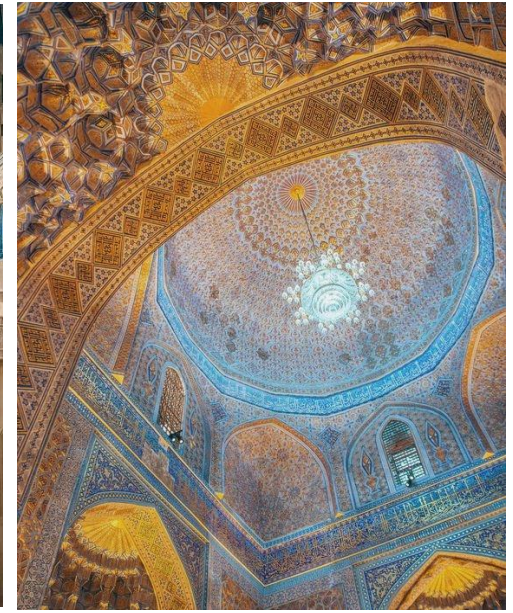
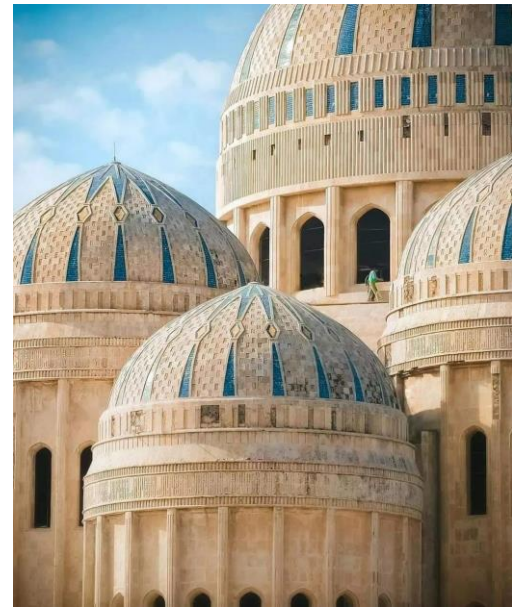
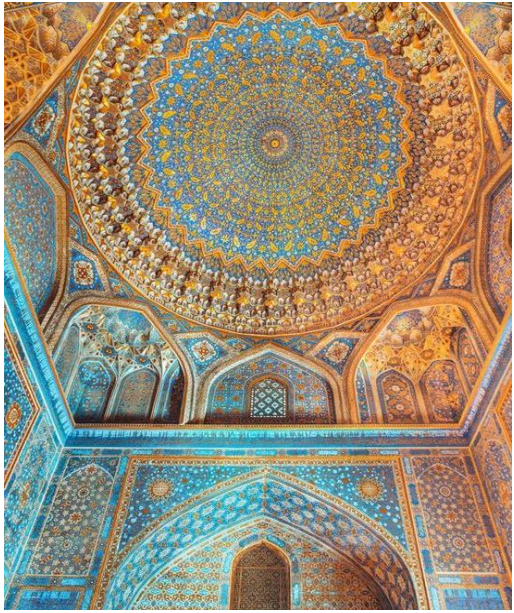
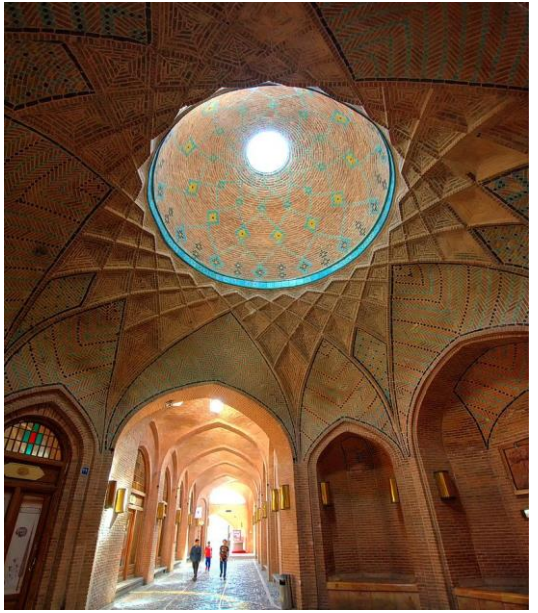
The United Arab Emirates, on the other hand, have proven that they can still build in the same way as they did in earlier times, that they have neither fear of contact nor problems of competence in creating an architecture that has for centuries attracted people from all parts of the world to the Orient to admire these pearls of architecture.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The architecture of Islamic cultures has a unifying formal language and yet is different and unique from region to region



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

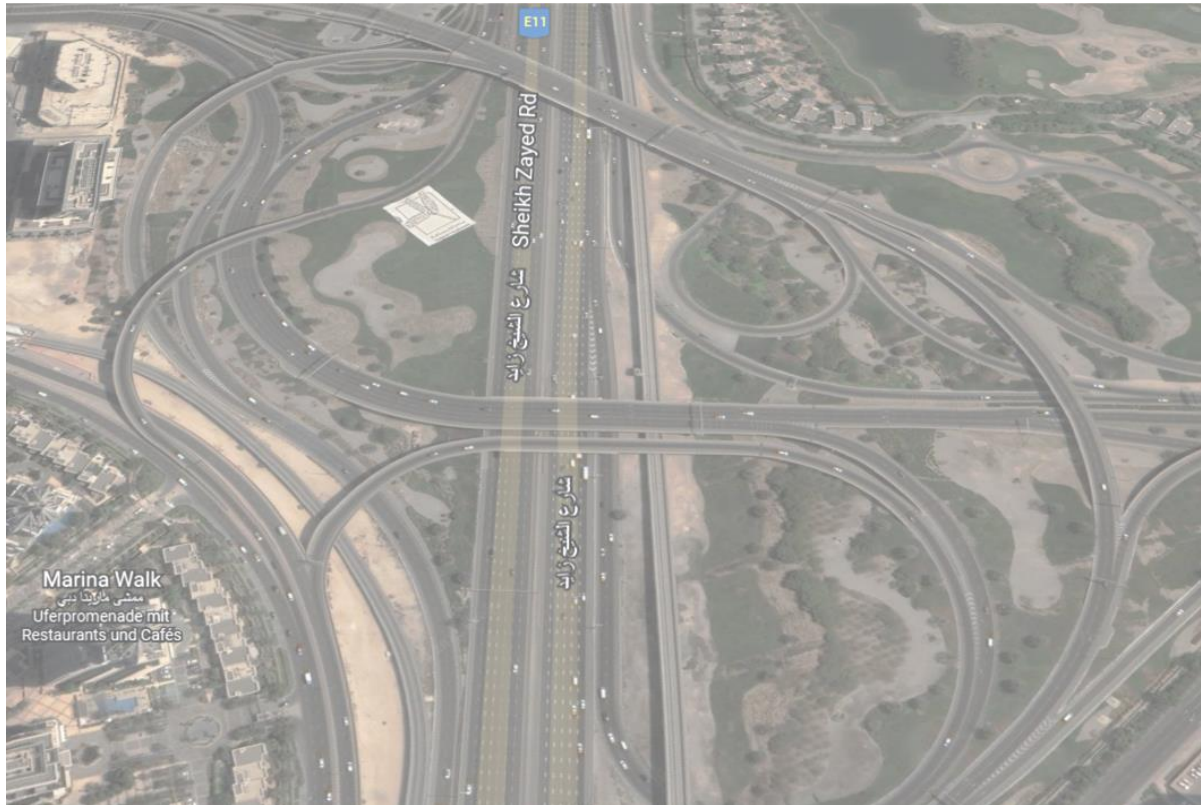
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



On the Innovation Bridges of Dubai - similar to the Frankfurt Bridges - about half of the bridge buildings and bridgescape could be modern, while the other half revives the tradition of Islamic architecture

A neighborhood, which is characterized by Islamic architecture, will only receive the true character of a city quarter, if the widest possible bridge-section is chosen for this purpose. In Dubai, the E11 (Sheikh Zayed Rd) is a good choice. It runs parallel to the coast for one or two kilometers through the city and is almost continuously 14 to 18 lanes wide. In addition, there are the loops for motorway on- and off-ramps, whose center areas are in some cases nicely planted, but are often only greened in parts or are completely barren. The quarter of islamic architecture could be 40km long and between 60 and 150 metres wide - so large that Islamic architecture from almost every country could be realised there.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

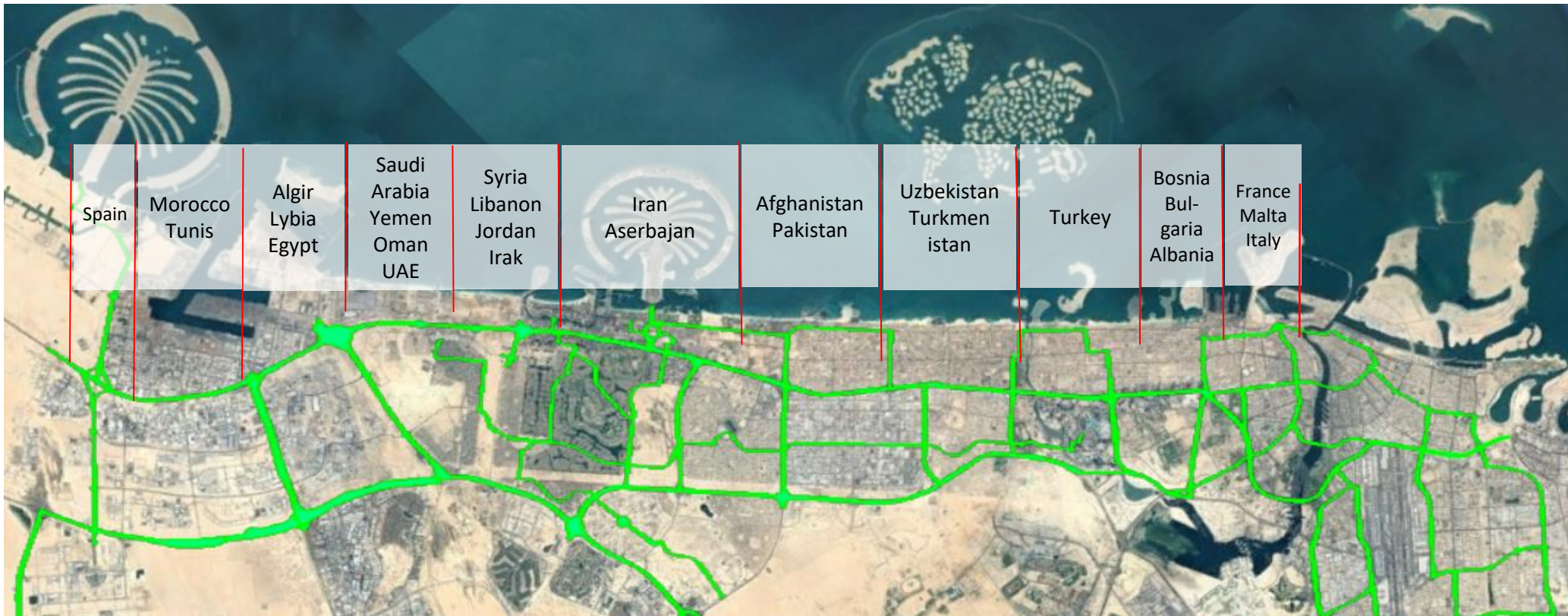
THE TEAM

CONTACT & IMPRINT



The section with magnificent Islamic architecture is aptly named "Dubai Bridges of Islamic Peace" - true to the saying of Sheikh Mohammed bin Rashid: "Bridges connect people, cultures and hearts".

The United Arab Emirates is a champion of peace and tolerance. Sheikh Mohammed bin Rashid launched the "Mohammed bin Rashid Al Maktoum Award for World Peace" in 2011, followed by the "Sheikh Mohammed bin Rashid Award for Tolerance" in 2016. This makes the UAE the ideal place, not only in terms of its competencies, but also in terms of its value system, to revive the architectural art of a wide range of countries with an Islamic culture: "Tolerance is synonymous with the UAE," says Sheikh Mohammed on Twitter, "it is a fundamental value of our people and an essential element for our development and prosperity in the future." The "Dubai Bridges of Islamic Peace" can become a magnificent, humane, sustainable component of this state philosophy.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The path on the Dubai Bridges of Islamic Peace leads through numerous countries

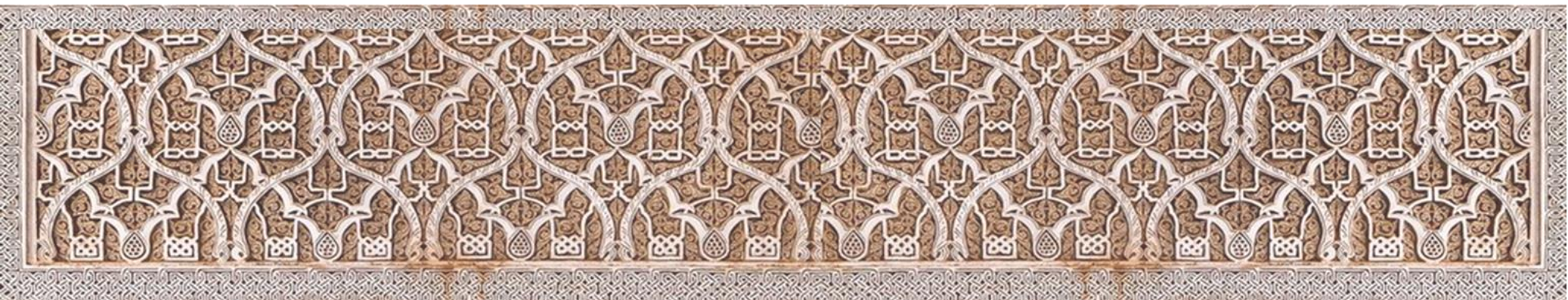
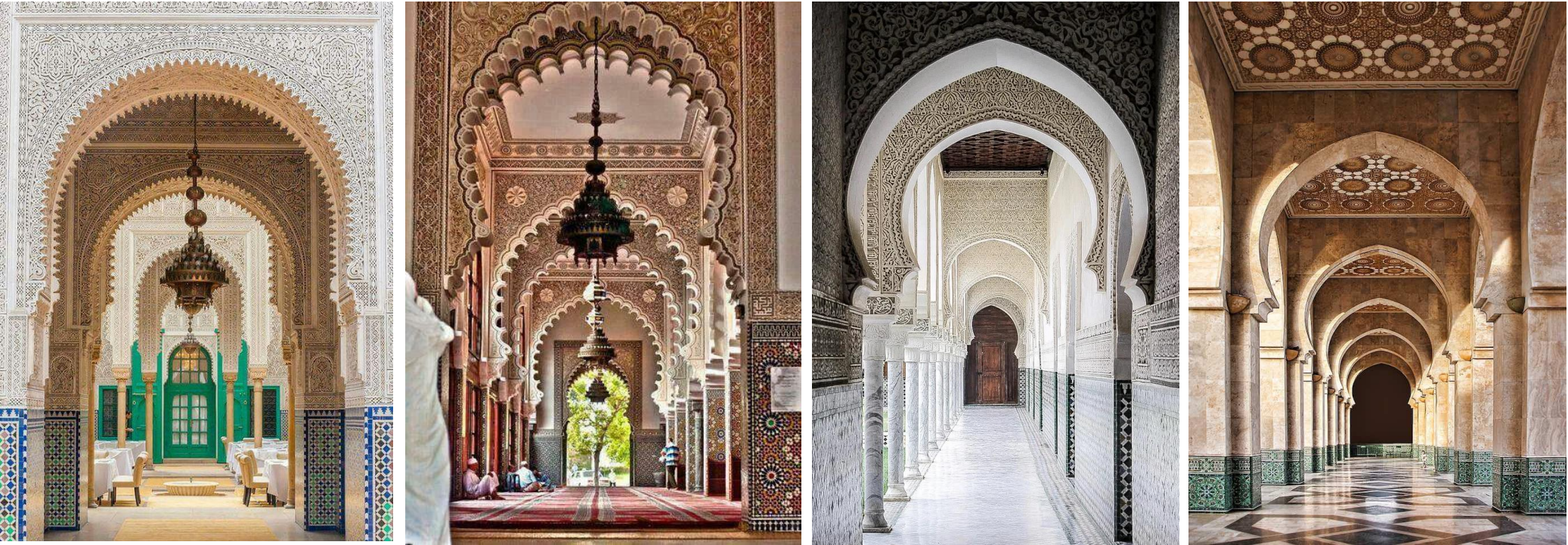
For centuries, Islamic architecture has influenced parts of the Asian and Arabic continents, but also the European continent.

Accordingly, it is also possible to borrow motifs and forms from Spain, Italy, Bosnia, etc.. This is because the revival of traditional building methods is not about putting exact replicas on the bridges, but rather building in the same style as in these countries, with the same craftsmanship and attention to detail, as well as with the sustainability that is given in traditional building methods through the use of materials and the long durability of the buildings. This means that one can also adopt elements from the numerous sacred buildings, especially mosques or even shrines, in the construction of normal buildings.



Many conventional building structures are due to the hot climate: Traditional arcades, for example, can be used to provide shade on Dubai bridges - for walkways as well as for areas where people can sit and linger.

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

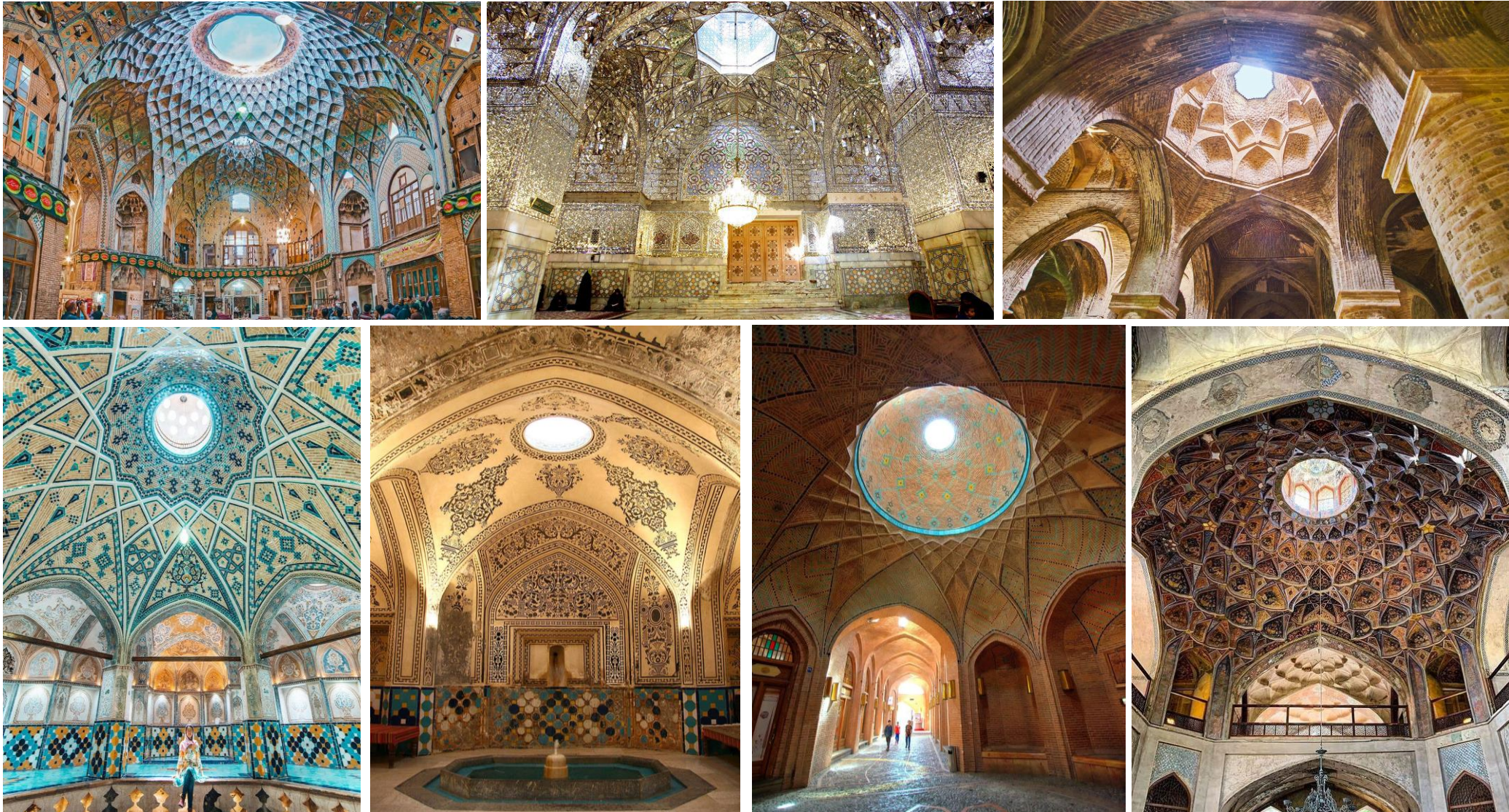
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In hot countries, window space must be used sparingly, and domes are a good solution for this, as a room with a dome does not look cramped, even without windows, but rather sublime. In dome construction, a fascinating effect is often achieved by inserting an opening or window area only in the top of the dome. The light that enters through this is twice as bright and spreads out in a particularly effective way by reflecting off the dome wall. In addition, similar to caves, domes allow the heat in the room to rise upwards and cool down. Such domes are frequently used in Islamic architecture, not only in mosques, but also in baths (hamams) or in bazaars, for example.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Even more splendid lighting effects can be created with window strips, which are used all around the dome - although the room still remains cool even with such window strips.



Old New Territory Frankfurt

Another tradition that goes with regions with hot summers: fountains in public spaces, as found especially in Morocco. On the Dubai Bridges of Islamic Peace, fountains can be installed on the walls of buildings as well as in gardens and parks, where you can wash your hands or fruit etc. and which have a cooling effect.

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT

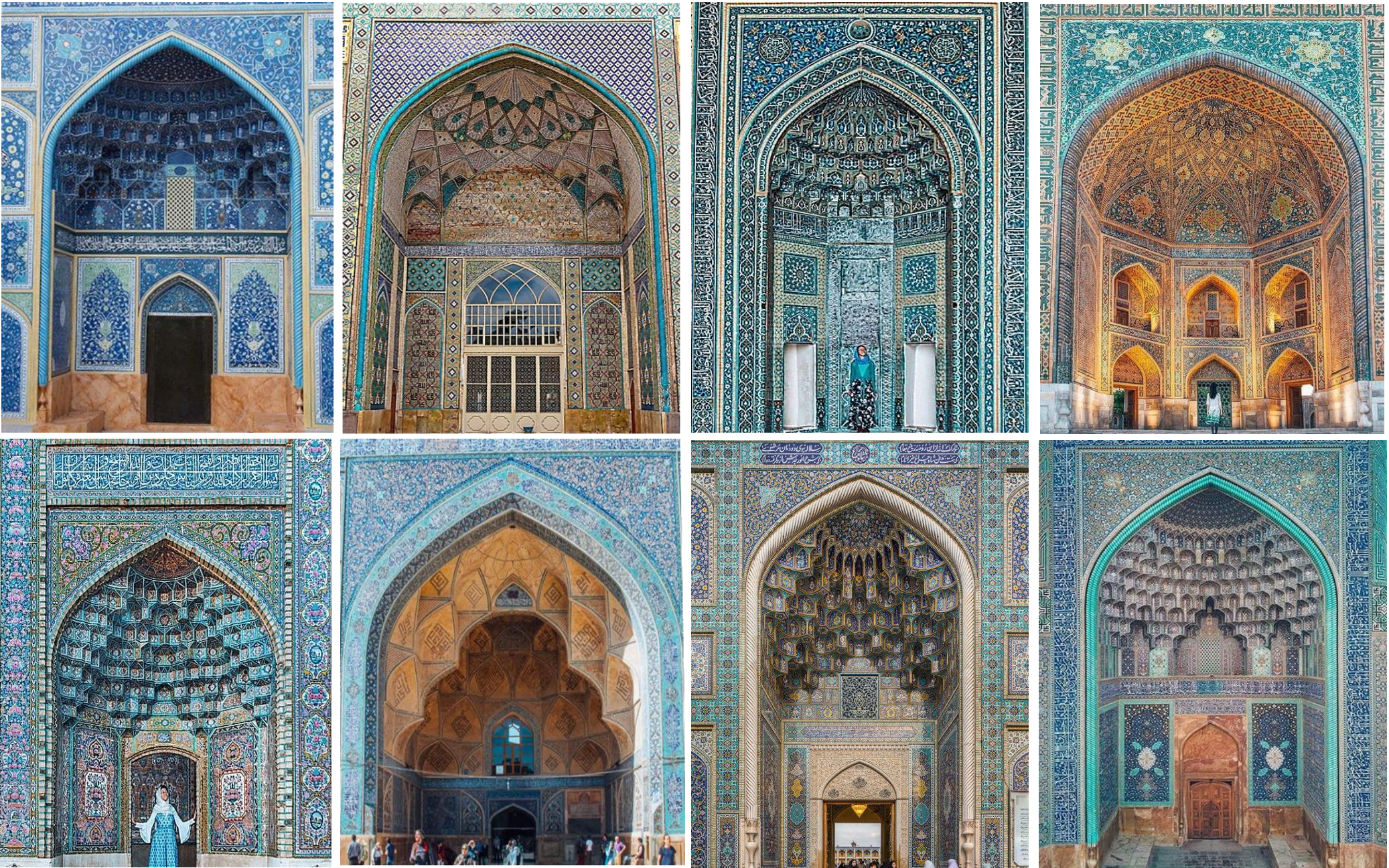


Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Door portals and entrance areas are not only magnificent in Islamic art, but above all offer shade - with the vault surfaces often decorated with muqarnas



Old New Territory Frankfurt

Tinted glass protects from the sun in hot climates, but at the same time allows light to pass through, creating a magical play of colours when the sun is in the right position.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

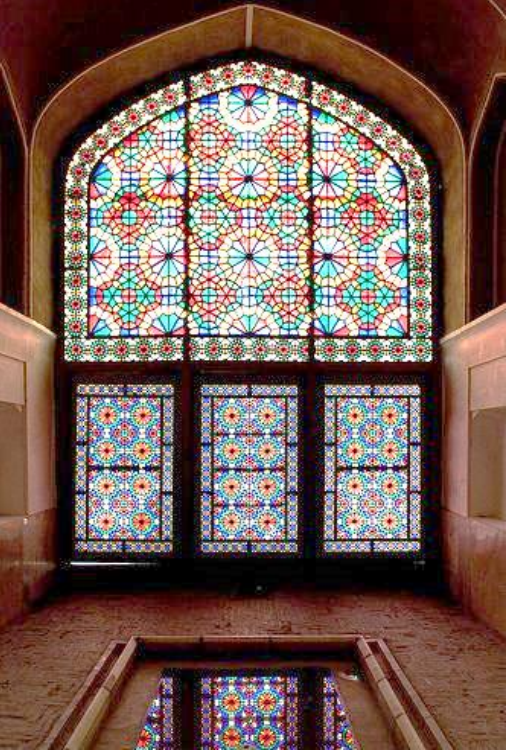
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

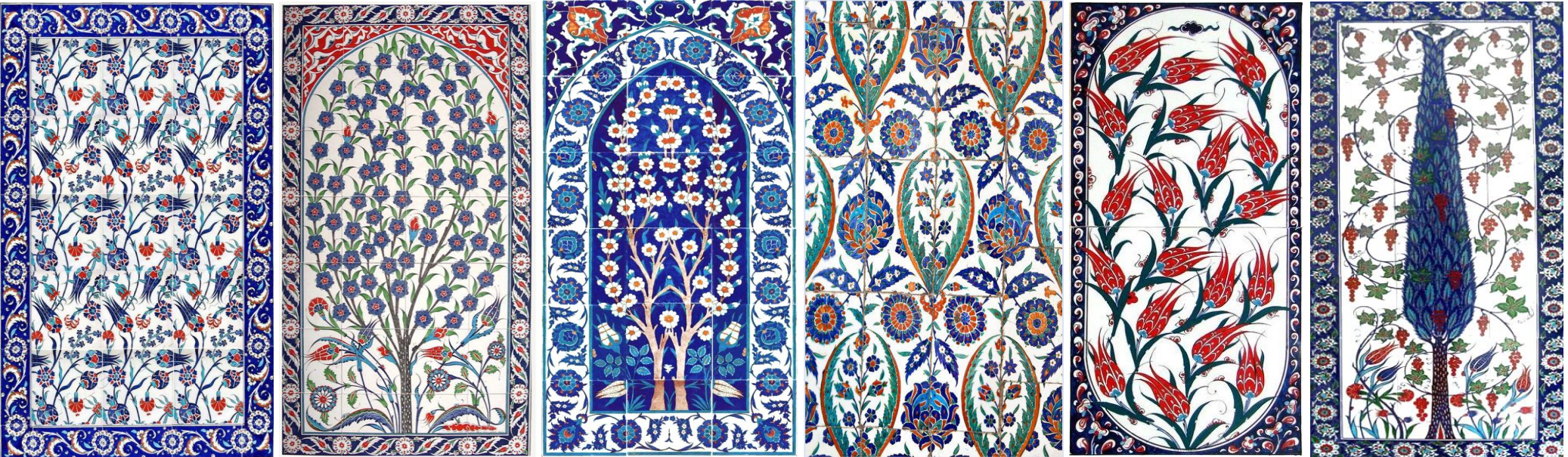
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Tiles, mosaics or painted ceramic art of all kinds not only decorate walls and domes, but also protect the whole building - a principle that can also be applied to modern buildings.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Depending on the respective country-section, the ceramic art on the Dubai bridges varies in colour and motifs.



Old New Territory Frankfurt

Traditional handicrafts are long-lasting and therefore sustainable: not only ceramics but also wooden crafts have been worked in such a way that they are still in good condition today, centuries later.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

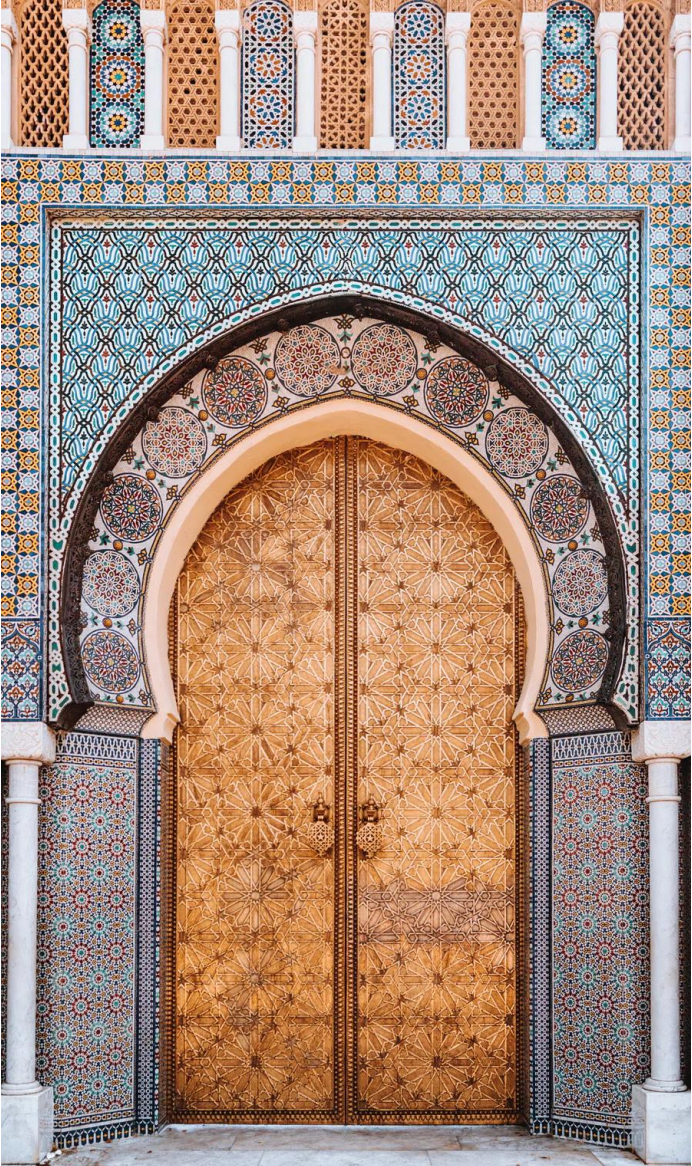
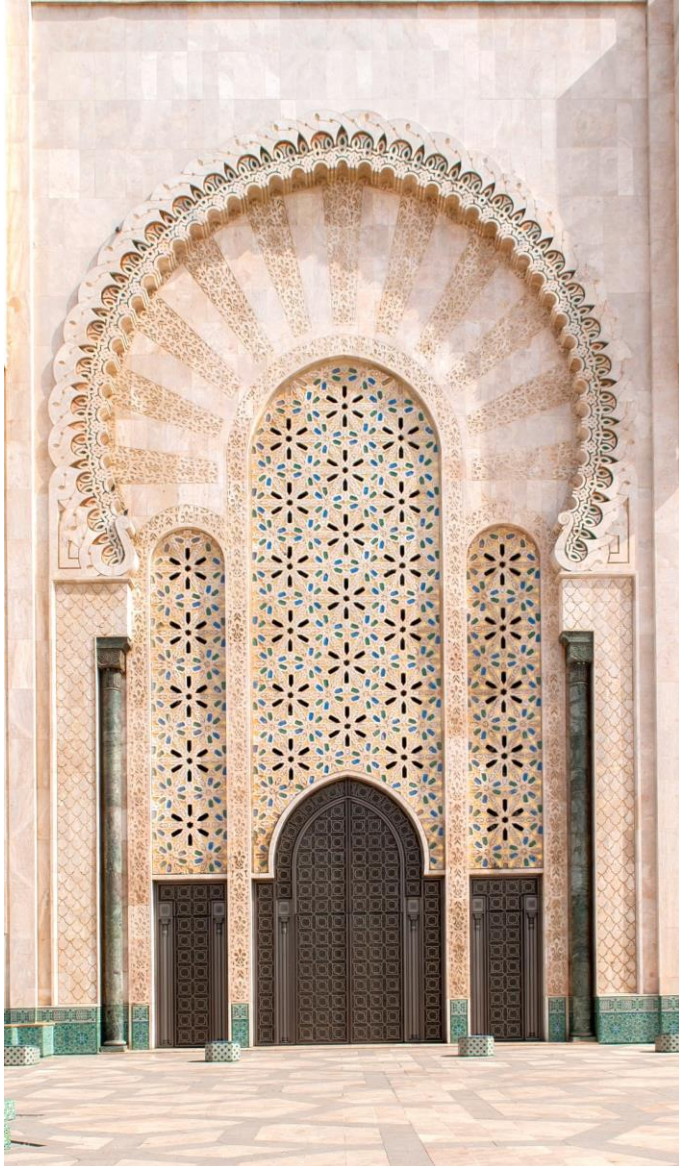
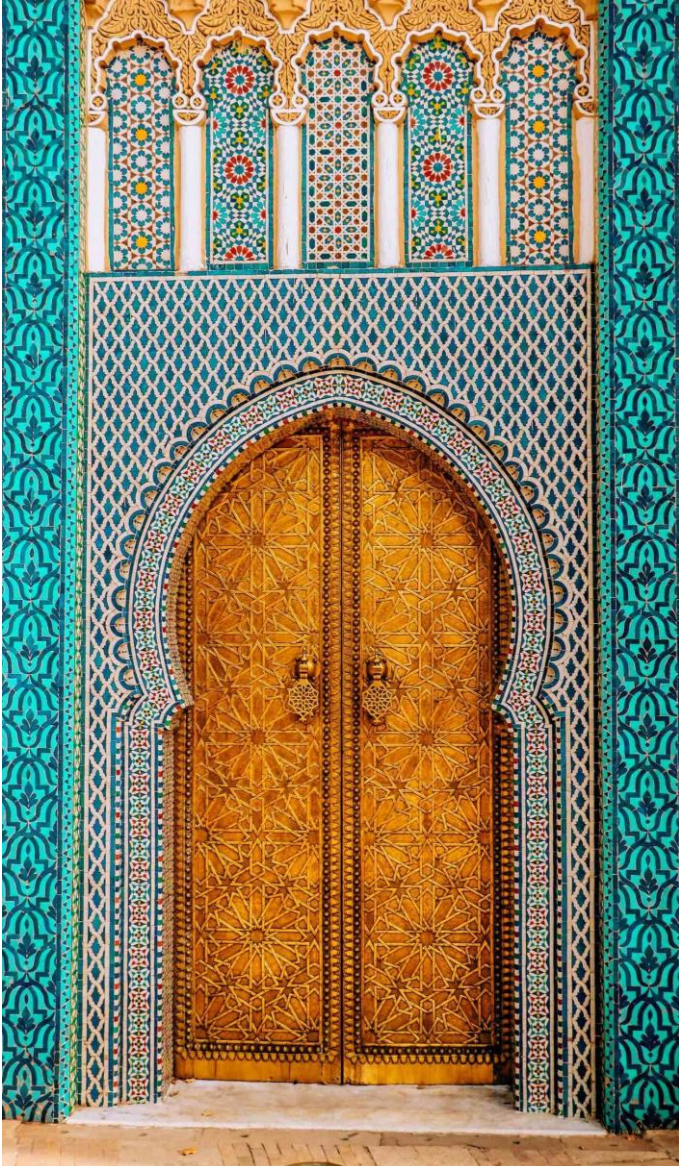
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

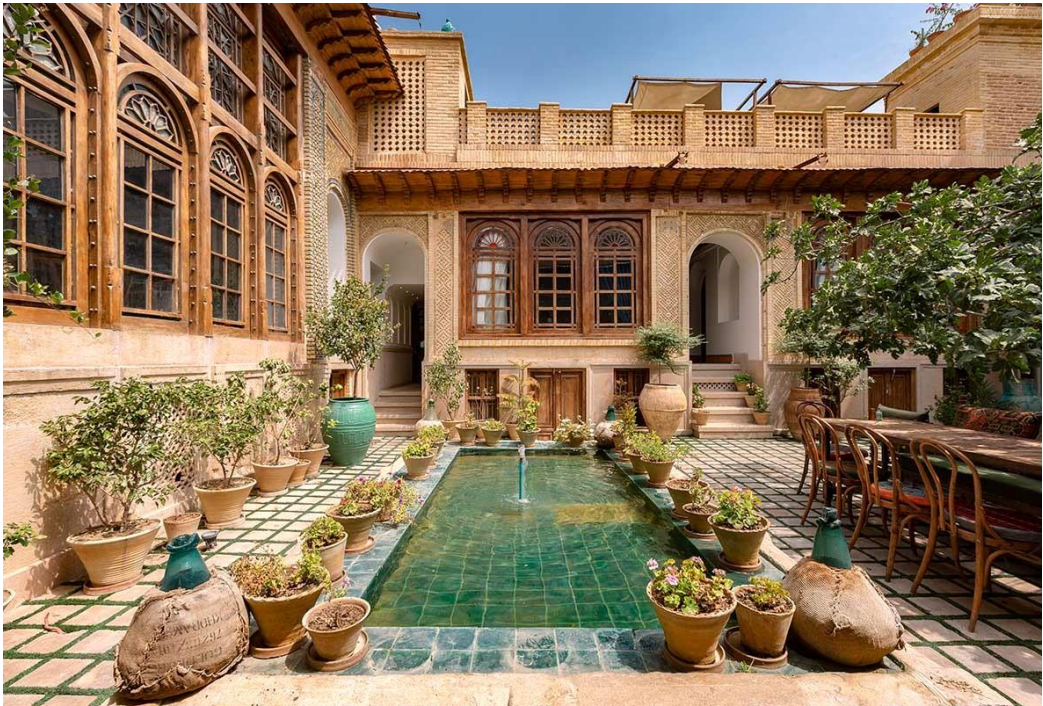
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Water basins in courtyards are also a traditional building element used for cooling in hot seasons - both in smaller houses and in stately buildings.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



On the Dubai Bridges of Islamic Peace you will find cultural offerings from all the islamic countries represented: dance, music, traditional fitness studios, hamams, bazaars and much more - and not just for tourists, but also for Dubai residents



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The country sections on the Bridge of Islamic Peace also have educational offerings in their languages – here: a sample section from the Turkish quarter

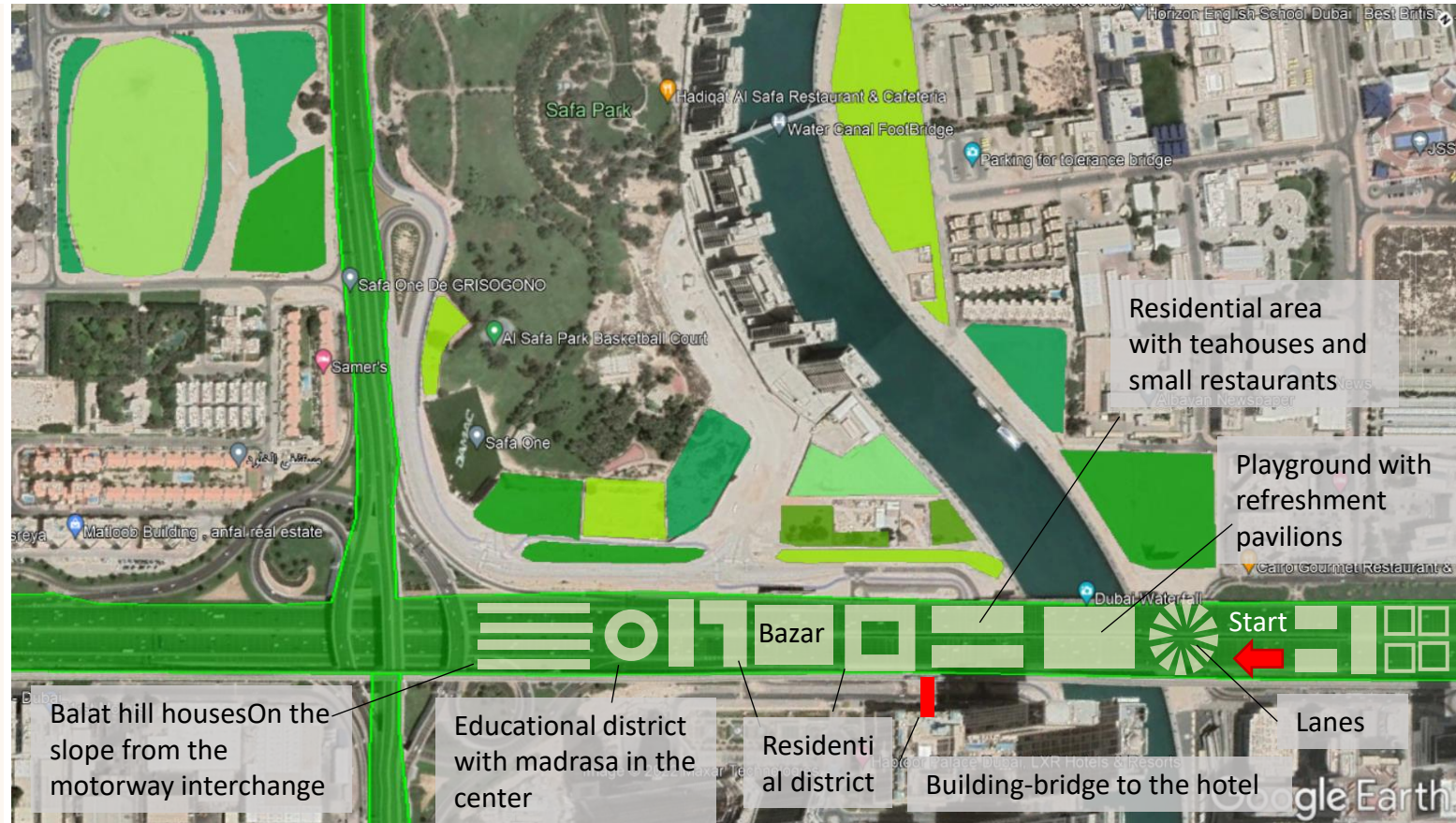
For example, if one walks through the Turkish quarter of the bridge and starts in the middle of it in front of the Water Canal, one first walks through a quarter with many small alleys with a multi-storey development like the street in Istanbul towards the Galata Bridge. In

the centre of the alleys there is a small square with a fountain.

If you walk further to the area above the bridge, you will come to a large, horticulturally designed playground, where you will find many overshadowed sandboxes, playground equipment and also water games. The playground is an inclusion playground, which is also designed for children with disabilities.

The canal bridge overlooks Safa Park, which can be irrigated using the bridge pipes, and other green areas along the bridge can also be lushly landscaped using the bridge irrigation system.

At the edge there are covered benches for the parents and occasional refreshment pavilions with Turkish specialities.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Example of an alley
Here: Road to the Galata Bridge in
Istanbul



Example of refreshment pavilions
Here: Tophane fountain and Galata
fountain



Ottoman houses example
Here: Afif Pasha House in Yeniköy
District



Leaving the playground, you enter a mixed residential area where there are also scattered teahouses and Turkish cafés, as well as small Turkish bakeries and the like. From the residential area with quiet contemplative small gastronomy you get further to a residential area in which houses and apartment blocks are arranged around classical oriental courtyards.

Walking through the streets in the centre of this area, you come to a bright, friendly square, on one side of which there is a Turkish library, with reading rooms on the upper floors, through whose large windows you can look out over the canal and green areas as far as Safar Park. On the lower floor there is a reading café with a terrace facing the brightly planted square.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



As soon as one walks out of the residential area to the west, one comes across to a classical Turkish bazaar that extends over the whole width of the bridge and at the end of which there is a Turkish hamam for men on one side and a Turkish hamam for women on the other side of the bridge.

Directly behind the bazaar and the hamams begins a residential district in which Ottoman houses predominate: traditionally, these houses are built of wood and are thus light and made of sustainable building material. And adjacent to this quarter is the educational quarter: there is a Turkish-Arabic toddlers' day nursery and an equally bilingual kindergarten, a primary school with a Turkish language branch and a "madrasa" in the middle, which is a secondary school with Turkish as an optional subject.

Following the educational district, the Dubai Islamic Peace Bridge has an incline to cross over the motorway interchange. The resulting hilltop is home to a residential district whose streets are lined with houses in the style of Istanbul's Balat Houses.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The E311 (Sheikh Mohammad Bin Zayed Road) is another 14- to 18-lane road in Dubai: Over it, the "Dubai Bridges of Paradisiacal Gardens" can lead to the Miracle Garden

Sustainability plays a significant role in the United Arab Emirates: In 2008, the Zayed Sustainability Prize was launched and has developed an extraordinary impact. It is awarded for innovative and practical contributions in the fields of health, nutrition, energy and water and has already directly and indirectly improved the lives of 370 million people. The idea of an environmentally sustainable approach to agriculture is also at the forefront. In a statement, Sheikh Mohammed bin Rashid Al Maktoum said in 2020: "Sustainable agriculture is an economic and social necessity for our country."

The Dubai Bridges of Paradise Gardens are planted accordingly with Dubai's sustainability goals in mind.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The building structure there is to be designed with special emphasis on green inner courtyards and house gardens - true to the courtyard and garden culture found in countries with Islamic influences

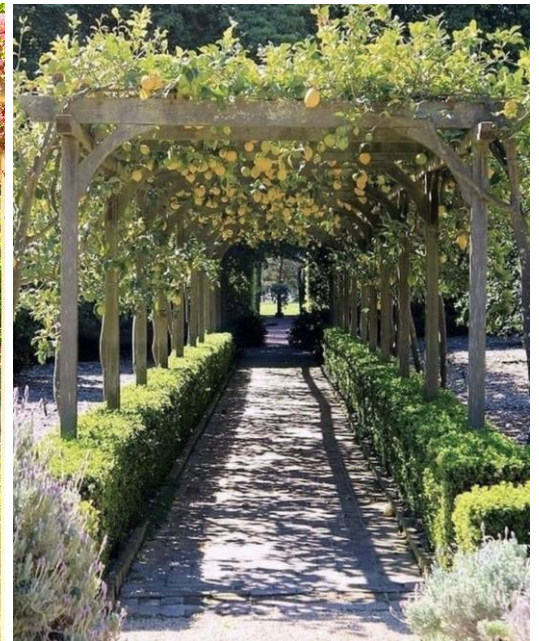


Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Moreover, the paths and gardens on these bridges should be provided with pergolas overgrown with climbing fruits or flowering climbing plants: They can provide shade and at the same time walkers can pick fruits when they are ripe - so in the truest sense a paradisiacal bridge world.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Fittingly, the Dubai Bridges of Paradise Gardens is also a gourmet row - especially for all the specialties of the countries represented on the Bridge of Islamic Peace: The district offers only restaurants with original traditional dishes of the highest quality



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Everything can be found on the gourmet line, including baked goods from different regions: a dream for tourists as well as for the Dubai population



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



But also research can be done on the bridge sections of the paradisiacal gardens

The Abu Dhabi Investment Office (ADIO) has already invested over 100 million in the Food Tech Valley project in Dubai: This includes public-private partnerships with the Ministry of Food and Water Security and Water Properties to explore urban planning of future AI-driven food-independent cities. The UAE is the next food tech hub in the Middle East, and the Dubai Bridges of Paradise Gardens will be able to use the protected areas behind the autonomous traffic to grow, research and, if necessary, develop and cultivate desert crops that grow in different desert areas around the world.



The UAE has already built up impressive agricultural expertise - but the biggest challenge remains irrigation

The UAE has over 177 highly developed farms, of which over 100 are already using organic farming techniques. But the problem of water supply or exploitation of groundwater reserves and the consequences of global warming remain: According to the World Bank, the United Arab Emirates had 75,000 hectares of arable land in 2002, but by 2018 it had just over 42,000 hectares.



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

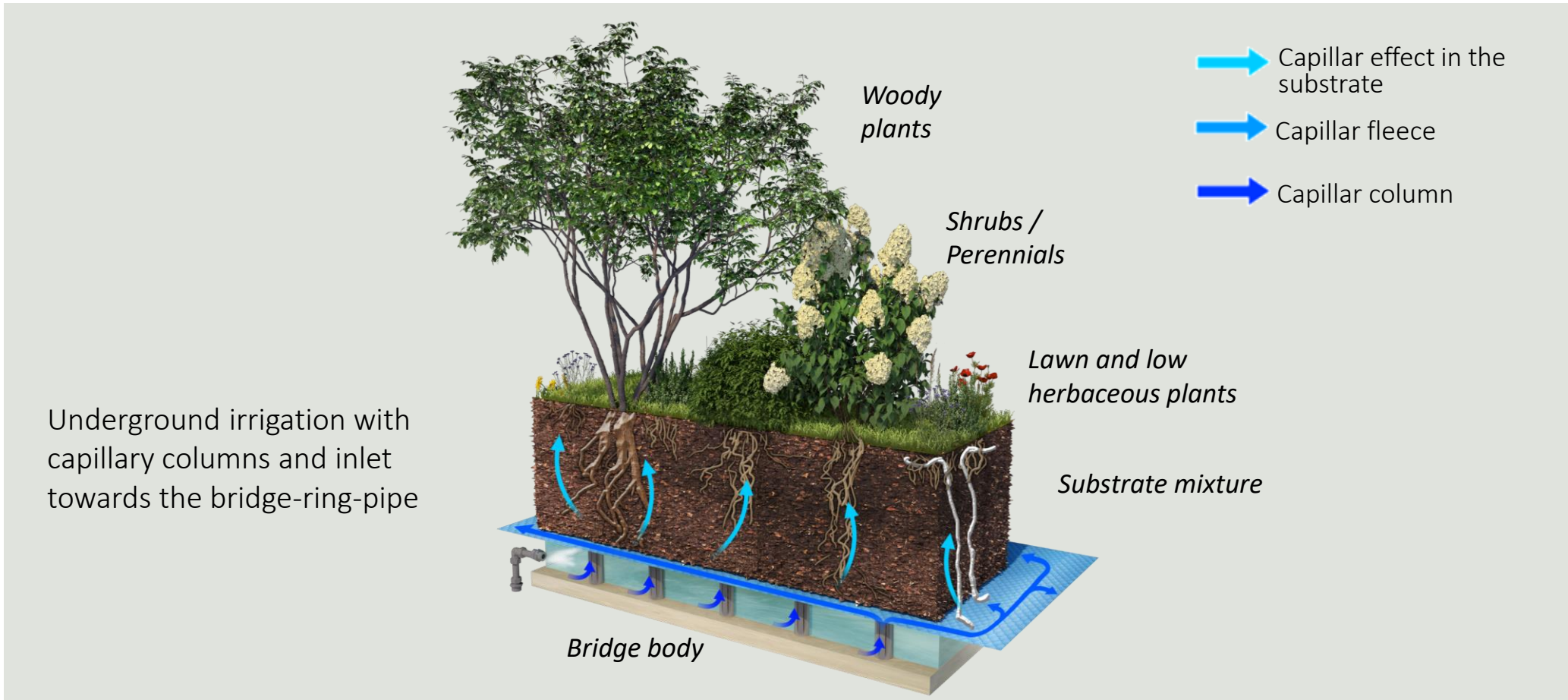
SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The underfloor irrigation concept of the Frankfurt Bridges can also provide relief on the Dubai Bridges

Since the plants are supplied with water from below with this irrigation technology, significantly less irrigation water evaporates on the surface. At the same time, the entire irrigation can be ensured with control technology, so that no personnel capacity is required. And when using plastic-free underfloor systems, the entire irrigation technology can be made extremely sustainable - especially if the water source comes from desalination plants and is used extremely sparingly by the underfloor irrigation.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

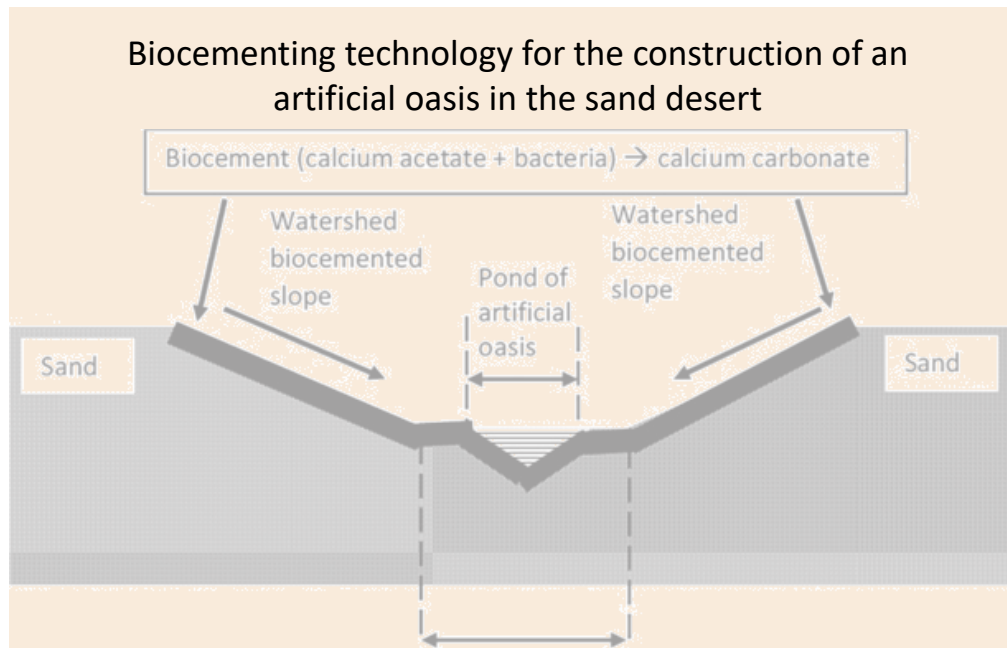
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The principle of subsurface irrigation can also be applied to green areas or agricultural land: there only has to be an impermeable layer in the soil above which the water-bearing layer can develop

Natural oases are created in a similar way: A layer of soil that is impermeable to water ensures that incoming water from a spring, a river or even groundwater, which only penetrates the layer at certain points, can be collected and does not immediately seep away again. If such layers (e.g. of clay) are created at a depth of approx. 2 to 3 metres, the soil above can be "soaked" with water from the desalination plants without it immediately disappearing again. The water is not poured onto the soil from above, but distributed in the soil through a pipe system (e.g. made of clay pipes) below the surface. The plants can extract their water from this saturated soil from above with their roots. There are already research concepts for this, but they require suitable test fields - for example at the ends of the Dubai Innovation Bridges, which open out as a water transport system in desert areas around Dubai.



sciencedirect.com Journal of King Saud University - Engineering Sciences Volume 32
Issue 8 December 2020



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



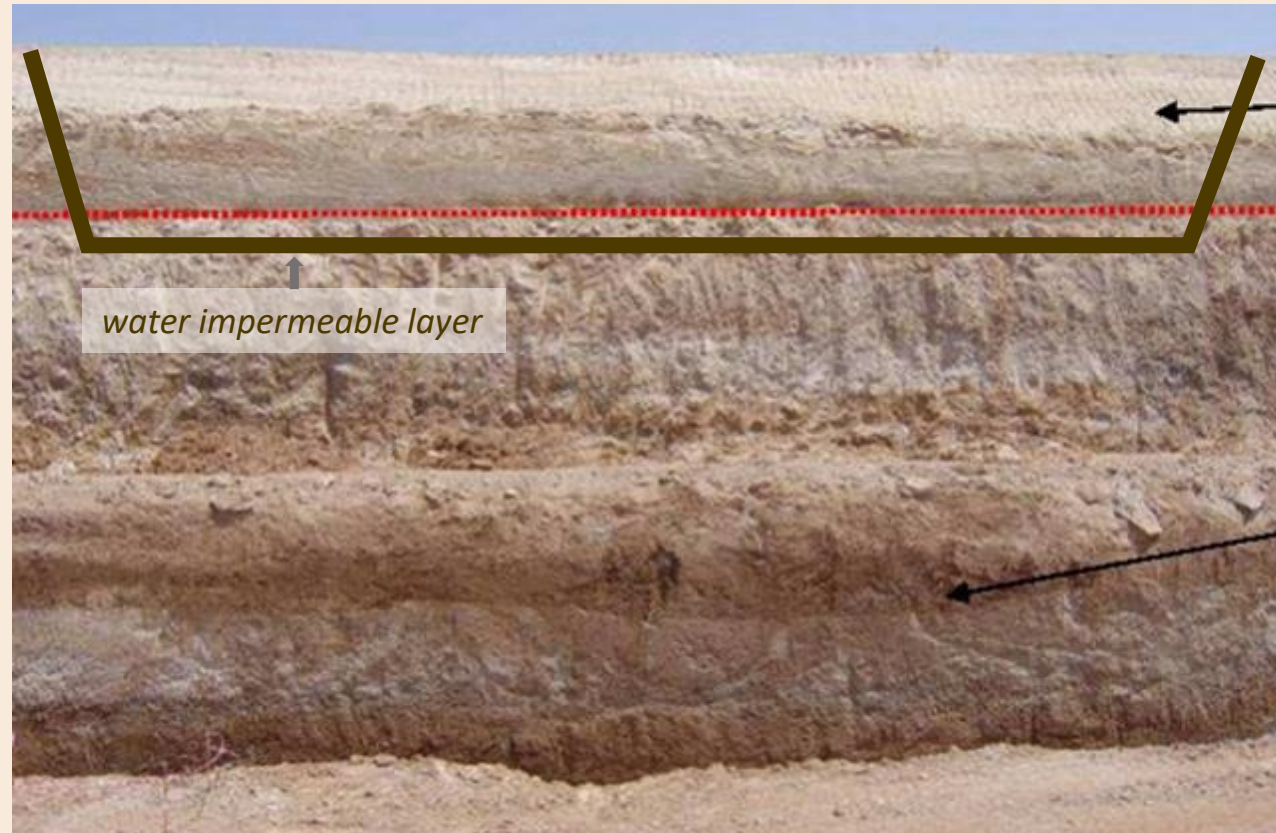
Depending on the planting, the water-impermeable layer should be placed 1 to 3 metres deep: In this way, the respective plant roots remain in the soaked area.

Trees can also be planted in the oases created in this way, although in many cases the impermeable layer must be placed deeper than 3 metres. A segmentation of the area to be planted according to the required root space must be planned.

Trees or palm trees are important for green areas in Dubai, as they provide shade for people and also other plants and protect them from sandstorms. With proper irrigation, some varieties of fruit trees can also be planted. With the help of such technologies, beautiful oases of recreation can be created around Dubai.

Barzaman
Formation beneath
Pleistocene
Calcarenites and
Holocene aeolian
sand, coastal
excavation, Dubai.
The height of the
excavation is
approximately
10m.

researchgate.net by
Steve Macklin
Richard A. Ellison
Jason Manning
Andrew R. Farrant
Leon Lorenti



superficial
sands and
calcarenite

water impermeable layer

Shallow
channel
feature –
brown
conglomerate

Old New Territory Frankfurt

Targeted infiltration of water into areas to be greened can be done around Dubai at all branches of the bridges: A green belt can be created

If this is to be implemented on a large scale, it is likely that a further desalination plant will be required, which could be operated using Energy Bands.

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The green belt around Dubai could consist partly of arable land and partly of plants that resemble an oasis greenery and are comparatively frugal

Around 510 square kilometers of arable land could be created, and around 90 square kilometers of desert-ready urban greenery. The agricultural area could cover a significant part of the UAE's fruit, vegetable and grain needs - the rest could be exported to other parts of the Arabian Peninsula, especially when it comes to (increasingly popular) organic products.



The planting of such a green belt around Dubai can also be the subject of research and development - a nice example is the Tarim Desert Road

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai

USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT

The Tarim desert road was planted with 20 million plants in 2003 to protect it from sand drifts. There, in the Turpan Basin, the largest botanical garden for Azeri desert flora has been created: with 700 different desert plants, 50 of which are endangered species. The Dubai Desert Conservation Reserve Center could also create such an ecological, green research belt around Dubai.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The Emirates has expertise in organic farming and also in making farming an experience for the people and tourists

Industrial agriculture does not make as much sense in Dubai as organic farms, which produce high-quality products, create a beautiful landscape belt around Dubai and at the same time have experiential value for people. Over 100 farms in the Emirates already produce organic products.



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER
ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The green belt needs 2.6 billion cubic meters of water per year: A new desalination plant must be built for this purpose

The emirate of Dubai covers an area of 4,114 square kilometres, whereas the city has only 35 km². The possible green belt can cover 600 square kilometers, an area that so far receives only 42 million cubic meters of precipitation per year - 70 liters of water per square meter p.a., which means 190ml on average per square meter per day.

However, arable farming in desert regions requires 12 litres of water per square metre per day. That means, a total of 2.6 billion cubic metres of water per year will be needed for the green belt.

If the local water balance of the green belt area is increased from 42 million cubicmeter (precipitation) to 2.6 billion cubicmeter of supplied water per year (i.e. by a factor of more than 60), only a portion of this water will reach the atmosphere as plants draw it from subsurface irrigation and evaporate it, but this evaporation volume alone and its potential influence on precipitation events can significantly affect local climate.

Within the framework of a feasibility study, however, it must be simulated in detail and examined in advance whether the local climate will become more pleasant and cooler in the long term or whether, due to the extreme greening, the local weather will potentially take on a tropical character - which would be considerably less pleasant than the dry desert climate.

In this context, it must also be clarified or simulated whether increased cloud formation over Dubai would benefit the city and pour down rain in the region or whether a mountain would actually have to be built for this purpose. The UAE's National Center for Atmospheric Research has already developed models with which such simulations are possible.

The advantage of the green belt concept is that the areas are created successively and climatic effects can be observed, so that countermeasures can be taken with the planting - and thus with the required irrigation.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

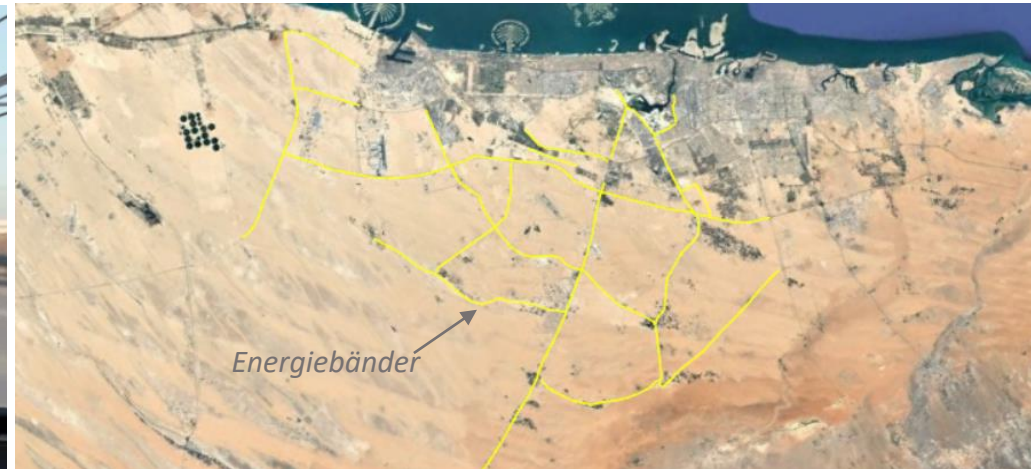
SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The 200 km long Dubai Energy Bands can initially support the cement production for the bridge construction with 5.1 TWh p.a. and then - after completion of the bridges - supply the desalination plant (built in parallel)

Energy Bands have the great advantage that large amounts of green energy can be generated very quickly and very easily. However, like many renewable energies, they also have the disadvantage that the energy is volatile: they only produce electricity during the day, and more in summer than in winter.



The United Arab Emirates has a stated goal of capturing 25 percent of the global hydrogen market. As soon as the Energy Bands produce surplus energy, an infrastructure for the production of hydrogen should already be under construction in the Emirates. The UAE also wants to become a global player in the hydrogen-based production of steel, so that - together with low-CO₂ cement production - Dubai's Innovation Bridges can be built with exemplary low CO₂ emissions. However, hydrogen can only be compressed efficiently to a certain extent, so it is important to have plenty of space for its (intermediate) storage. At the same time, however, the installation should be close to the hydrogen-consuming industry or the exporting port: Accordingly, it makes sense to install the hydrogen storage in the underground under the green belt of Dubai - especially since the water-impermeable layer must come after a few meters of root space under this area, anyway.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

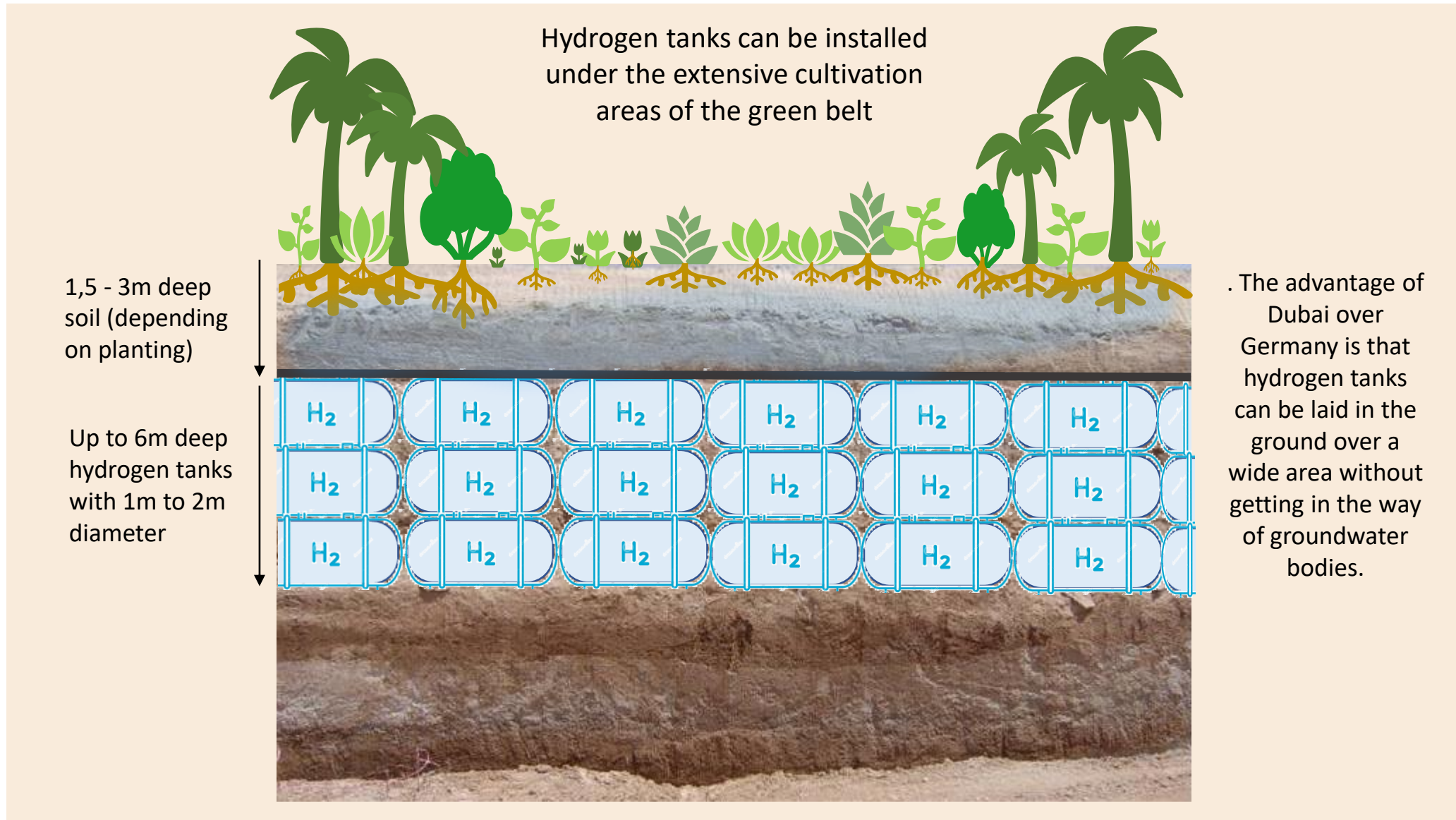
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Oasis formation for the green belt with the help of water-impermeable layers in the subsoil and energy storage can be combined with each other



THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Conclusion: With the help of green innovation bridges, Dubai can complement its spectacular high-rise skyline with fascinating buildings and paradisiacal gardens. For every existing investor in Dubai, the construction of the bridges will significantly increase the value of their existing real estate investments

If Dubai wants to remain a magnet for tourists and expatriates, then it is important to develop its current urban struct with forward-thinking planning. The Dubai bridges do not change the cityscape of Dubai, they only add value to it as they are located over currently dead areas: Even today, the wide motor roads contribute nothing to the life of the city, so if anything, they are a negative component of the cityscape.

The Dubai bridges will create a new quality of life, which will not only make the real estate on the bridges attractive, but also massively upgrade the immediate and wider surroundings of the bridges: The 30,000,000 square meters of building space on the bridges alone could fetch a price of at least 7,500 euros/m² as of today, meaning they would be worth at least **225 billion euros**. If only the same number of square meters of building space in the vicinity of the bridges were to increase from the current market price of 3,400 euros/m² to 5,200 euros/m², this increase in value is estimated at a further **54 billion euros** - together with an extremely increased influx of tourists with additional revenues of several billion (38 billion in 2019), a further **20 billion euros** in value should be created. In total, Dubai bridges can create a value of **300 billion euros**.

Added to this is the sustainability value that will be created: With the Innovation Bridges, Dubai has a research platform for different future areas: from climate-adapted planting to autonomous driving to using geothermal energy from the pillar piles for cooling. It can also create a green belt with the help of a new, easy-to-build Energy Bands infrastructure, the effects of which could have a very positive climate-engineering effect on the city alongside agricultural supplies.

With its fabulously built paradisiacal green Innovation Bridges, Dubai can make a very special contribution to the world of the future.

China

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Old New Territory China

A network of green bridges can be an attractive option for many metropolitan areas in China to create a culturally fascinating world of innovation in the middle of the cities: Autonomously driving traffic on the innovation bridges can relieve traffic on the road, the urban greenery on the bridges can improve the urban climate, especially in summer, as well as shading the dark wide streets - and housing for various target groups can be created close to the city center. In some of the buildings, special educational opportunities, wellness offers or cultural-artistic development opportunities etc. can become an enrichment for the entire respective city population and tourism.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Chinese metropolises have excellent prerequisites for creating innovation bridges along the lines of the Frankfurt Bridges

Major Chinese cities have grown rapidly in recent decades and have had to build correspondingly large multi-lane transport routes through the cities to meet the traffic and infrastructure challenges:

1. Large grey streets criss-cross the cities like aisles. The space above them could be built over and used for housing as well as for commercial, health or even educational facilities.
2. China is one of the leading countries in the development of AI systems and could introduce large, complex autonomous driving systems on the innovation bridges that can massively relieve traffic on the roads and reduce the number of vehicles. Once such a system is successfully introduced, it can eventually be applied to the road traffic of entire cities.
3. Due to massive sealing, flooding occurs in many cities during the rainy seasons. Accordingly, China is a leader in the development of Sponge City concepts. Chinese Innovation Bridges can collect rainwater, transport it further to storage locations with pipes that hang below them or are integrated, and - if required - also distribute it back into the city from there. This makes them an excellent addition to Chinese Sponge City concepts for a metropolis.
4. In China, roof greening and façade greening are being massively promoted: Liuzhou Forrest City is the most prominent example of this trend. The Chinese Innovation Bridges are intended for comprehensive greening, both in terms of the columns and the bridge body as well as buildings standing on them.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



5. Almost 50% of all environmentally compatible power plants are built in China, and research there is also in full swing for photovoltaics. On a bridge as a "showcase" of innovations, geothermal energy can be used for heating or cooling in accordance with the geographical location of the respective metropolis. Invisible photovoltaics can also be integrated into all building surfaces and areas of the bridge corpus, so that the innovation bridges not only become self-sufficient in terms of energy, but can also supply parts of the streets to the right and left with energy.
6. China is now investing heavily in museums, in the preservation of traditional arts and crafts, as well as in the restoration and maintenance of ancient cultural sites. On the Chinese Innovation Bridges, China's beautiful and unique architecture can blossom anew - adapted to the region around the respective city.
7. Traditional architecture in China is often built of wood - a particularly sustainable building material. The construction methods of buildings are also traditionally adapted to the climate in the individual regions: Some of these techniques can be examined to see to what extent they can be adapted to revive on the innovation bridges and replace modern concrete construction or prefabricated components in parts.
8. And last but not least: China is a global leader in the fast, efficient and successful implementation of large, complex infrastructure projects. Should metropolises in China come to the conclusion, after thorough examination through feasibility studies, that innovation bridges represent an enrichment for society, the best chances are given that such an infrastructure project will actually be implemented quickly, professionally and efficiently.

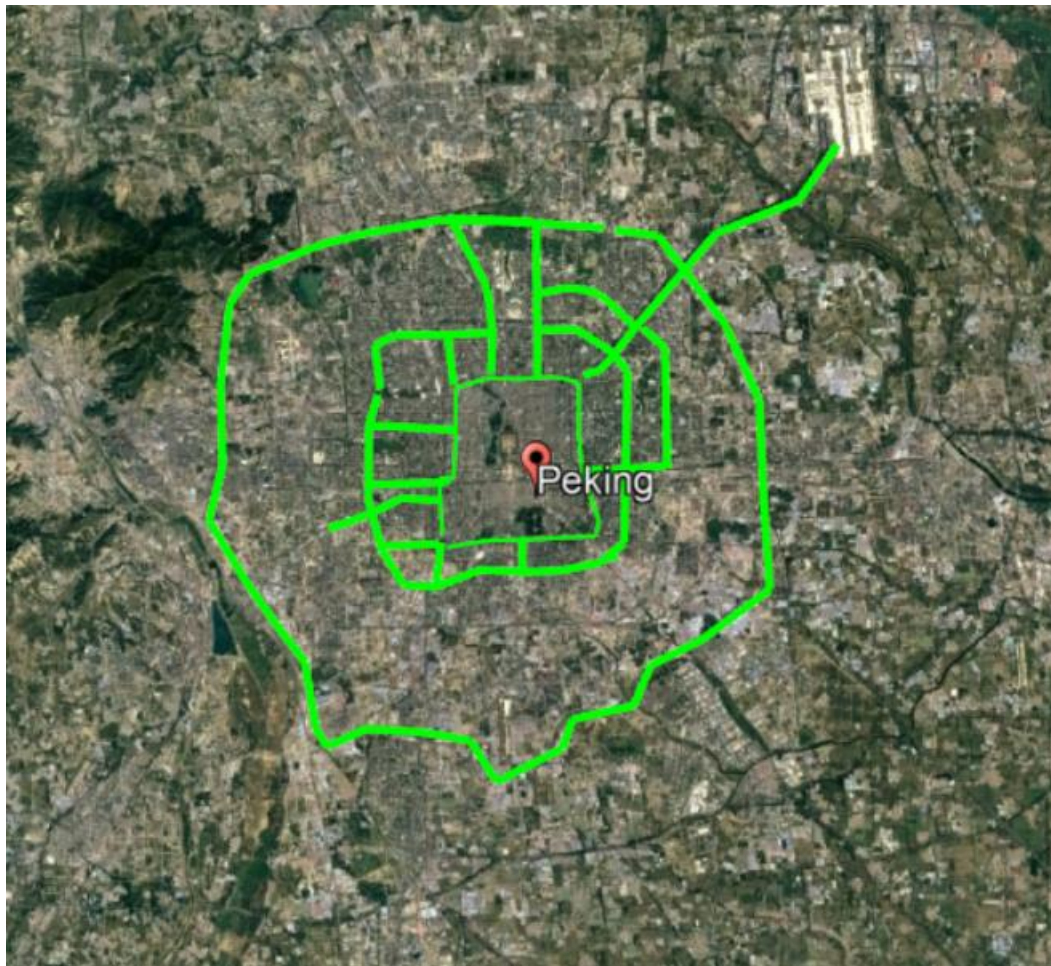
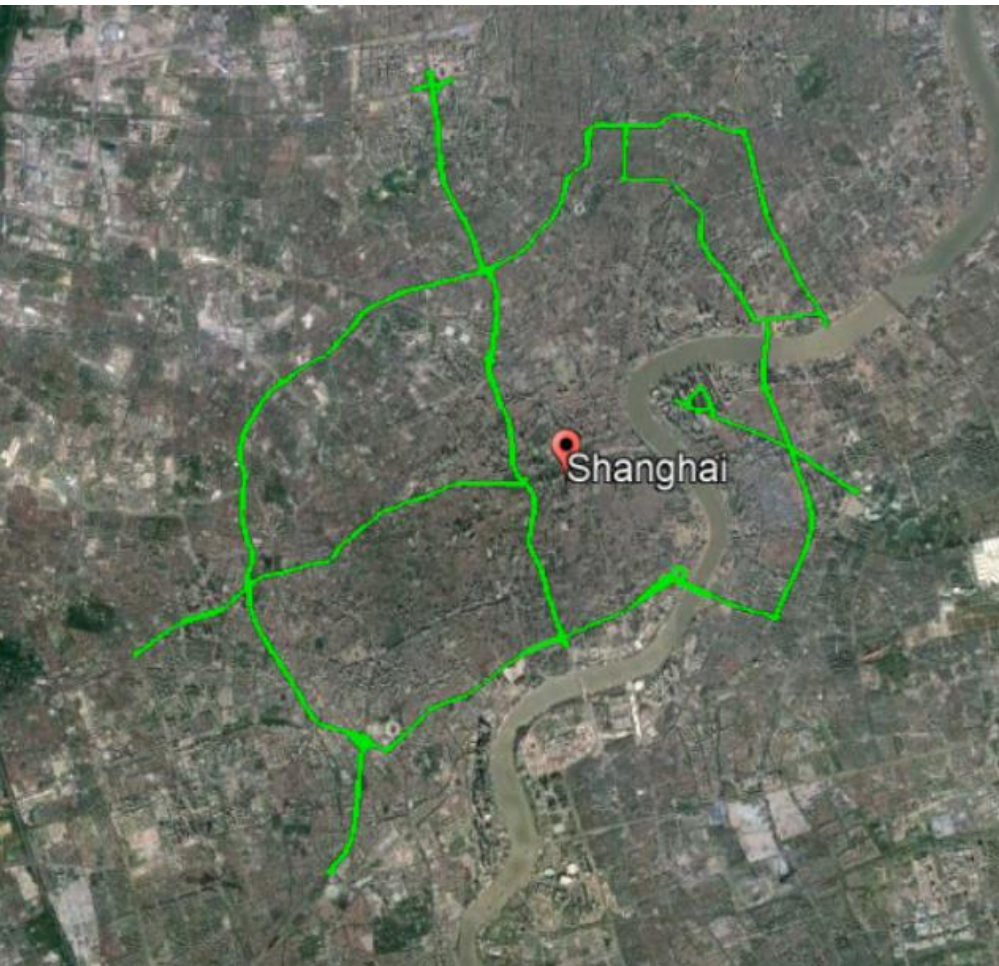
Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



For any city in China, the Frankfurt Bridges concept could be an interesting option

Feasibility studies would first have to examine whether the bridge concept could make a positive contribution to any of China's cities and what peculiarities would have to be taken into account per city. The challenges for the cities are very different in terms of energy, water balance, housing requirements and transport connections, as can be seen from the exemplary route proposals for Shanghai and Beijing, which are over 1,200 km apart and have completely different conditions, accordingly.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Like all strongly grown metropolises worldwide, Shanghai is also crisscrossed by large wide streets with dense traffic.



Beijing is not different - only an insider could distinguish the images in their bleak uniformity. China has a dozen cities with more than nine million inhabitants, and all of them have traffic roads that are gray, wide, and impassable. Even though traffic has improved in recent years and has been successfully mitigated by the government, the sealed road surfaces still remain as aisles separating parts of cities.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



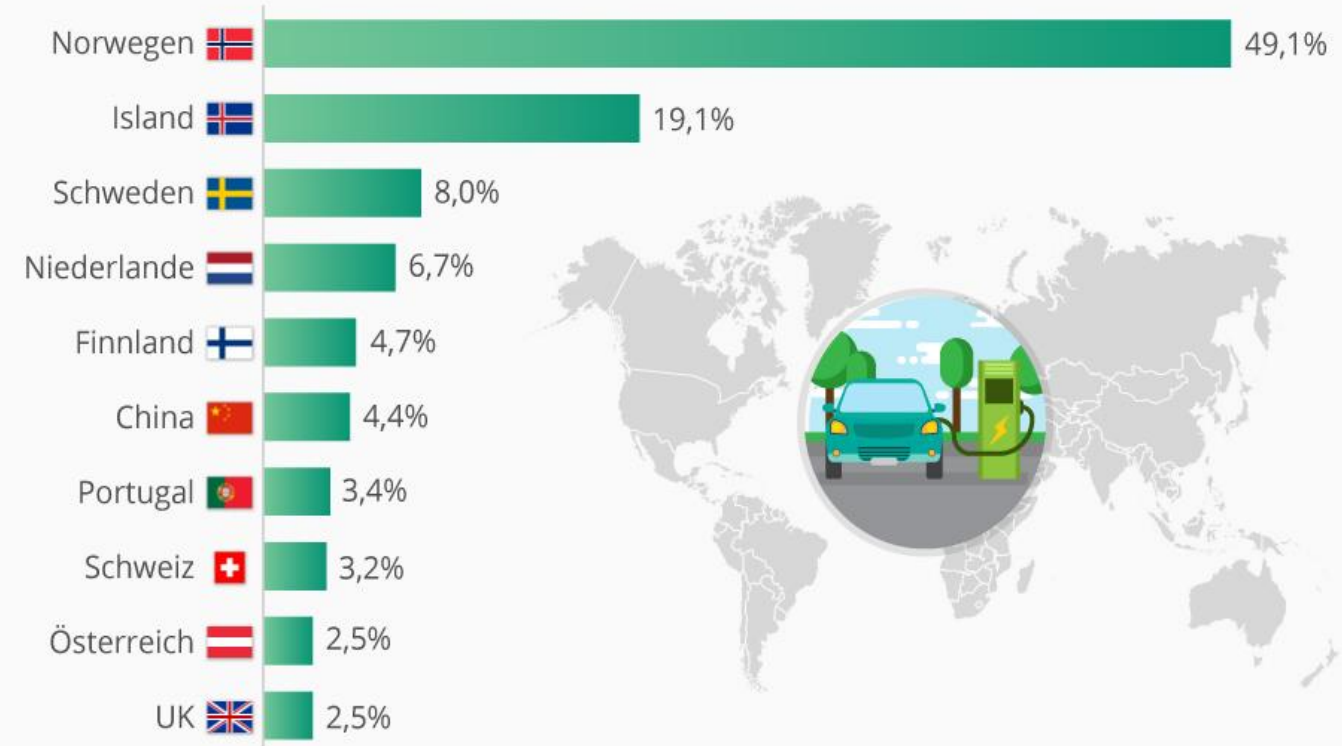
Traffic may have become more bearable with the promotion of e-cars and the construction of bike highlines - but the dark sealed infrastructure of huge roads remains for the time being.

On the Chinese Innvotion Bridges, autonomously driving traffic could emerge, both with public transport and semi-individualized by calling a car via app. This would relieve the road traffic under the bridges.

And since the Innovation Bridges in China - unlike in Frankfurt - would be extraordinarily wide, bike lanes could be added to the right and left of the proprietary lanes for autonomous traffic.



Countries with the greatest share of Electric Cars:



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The innovation bridges can collect rainwater with their own surface - but also rainwater from adjacent large buildings can be forwarded via the bridges.

In Shanghai, for example, around 1.1 cubic meters of precipitation fall per year, so that the bridge area of around 2.8 million square meters receives almost 3 million cubic meters of rainwater. Of this, up to 20% can seep away, a further 10% is likely to evaporate, but 70% must and can be passed on to water reservoirs outside the city or even treated there to make drinking water.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

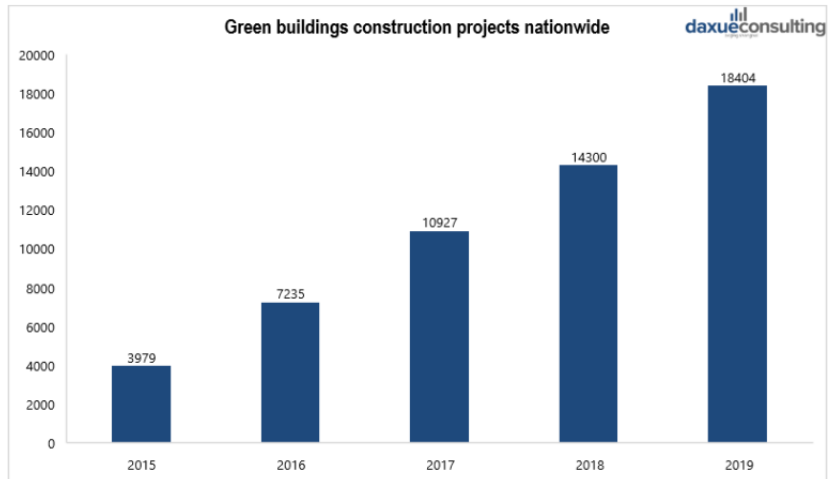
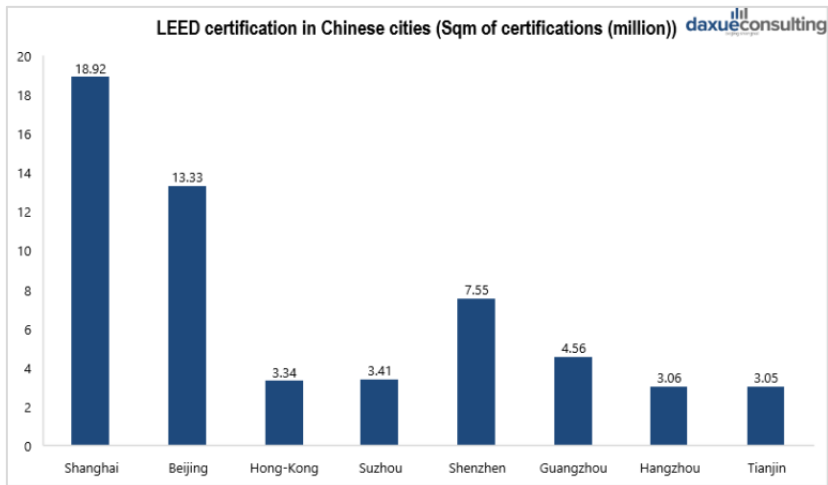
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



China massively promotes greening concepts for buildings - on the innovation bridges, all sustainable greening approaches could be developed further

LEED certifications are growing rapidly in China. However, as it is a new field, there is still much to be explored. Some greening projects have encountered problems for which solutions need to be developed in the future.



In Chengdu in the Qiyi City Forest Garden, the facade greening has attracted droves of insects – the Chinese Innovation Bridges can be used to research how this problem can be countered with natural predators, for example

Creativity and inquiring minds are required here, because the predators -for example songbirds- can also become a nuisance. A mixture of measures is probably the most sensible solution, up to the planting of carnivorous plants that cannot become a nuisance.

In addition, the sustainability of massively planted facades must be continuously improved: The additional cost of concrete to support tree planting must be in reasonable proportion to the climatic benefits of the "vertical forest".

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Furthermore, a low-plastic irrigation system can be developed on the Chinese Innovation Bridges and can be transferred from there to green roofs, buildings and facades, in a way so that microplastics are not washed out with every rain after the first signs of wear

Old New Territory Frankfurt

Like their counterparts in Frankfurt, the Shanghai Bridges for example have plastic-free underfloor irrigation, as well. Plastic hoses are only increasingly used on slopes where, for certain reasons, clay pipes cannot be used instead.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Depending on the city, suitable partial aspects of the bridge concept can be realized. However, one thing is true for all cities in China: there is beautiful traditional architecture in their regions, which can be revived on the respective bridges

The challenge - just as on the Frankfurt Bridges - is to equip the buildings technically with modern living comfort and to build them in an energetically contemporary way, but at the same time to apply traditional architecture and to design the buildings in an artisan way.

Often, ventilation and shading systems of traditional buildings are also particularly cleverly adapted to the climatic conditions of the respective region. It is important to explore what can be learned or adopted from this traditional "building technology" in order to optimise houses in terms of indoor climate and energy consumption.



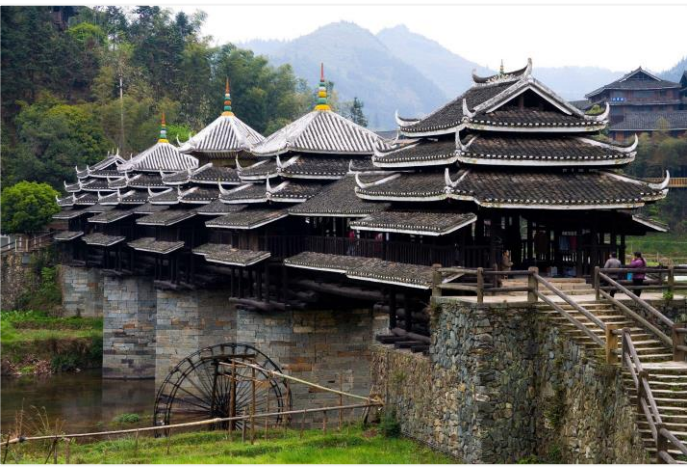
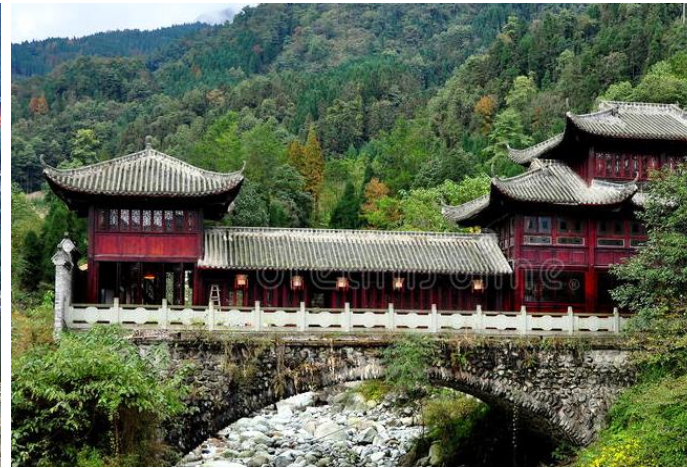
Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Moreover, the concept of the Frankfurt Bridges does not seem strange, because built bridges are not a novelty in China

Building on bridges is a tradition in China: Many bridges are not simply used to cross rivers, but are covered to give walkers the opportunity to linger. Some are even built on in such a way that there can be shops or restaurants there, while others, like the Chengyang Bridge in Guangxi, are used by the inhabitants of the two villages it connects as a marketplace where they can sell their handicrafts.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Life takes place on all of China's built bridges - they are more than just a traffic route

Only a few years ago, a bridge was built in Chongqing on which both houses with Western and Chinese architecture were built: Similar to the Frankfurt Bridges, here -to the delight of the tourists- diversity was implemented: You can stroll past the most diverse shops, and there is always something going on on the bridge.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Which architecture prevails on the artful innovation bridges should depend on the location of the respective metropolis

If an innovation bridge is being built in Shanghai or one of the other more southerly metropolises, it makes sense to pick up on the local characteristics of the respective city and its surrounding region. Accordingly, for the "Shanghai Bridges" buildings with architecture from the southern provinces are planned.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The shikumen, typical for Shanghai, should not be missing on the innovation bridges in a southern metropolis



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



But there is not only one traditional architectural style per bridge, but different architectural styles of the surrounding regions can be represented in different sections of the bridges.

In Shanghai, for example, traditional buildings from other southern provinces may also be located on the bridges.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In the south of China, many cities are built on water canals

Probably the most famous example is Suzhou, but many other cities also have terraced waterfront developments. No deep canals are planned on the Chinese Innovation Bridges, though; but shallow, aerated bodies of water are planned which can provide fresh air and architecturally create the fantastic mirror effects that are also familiar from the waterways of southern China.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT

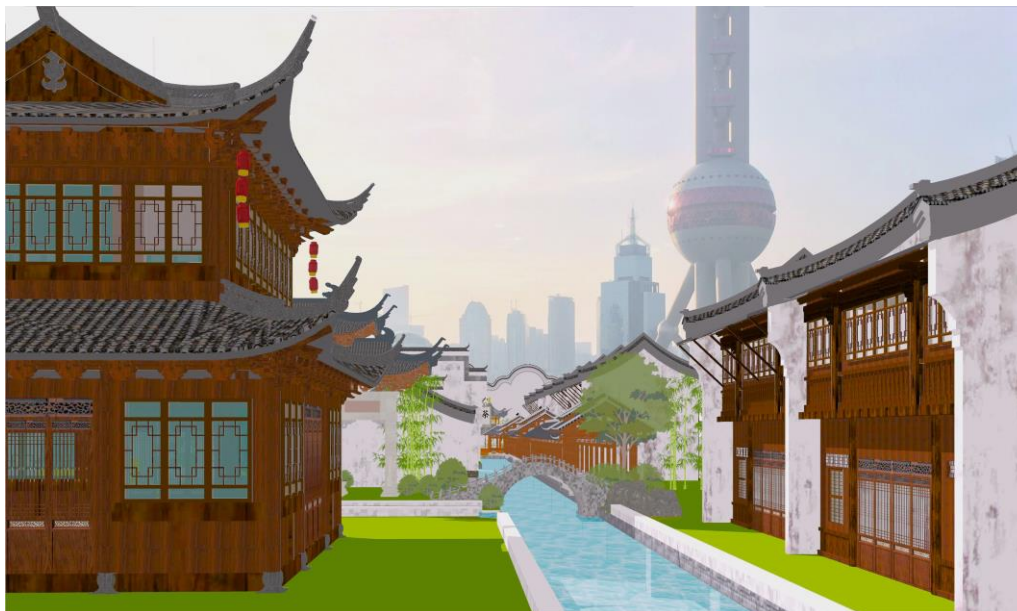


There should also be water channels on the Shanghai bridges with southern architecture

Even though the channels should be very shallow so as not to put too much water load on the bridges, they can still be cooling and aesthetically enhancing.

In addition, they structure the neighbourhood and can, for example, provide a clear demarcation between commercial areas and residential buildings.

A certain gradient can also be used to ensure that the canals act as a water collection channel for the bridges in the event of rain, and transport the water across the bridges to storage locations. Since the innovation bridges have "smart city" structures, meteorological advance warning can be used during rainfall to ensure that some of the water is drained from the canals so that they have catchment capacity for the rain and do not overflow.



Old New Territory Frankfurt

You can't row on the canals of the innovation bridges, but you can use the mirror effects of the water, for example at the so-called "moon bridges"

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Not only can local architecture be featured on the Innovation Bridges in Shanghai, but visitors can also admire the extraordinarily beautiful traditional architecture of other southern regions of China there.



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

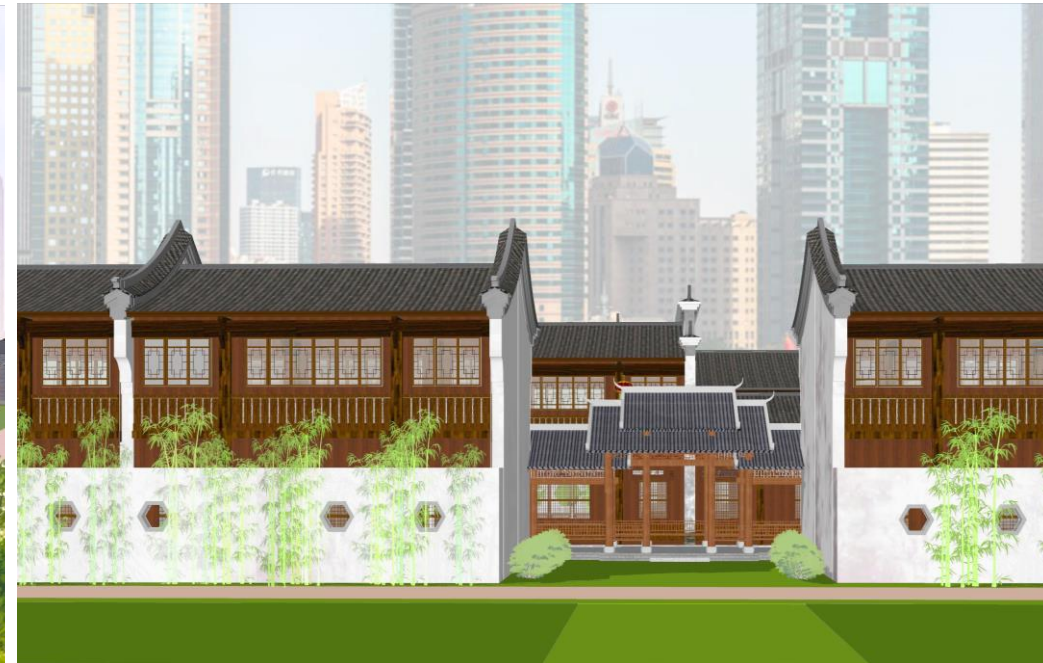
CONTACT & IMPRINT



The typical roof gables of southern China can also be found on the Shanghai bridges, as can the bright white walls, which are particularly popular in Anhui province

Deliberately leaving the walls of houses plain, smooth and white is not new to modern architecture: In China, this stylistic concept has been used for centuries, especially in the South in the Anhui province.

There was also quite excellent craftsmanship there, so the walls did not remain white for lack of master craftsmen. Rather, the philosophy behind it was that the viewer should not be limited in his imagination by being given a decorative façade. The viewer should have the freedom to imagine anything possible on the white wall - one could create one's own façade, so to speak, or what takes place on it.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Combining architecture and philosophy on the Shanghai bridges

The concept of white walls comes from a compositional method of Chinese painting. The motto there is "leave empty" and assumes that an empty space in the picture leaves room for imagination.

This technique aims at creating "EVERYTHING" out of "NOTHING" - an important part of the philosophical discourse in Daoism.

This philosophy can be found in various Chinese traditions, not only in painting or architecture, but also in music and literature.

By reflecting on traditional Chinese architecture, Chinese thought and cultural heritage is also revived on the Shanghai Bridges, which represent an important foundation for the people and correspond to the worldwide bridge concept of bringing humane architecture back into the middle of the cities through Innovation Bridges.

Old New Territory Frankfurt

Thanks to the greening concept of the Frankfurt Bridges, which works sparingly with underfloor irrigation, the fascinating garden and park tradition of China can also be unfolded on the Innovation Bridges with great attention to detail.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore

UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

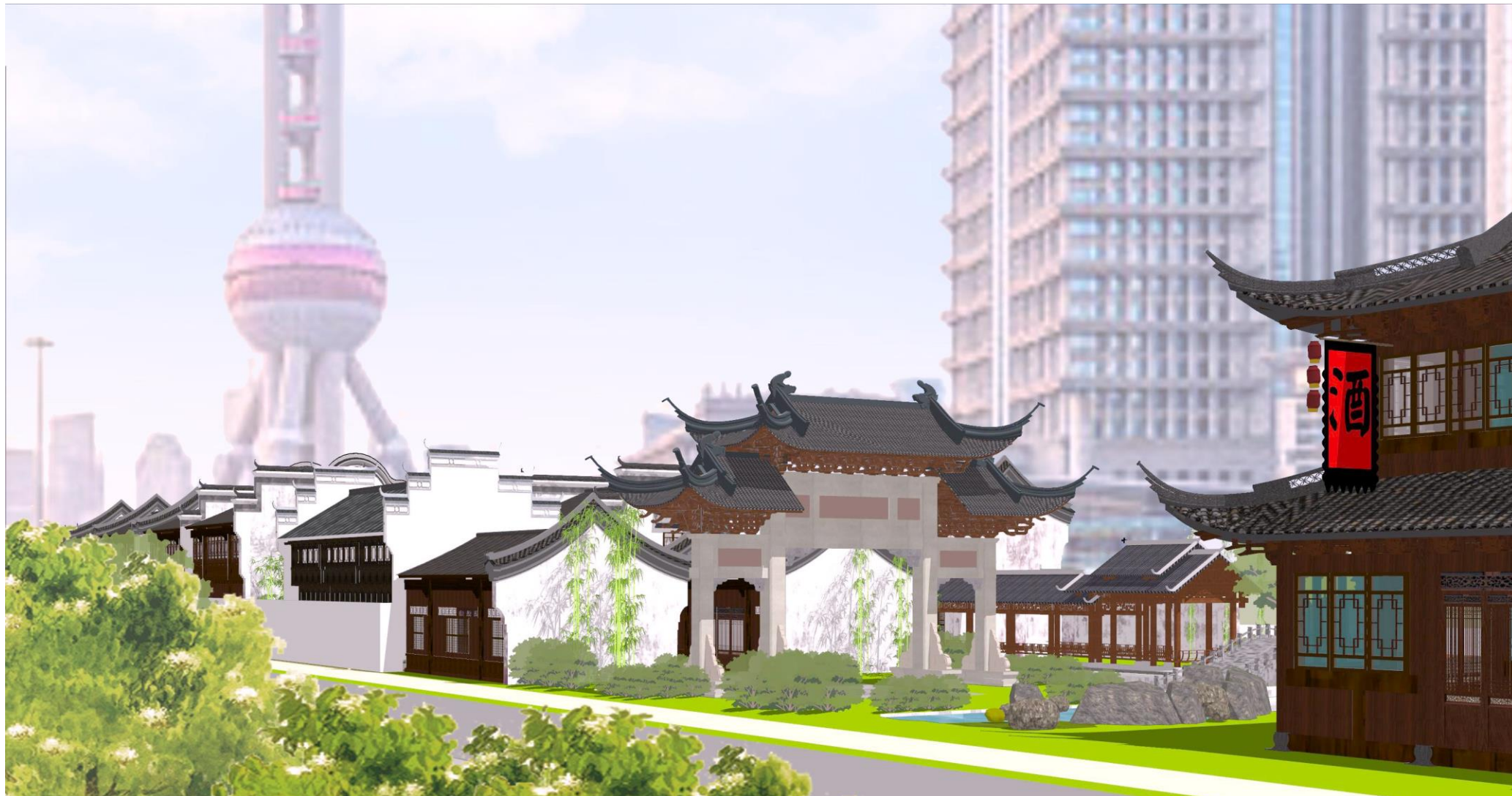
SEARCH

THE TEAM

CONTACT & IMPRINT



The irrigation system on the Shanghai Bridges not only provides beautiful greenery and gardens on the bridges, but also waters the trees and plants along the bridges



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In the North, metropolises can also cross their city with Innovation Bridges:
Architecture in northern China works with different materials and stylistic elements



- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In northern China, other roof shapes and layouts can be found: For example, four houses around a courtyard - the so-called "Siheyuan" - are typical



Old New Territory Frankfurt

The traditional pale grey stone is often brightened up by elements in a vibrant red - the colour of happiness in China

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA - Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The discreet and at the same time strong colouring results in a very special elegance, which is particularly humane and pleasant due to loving handicraft details.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

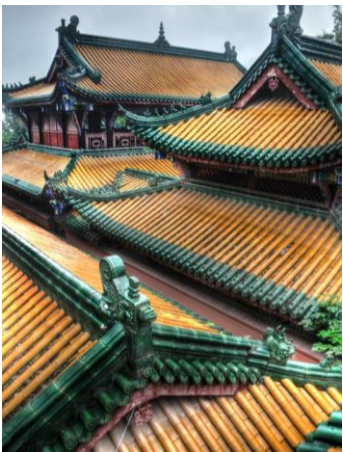
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



You can also find colourful roofs - especially in the north.



However, such splendidly colored roofs are usually reserved for palaces and temples



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In China, as in most rich countries, traditional architecture is a luxury item

An estate in Suzhou on a private island has been rebuilt in the traditional style and sold for over \$150 million - a price that a comparably sized modern-built property (without any arts and crafts) would hardly achieve.



Old New Territory Frankfurt

The luxury property is kept in traditional architecture both in terms of the arrangement of the buildings and in terms of detailed art and design.

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**

- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**

- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai**
- USA – Los Angeles
- Bridges Worldwide

- LAW**
- FINANCES**
- IMPLEMENTATION**

SPECIALIST INFORMATION

- SEARCH**
- THE TEAM**
- CONTACT & IMPRINT**



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA - Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The popular "moon gate", which is a tradition throughout China, is also not missing from the luxury new building with its handcrafted design



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The unique traditional wooden ornaments on windows and balcony doors provide transparent shading and pleasant privacy even in modern life

Wood is a sustainable building material that has a rich tradition in China's arts and crafts. Durable cedar wood in particular meets all modern demands for sustainability.

The rediscovery of wood crafts in China can become a modern or contemporary application of its own cultural roots on the Chinese Innovation Bridges.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In addition to traditional construction and sustainability, buildings on Shanghai bridges must also consider maximizing building space

As with most old buildings, the popular old buildings in the Chinese architectural tradition are usually only two or three stories high. However, there were also traditional building styles that were designed with four floors to accommodate as many people as possible in one building: For example, the Hakka Tulou buildings in Fujian are an architecture that creates comparatively many accommodations in a small space.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



With a surface area of around 3 million square metres, the Shanghai bridges only provide living space for around 160,000 people.

Shanghai is home to 26 million people - 160,000 bridge dwellers therefore make up less than one percent of the population.

Accordingly, the bridges cannot solve the housing problem in the Chinese megacities, as they might in European cities, for example.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER
ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE
ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



This raises the question: Who will be allowed to live in these beautiful, sustainable and technically advanced quarters?

The 5 million square meters of building space that can be created on the Shanghai Bridges are not only intended to serve residential purposes, but are also intended as mixed quarters in which specific target groups live and in which specific businesses can be found:

One neighbourhood, for example, could be reserved for families who have a child or family member with a disability. Accordingly, there would be more toddlers' day nurseries and schools with inclusion character in the neighbourhood, which are completely barrier-free. There should be then also a barrier-free swimming pool that is open to all, but where people with walking disabilities or blind people can also easily find their way around. The playgrounds in the neighbourhood would be also particularly well equipped with inclusive play equipment.

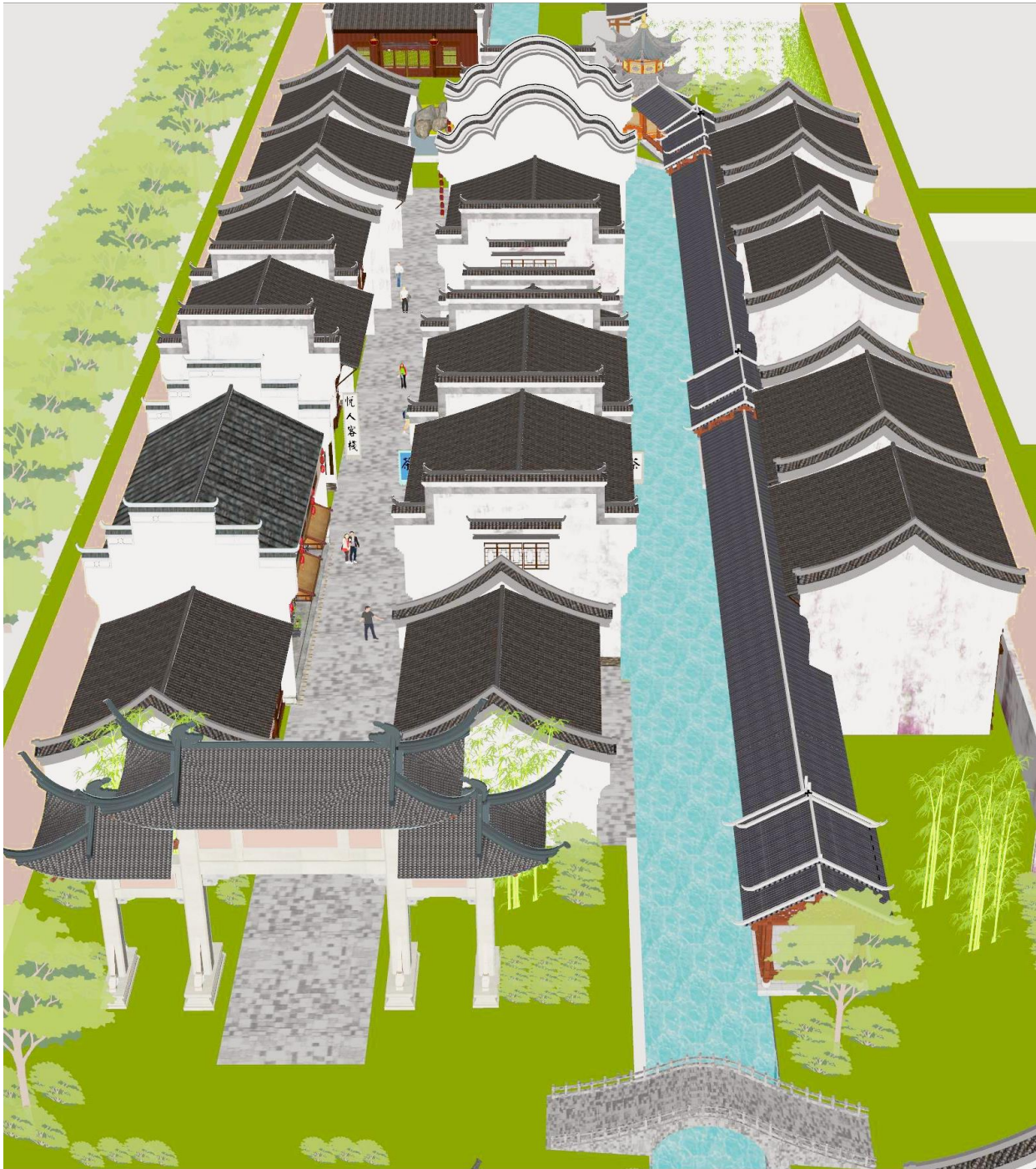
Another quarter could offer more small shops with Chinese medicine from all parts of the country. Renowned acupuncture specialists, traditional massage etc. should be represented there, as well as herb gardens and traditional tea houses. In this quarter, in addition to the traders themselves, retirees could be preferred tenants, but also families who have been socially engaged and can show special merits such as years of community service or volunteer work, etc., could receive living space in this quarter.

Animal lovers could also get their money's worth: In a smaller neighbourhood there could be veterinarians, animal shelters from which you can adopt animals, animal welfare associations and a petting zoo. Apartments here would for example go to employees of research institutes, environmental and water offices, biological and botanical departments of the university and the like.

The range of possible quarters is very long; in Shanghai, up to 100 quarters could be defined in this way, each with 50,000 square meters of building space. Any city that opts for Innovation Bridges can use this approach to develop its own neighborhood landscape. With the building spaces on the bridges, a city can not only try to address its current problems and challenges, but can also present its tradition in a neighborhood solution, thus creating fascinating attractions for its population and also for tourists.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Conclusion: Innovation
Bridges can help large
cities in China to overcome
challenges related to
transport, water
management, urban climate
and decentralized energy
generation and storage.

At the same time, they
represent an enormous
cultural enrichment in the
middle of the city through
their promotion of traditional
architecture and arts and
crafts.

Los Angeles

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**

- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**

- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles**
- Bridges Worldwide

- LAW**
- FINANCES**
- IMPLEMENTATION**

SPECIALIST INFORMATION

- SEARCH**
- THE TEAM**
- CONTACT & IMPRINT**



Copyright © by Tessa Neustadt - ALLPRACE Homes

Old New Territory Los Angeles

Los Angeles is a city of contrasts, and accordingly, it makes sense to segment the network of bridges over the motorways: Some sections may be of wood construction as "bridge light," while others are made of traditional reinforced concrete; narrower bridge sections may be limited to transportation routes and greening, while others are built out with affordable housing for LA citizens or used for housing projects to reduce the homeless rate.

However, all interconnected bridge sections have one thing in common: they provide a network structure for safe autonomous transport, the transfer of collected rainwater and the collection and distribution of photovoltaically produced electricity.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

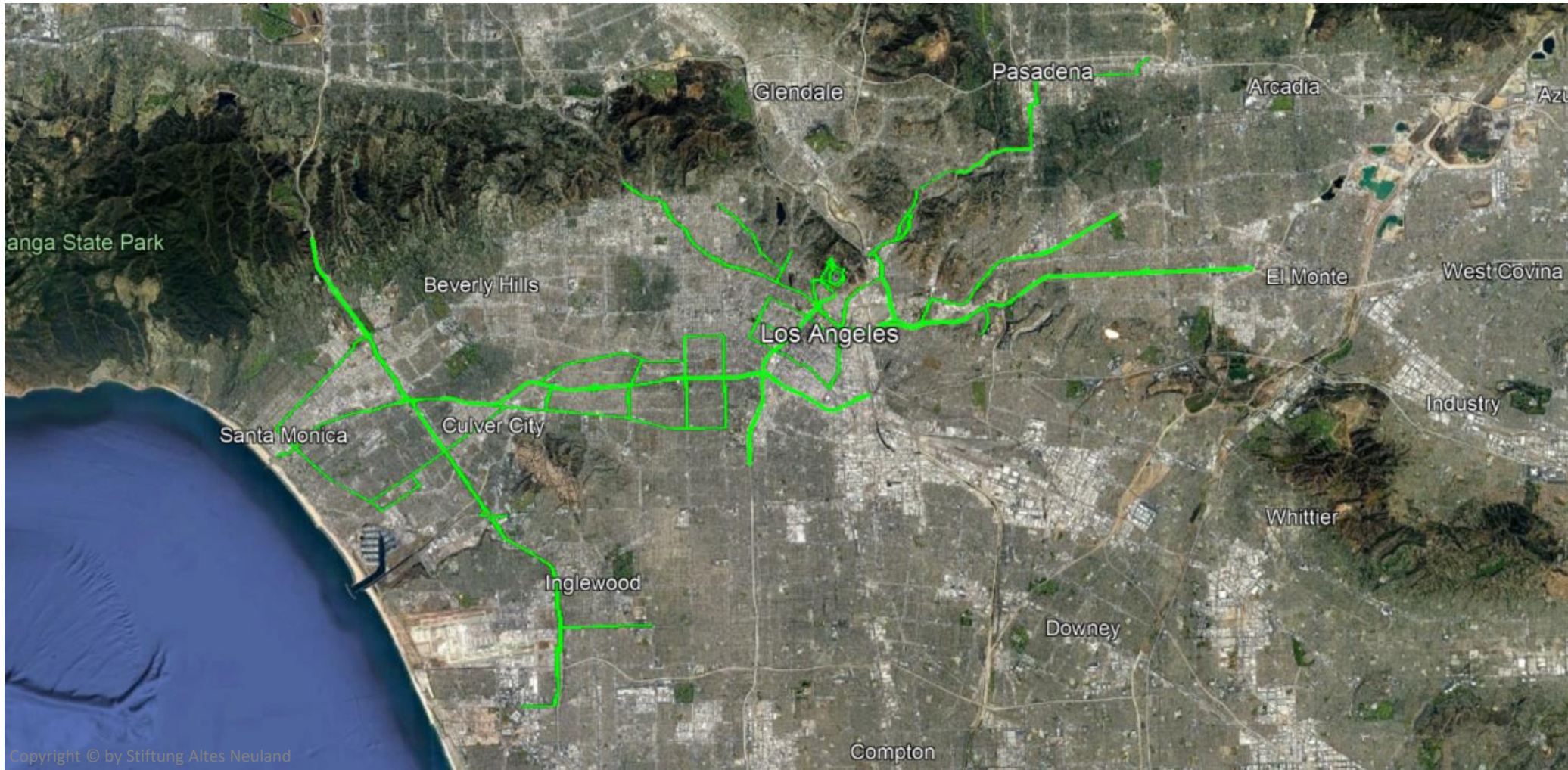
THE TEAM

CONTACT & IMPRINT



The Los Angeles Bridges can solve one of the city's most pressing problems: the housing shortage - about 340,000 people could get housing on the LA Bridges

Almost 15 million square meters of living space could be built on the 9.3 million square meters of the Los Angeles Bridges and 340,000 people can be housed there - with around 20 percent of the building space remaining for shops for daily needs, small service providers such as hairdressers, and education and culture, i.e. kindergartens, music schools and much more: a city culture could develop on the Los Angeles Bridges of doing many things by foot and not having to get into the car for every little thing.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



As on all bridges, the traditional architecture of the city should be applied to at least half of the bridge buildings in Los Angeles

Los Angeles is home to a variety of beautiful architecture - not just in Beverly Hills: as everywhere else in the world, buildings with traditional architecture are particularly popular, including the famous Californian, colourful wooden houses and the "Spanish" houses typical of Southern California, whose architectural style has a Mediterranean-Mexican flavour.

Homes from earlier eras are closer to the historic center of Los Angeles, Downtown, which is not considered a best neighborhood these days, unlike downtown in most other cities. However, even in neighborhoods around LA Downtown, these traditional homes usually achieve horrendous prices because the people of the city love them.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



But there's also cool modern architecture in Los Angeles that can be applied to multifamily housing on the Los Angeles Bridges in particular - affordable housing in a neighborhood you can walk in

What will be special about the Los Angeles Bridges is that you won't need a car to get anywhere: Shops, nurseries kindergartens, schools, doctors, music pavilions and hobby pop-ups, service providers like hairdressers or dry cleaners - everything is within walking distance or can be reached with the help of the autonomously driving bridge traffic. In the middle of Los Angeles, a neighborhood is being created on the second level where you can go for a walk - a novelty for the "city of cars".



Copyright © by Paul Vu



Copyright © by wdezeen.com

However, the bridges are not only meant to provide attractive housing for ordinary Los Angeles residents: They can also help solve the urgent problem of the homeless

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Los Angeles has over 70,000 homeless people - and the number is rising. The nationwide motto "housing first" cannot be implemented across the board due to a lack of housing and high costs

Homeless people exist in many cities in the US, but Los Angeles is particularly hard hit. For years, the state has invested heavily in creating housing for the homeless, but the number is growing faster than the available space. The main problem is no longer only the lack of a roof over their heads, but the lack of therapeutic and social help for reintegration. The situation is also burdensome for the population of LA, and economically relevant sectors such as tourism also suffer.



Copyright © by iStock.com

The homeless can be found almost everywhere in Los Angeles City, but more so in LA Downtown and the surrounding neighborhoods. They even pitch their tents in front of government buildings.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Mass shelters are cheaper but threatening to the homeless and also lead to ghettoisation

In homeless shelters all over the world, homeless people usually fear the unsupervised hours of the night, as this is when the risk of being robbed, raped or otherwise injured is highest. The need for safety, but also for privacy, leads many to return to the streets - which, given the climatic conditions in Los Angeles, is also more bearable than in northern or central Europe. Accordingly, the number of homeless people is increasing.

Therefore, affordable small housing units must be created that are lockable and thus offer security and privacy. Similar to the homeless quarters on the Frankfurt Bridges, it is important that there is no staircase where one can be attacked when stepping out of one's sleeping room, but that one can step directly into the open from each room. This can be realized in multi-storey buildings, for example, with a multitude of external staircases, reminiscent of Soho Cast Iron District in New York.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



Exterior staircases for self-contained small units increase safety and privacy - architecturally appealing designs can also create a "Little Soho" in Los Angeles that becomes a tourist attraction

To ensure that homeless people are not relegated to a ghetto, the buildings that hold countless mini-apartments should be designed to be quite attractive. This also favours a possible financing concept: investors willing to build these units receive the "ground" (i.e. bridge space) for free and only have to make the building available to the city free of charge for homeless people for 30 years. After that, it reverts back to the investors: the small units can be combined and redeveloped to create the highest quality luxury apartments - an attractive long-term investment. The premise here is that 30 years (one generation) is enough to allow the homeless housed there to reintegrate into society.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT

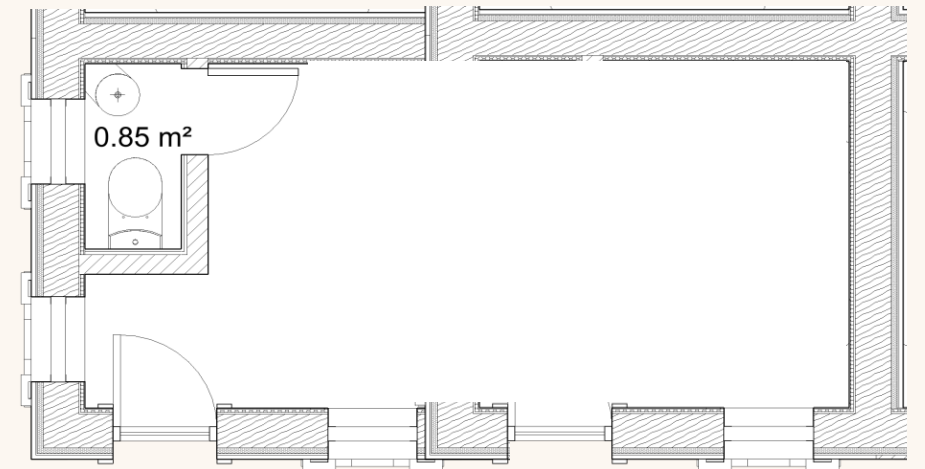
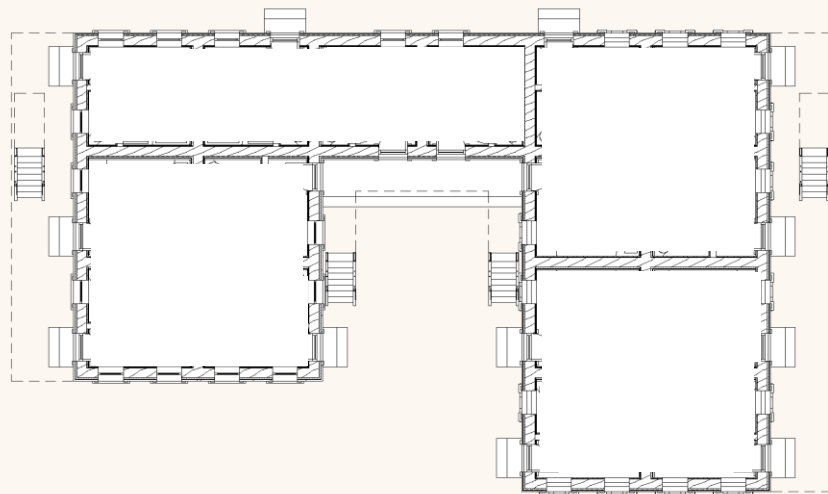


Similar to the Viennese VinciVillage, a residential concept could be realized in LA that offers self-contained small 12-square-meter units in which all functional areas of daily life are available.

Twelve square meters is not much, but it corresponds to the size of a caravan, which can also accommodate all the functions for everyday life: A mini shower room, cooking facilities with fridge, a place to sleep and seating for up to 4 people with TV.

To house 70,000 people, such a concept would require 840,000 square meters of living space - which is a lot, but doable. The biggest problem is the land area for such a development, and that's what the Los Angeles Bridges can provide: Of the 15 million square feet of building space that can be built on the LA Bridges, about 1 million would have to be set aside for housing homeless people - at least for the first 30 years after the buildings are completed.

It is important that all buildings are designed in a humane and varied way and that they are not all located in one place, but are mixed with buildings of other uses: The aim is not to create a mass ghetto, but a particularly interesting and appealingly designed neighbourhood.



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Homeless people vary in their ability to reintegrate, especially according to their level of drug dependence

There are of course many homeless shelters in Los Angeles, but the supervisory staff is scarce and privacy is not given at all. The people who end up on the streets need not only shelter, but also therapy and a perspective to get out of their predicament one day - that means: they also need the chance to work, so they don't have to rely on prostitution, stealing or dealing.

However, the main problem for people who have gone off the rails is often that they are unable to hold down a regular job. They often already do not manage to apply for jobs, nor can they work regular hours because they are addicted to drugs or have mental health problems.



Copyright © by Hans Gutknecht dailynews.com

Here, too, the bridge concept offers a solution: Greened bridges need to be maintained (even though they require comparatively little effort due to underground irrigation): At the bridges' gardening crews, people can sign up at certain times of the day to help out for two, four or six hours. There are no entry formalities and one does not commit oneself beyond that.

After completing the work, you will be paid the standard minimum wage per hour (currently US\$15.50 in California) in cash - without any formalities, paperwork or other hurdles.

This concept aims to keep people from stealing, prostitution etc. for simply covering their daily living costs.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In order to reintegrate permanently homeless people into society and provide them with a dignified environment, heterogeneous neighbourhood structures must be ensured and ghettoisation avoided

Humane homeless shelters should alternate with buildings where social and therapeutic institutions are given space for free by the state: drug counseling, church institutions, non-profit aid societies, social workers and street workers, soup kitchens, veterans' aid facilities, etc.

The second large group, which is also provided with extremely cheap space and also housing in these colourful, architecturally attractive bridge sections, are artists: they often have less fear of contact with the homeless and are often more empathetic than the rest of society, such as the graffiti artist Skid Robot, who in Los Angeles paints for the homeless what they do not have and what they dream of.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Los Angeles, as a city of artists, also has a rich street art culture



On the LA Bridges, artists should be given nice studios at marginal rents to develop their art in the Scene neighborhoods, which include homeless and housing

Copyright © by tumblr.com

Copyright © by Sergio Robleto - thrillist.com

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

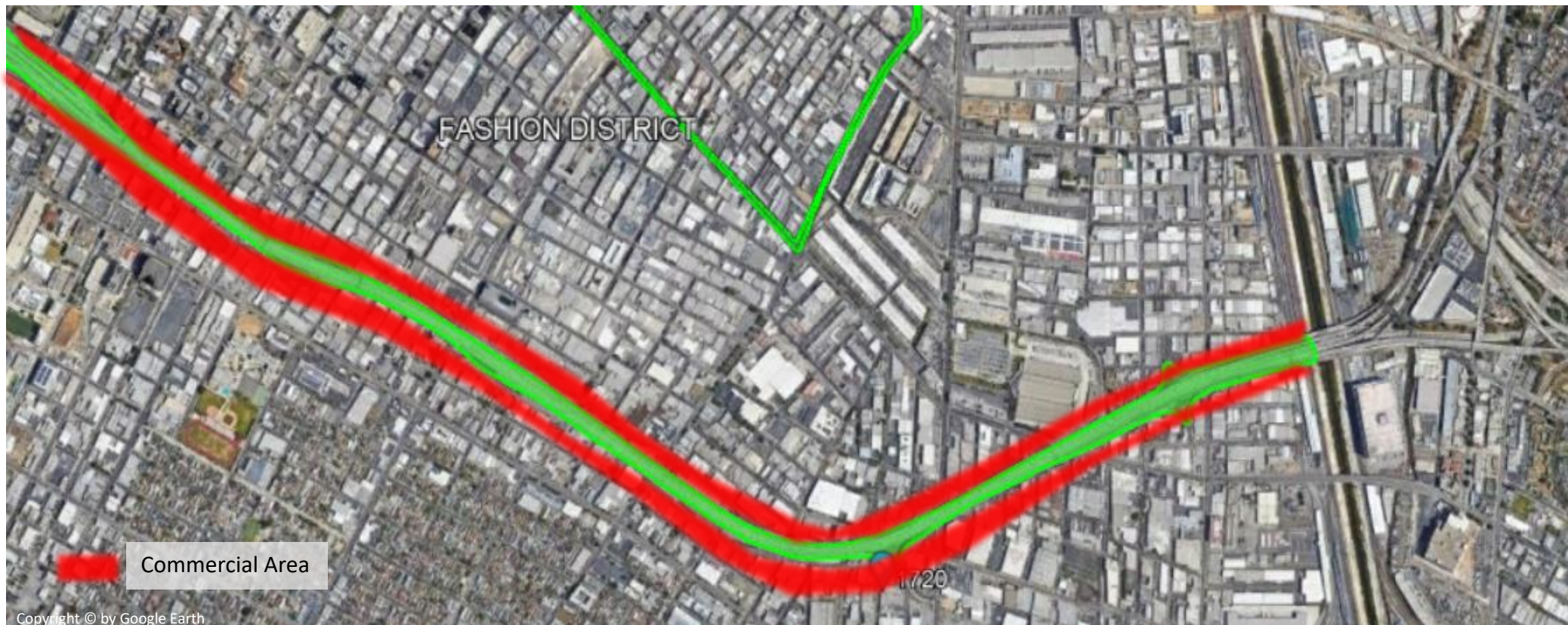
THE TEAM

CONTACT & IMPRINT



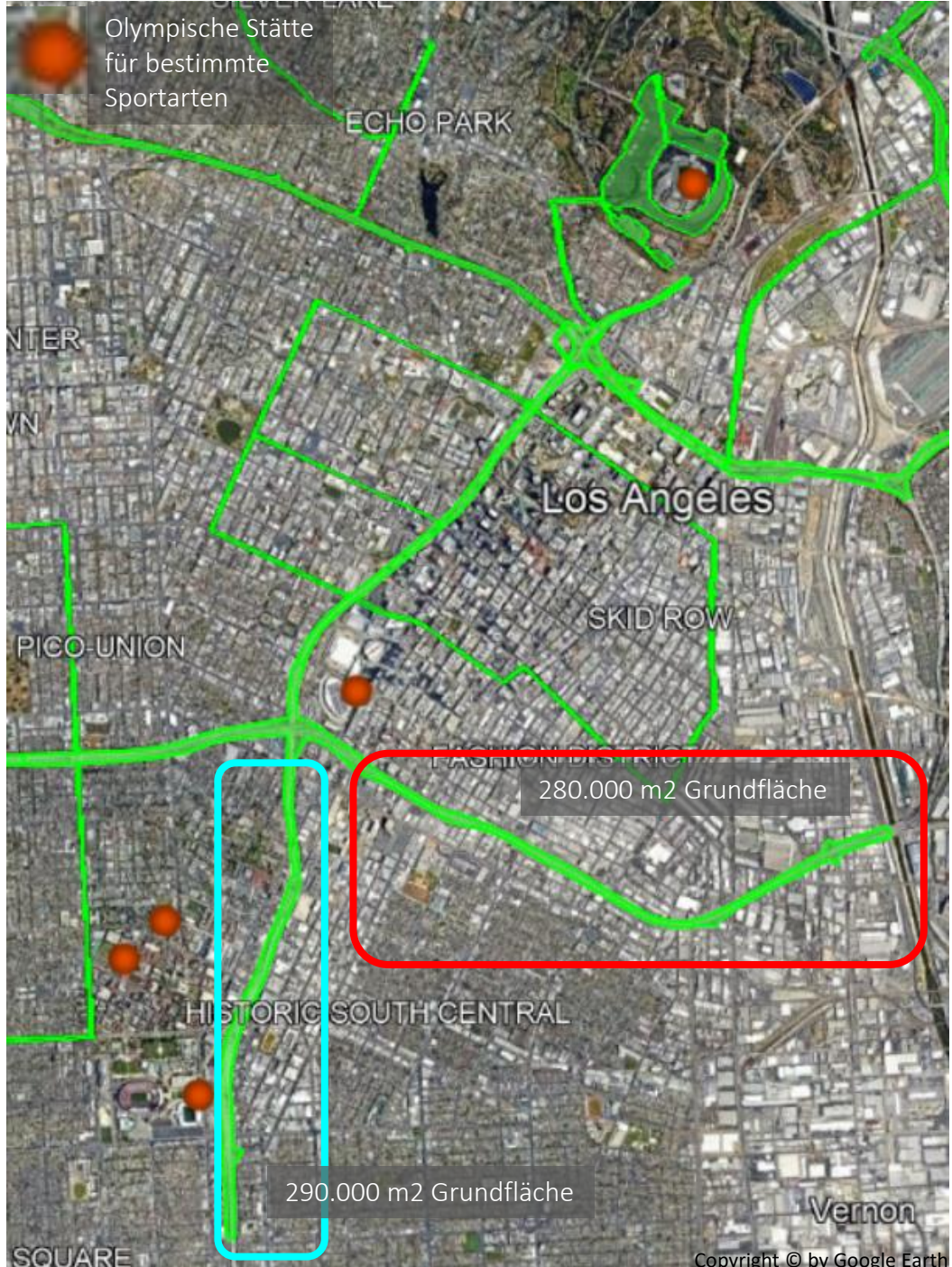
A suitable bridge arm for a trendy neighborhood may be the section over Interstate 10 that separates the Fashion District from the Historic District

To the right and left of Interstate 10 are mostly commercial units. Thus, this is an area that is revitalized and centrally located without already being considered a high quality living area. With the construction of the artfully designed and landscaped LA Bridges, the streets to the right and left can be up-graded over the years. And by attracting a music and artist scene, mixing with housing for homeless people can be unobtrusive and inclusive. The intensive promotion of social and therapeutic offers on this section of the bridge leads to formerly homeless people being reintegrated more easily, but also to other citizens and tourists coming to experience the wide range of offers on this bridge section.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In 2028, Los Angeles will host the Olympic Games: By then, the city could alleviate its homeless problem

The bridge section over Interstate 10 covers approx. 280,000 square meters - a development of only 50% of the area with on average four-story buildings can create about 560,000 square meters of building space. If one sets 15%-20% for social institutions, artists, small businesses and service providers, etc., there is still enough living space for more than 35,000 homeless people.

While this would not completely solve the problem, it would significantly alleviate it by getting more than half of the homeless people off the streets. Adding the south arm, with a footprint of 290,000 m2 of building space, would solve the homeless problem. However, the construction effort is probably only feasible for one of the two arms by 2028.

In any case, what is important in finding solutions for the homeless is that they are not stigmatized and ghettoized, but that they are integrated as much as possible culturally, in terms of living space, work and generally in their daily lives, and not „chased away". In a city like LA, the most promising approach is to "stage" their neighborhoods.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE
WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

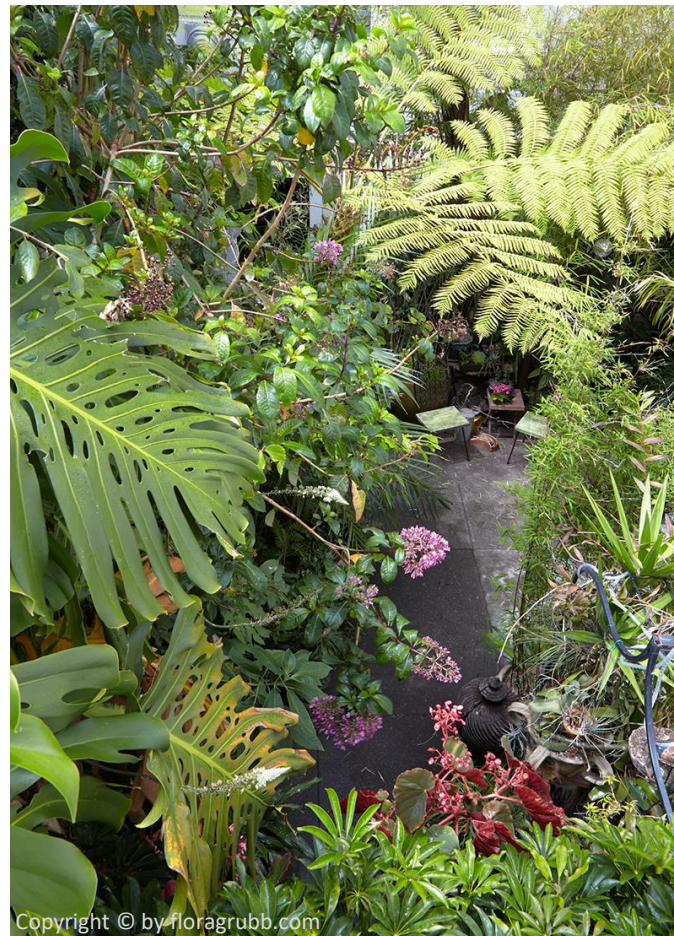
SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



On the Los Angeles Bridges, all everyday necessities should be within walking distance: a paradise for walkers and cyclists - supported by autonomously driving traffic to the right and left at the edges of the bridge surface

Even though cars dominate everyday life in most cities in the US, there are also beautiful streets to stroll along, which are best explored on foot and by bike. With the mild Mediterranean weather and well-planned underground irrigation, green oases on the LA Bridges can invite you to linger in between.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future
Singapore
UAE - Dubai
China - Shanghai
USA – Los Angeles
Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

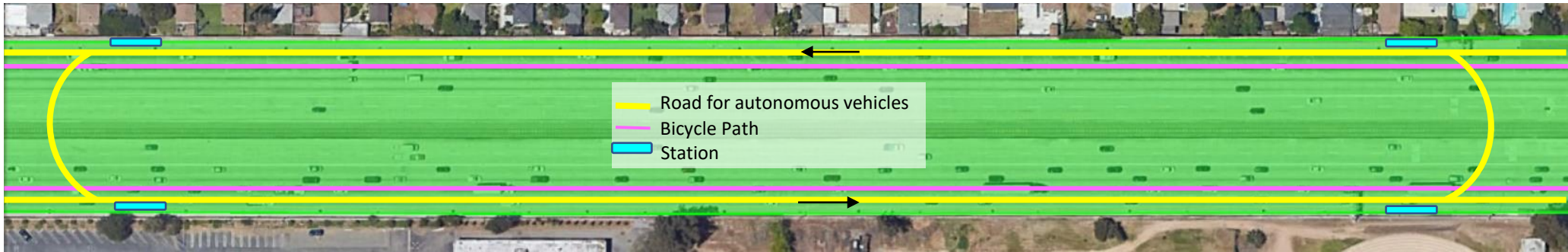
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



However, cars can only be reduced in Los Angeles if there are other alternative transportation options in addition to Metro and buses

As with the Frankfurt Bridges, there are protected lanes on the LA Bridges on the right and left for autonomous driving traffic, supplemented by bicycle lanes.



Only technically advanced e-cars or hydrogen-powered vehicles drive on the LA Bridges - many of them in the popular retro look of models from the region



Copyright © by socialrailway.org



Copyright © by Olekruze - Wikipedia



Copyright © by John Smatlak - socialrailway.org

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

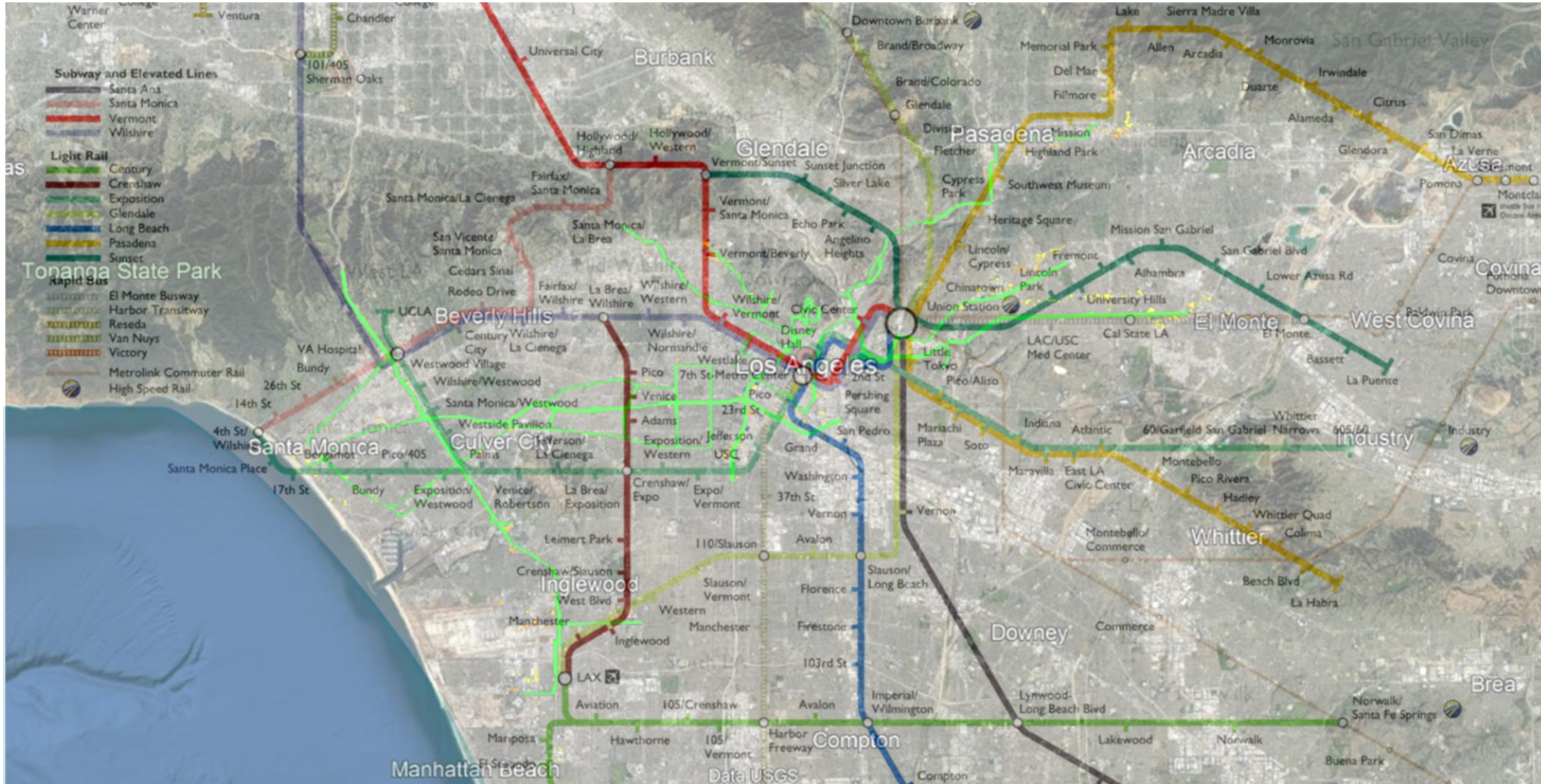
SEARCH

THE TEAM

CONTACT & IMPRINT



The transportation system on the LA Bridges is a good complement to the Metro: It reaches areas where the metro does not go, and since there is a station every few hundred meters, more door-to-door transport is possible



Los Angeles is the city of cars - accordingly, the cars in the autonomous driving fleet should also include retro models of American cult cars

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Copyright © by Steve Brown - flickr.com



Copyright © by wikipedia.org



Copyright © by flickriver.com



Copyright © by Steve Brown - flickr.com



Copyright © by Steve Brown flickr.com



Copyright © by motortrend.com



Copyright © by pinterest.com



Copyright © by forums.aaca.org



Copyright © by Steve Brown flickr.com

Classic cars put you in a good mood and put a smile on most people's faces. But only very few can afford such a gem - especially since the technology and the fuel consumption of these cars are unfortunately not sustainable

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Copyright © by pinterest.desamelsebaiusa



Copyright © by Steve Brown - flickr.com



Copyright © by bringatrailer.com



Copyright © by www.ooyyo.comgermanyused-lada-kalina



Copyright © by Greg Gjerdingen - Wikipedia



Copyright © by Steve Brown - flickr.com

On the LA bridges, on the other hand, anyone can call such a car with their bridge app: If you not only want to ride the trams and buses on the bridges, but also have cars for individual trips included in your monthly pass, it costs about 50% more, but you also get the pleasure of riding in a special car of your choice in return.

And the best thing is: In accordance with the modular vehicle concept of the Frankfurt Bridges, all classic cars can be equipped with highly modern electric motors, powered by electricity from the LA Bridges' photovoltaics.

THE PLAN

BUILDINGS & BRIDGES
URBAN GREEN & NATURE

WATER

ENERGY
TRANSPORT
URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE
PACKAGING - INNOVATIVE
OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW
FINANCES
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH
THE TEAM
CONTACT & IMPRINT



The central control system of the LA Bridges ensures accident-free driving

Since there are virtually no accidents on purely autonomous routes, which are protected by railings or planting, the acquisition of these vehicles is worthwhile for the operator of the bridge routes: Well maintained, the bodywork of the vehicles can last 100 years or more, and the technology can be replaced on a modular basis as needed.

Soiling or damage can be detected by sensor systems after the end of the journey, or even when the vehicles undergo short cleaning in maintenance loops, so that the interior of the vehicles should also remain comparatively clean.



Copyright © by Wikipedia



Copyright © by pinterest.com



Copyright © by Steve Brown - flickr.com



Copyright © by Steve Brown - flickr.com



Copyright © by pinterest.com



Copyright © by Steve Brown - flickr.com

Not only the particularly appealing architecture makes the construction of the bridges a lucrative investment, but also the extraordinary traffic fleet

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The vehicle fleet can be segmented according to target groups: school buses for children, vehicles with spacious interiors for mothers with prams or also travellers with suitcases on the way to the airport etc. serve the needs of various groups

Every citizen can use his or her bridge app to submit a ride request to the central system, which then sends the next possible vehicle to the respective station. If you have entered on your app that you have a baby or toddler, the system will preferentially send vehicles that have plenty of room for a stroller next to the seats. If schoolchildren go to school in the morning, school buses will automatically be sent to them, since it is a self-learning AI-system. And people with a registered disability are given priority by the central system, so that they have on average at least 25% less waiting time.

To ensure that homeless people on low incomes have a transportation option, there are also free vehicles that stop at separate stations that can be accessed without a bridge app. The free lanes can have an open design so that they can pass through a car wash on a regular basis: If they are made entirely of wood, inside and out, and everything, including floors and seats, is coated with boat paint, they can be rinsed regularly so that even the free vehicles are always clean and hygienic.



Copyright © by facebook.com



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Vehicles that last 100 years or more are sustainable - if they are built in parts from renewable raw materials, they have a particularly good CO2 balance.

Such American old-timers can also be part of the autonomously driving fleet, as the risk of damage or fire caused by accidents is close to zero due to the central control system.



Old New Territory Frankfurt

Building with wood is sustainable, anyway - and in California, building with wood has a long tradition: especially houses

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In Los Angeles, building with wood is also a very attractive option because the city is earthquake-prone. Building with wood as a renewable raw material is now also possible for high-rise buildings and offers a sustainable alternative to concrete.



THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



In addition, California has a substantial sustainable timber industry that lacks only wood processing facilities and skilled labor

The tallest wooden skyscraper in Norway required 2,600m³ of wood, a small amount for a state like California: The forestry industries there turned over about 3.5 Mio m³ of wood in 2016, 13% of which came from trees that were already dead. If these are not felled, this increases the risk of fire - regular removal actually makes sense to reduce the risk of forest fires, especially if two new trees can be planted for every one felled.



Copyright © by vox.com



Copyright © by theenergy.ee

With the Los Angeles Bridges as a continuous bulk buyer for years, it is worthwhile to rebuild the appropriate operations and train the necessary personnel

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**
- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**

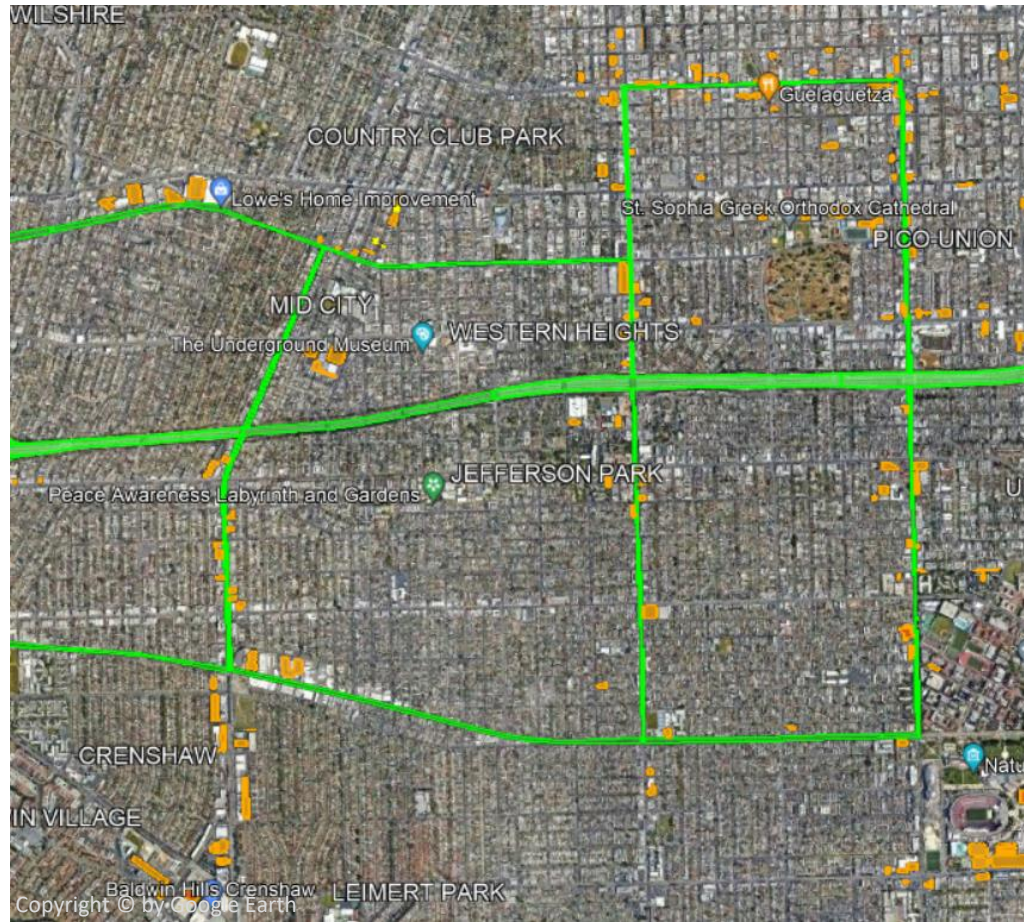
- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles**
- Bridges Worldwide

- LAW**
- FINANCES**
- IMPLEMENTATION**

SPECIALIST INFORMATION

- SEARCH**
- THE TEAM**
- CONTACT & IMPRINT**



Another application for wood as a renewable construction resource, could be parts of the bridge itself, in addition to buildings and vehicles: The thinner arms of the LA bridge network are intended to provide access to neighboring neighborhoods: They function as a way of transport, only, without having buildings on them. These thinner arms of the LA Bridges could be constructed in timber, as there is no room for buildings on them anyway.

However, a separate small transport system would be necessary for these sections: This is because even if the bridge vehicles are lightweight, they would still be too heavy for these wooden bridges. Transport on these sections would therefore not be carried out by the large fleet of bridge vehicles, but by feeder vehicles that are small and light and more like velo taxis or the futuristic vehicles from Singapore's WOHA vision.



Copyright © by Stiftung Altes Neuland Frankfurt GNU



They are paved with PV panels that generate solar energy.

Copyright © by Stiftung Altes Neuland Frankfurt GNU

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

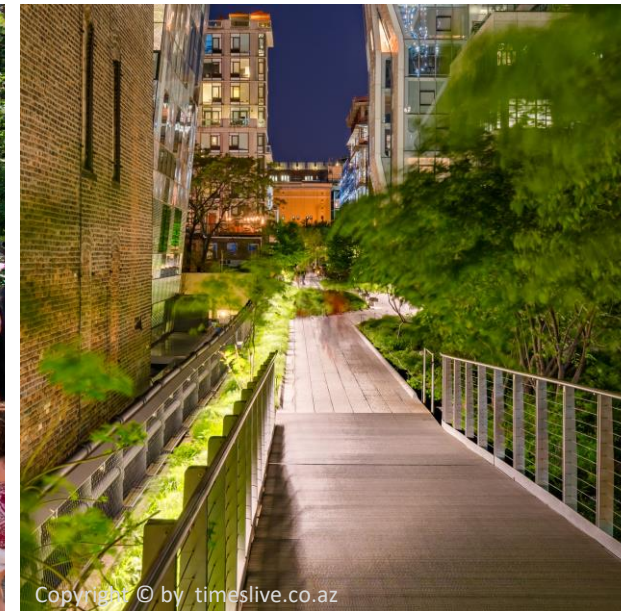
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

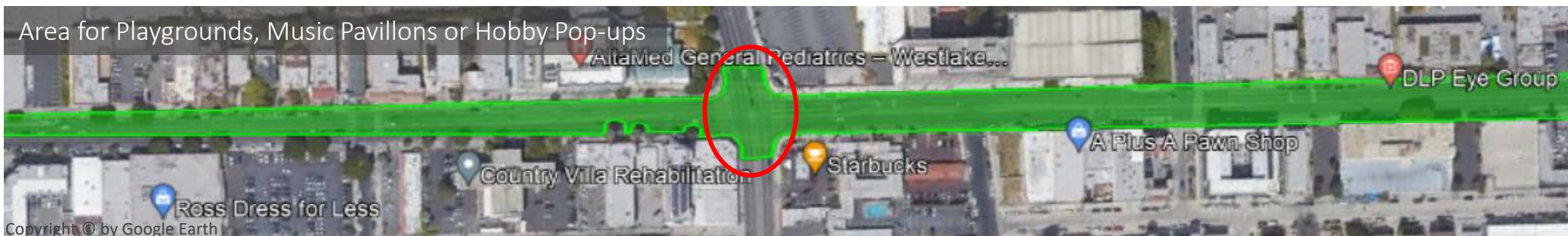
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The system of feeder arms at the Los Angeles Bridges can be expanded to include additional routes that serve recreational activities, strolling, or even walking certain routes safely after dark



Where the thinner arms of the LA Bridges pass intersections, they can be extended to create playgrounds or dog meadows, for example, or small cafes, music pavilions, or hobby pop-ups etc. – i.e. very small buildings that can be built with light weight



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



No matter whether narrow or wide: What is important, as everywhere else in the world, is that the bridges do not fall victim to trees along the roads, but that construction takes place around them

The recesses for the trees create very narrow bridge areas at some points, where there is only room for the roadways and a central walkway - but at the same time this creates a kind of „treetop walkway“ when walkers or passengers are at eye level with the treetops.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



At the motorway interchanges, there is the option of bypassing the multi-storey superimposed highways: It would be possible to build over them (and thus gain more space for buildings), but the expense must be carefully weighed against the benefit in the course of planning.

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

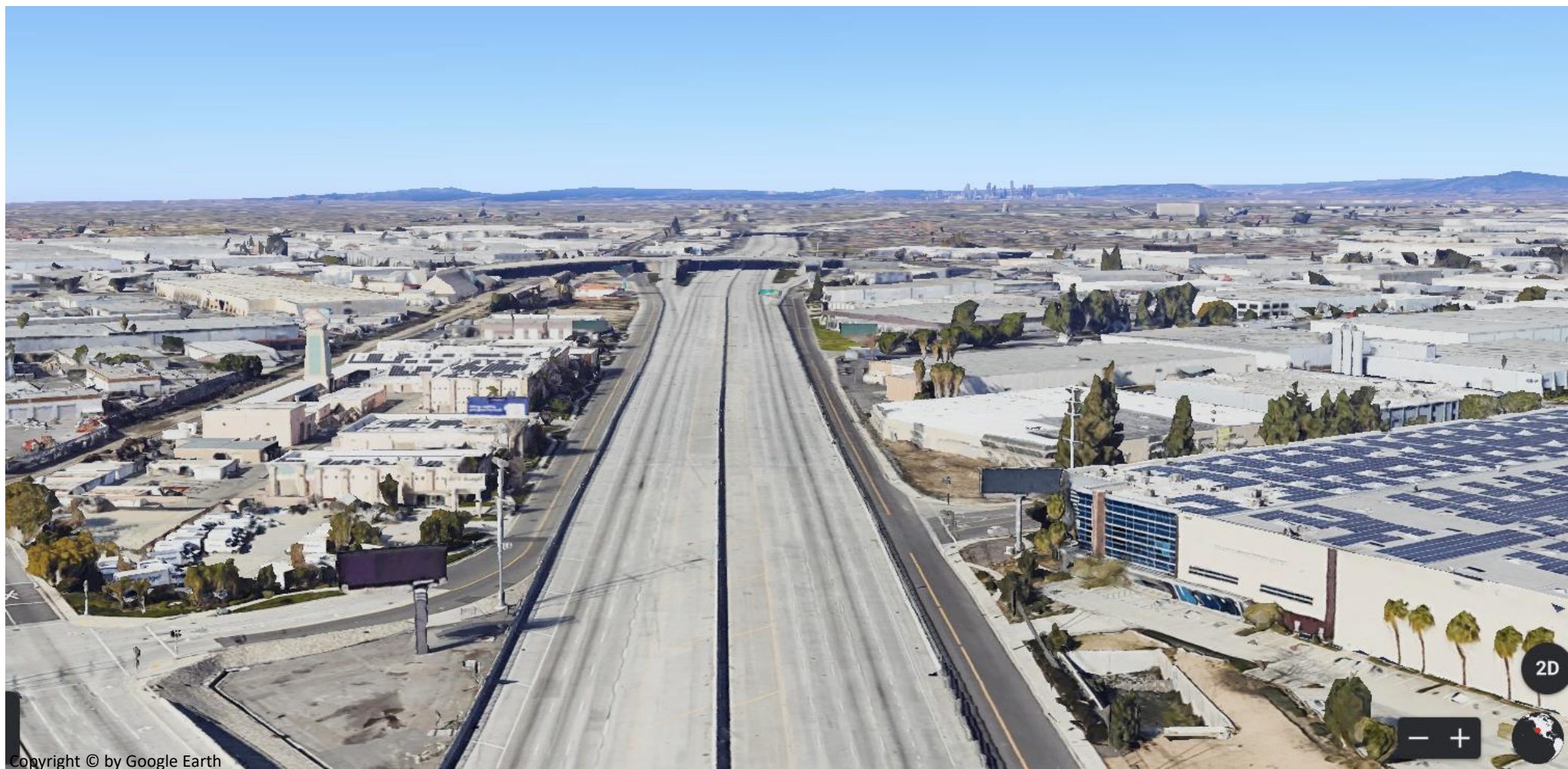
THE TEAM

CONTACT & IMPRINT



Most of the LA Bridges are made of conventional reinforced concrete, the cement of which, however, should be produced with green energy of the LA Energy Bands

Los Angeles has excellent conditions for the operation of photovoltaic systems. In addition, the freeway network that crisscrosses Los Angeles is extensive and very wide, making it the optimal infrastructure for Energy Bands.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai

- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Energy Bands do not have to be set up along the entire length of the motorway, but can also left out, wherever the view on vegetation or beautiful landscapes on the right and left are potentially being disturbed

However, like everywhere else in the world, there are also decidedly ugly stretches of freeway in Los Angeles that are not a pleasant sight on one or both sides - where Energy-Bands can be installed without detracting from the motorist's driving experience.



Beautifully planted areas along the highway



Less attractive railway area on the left



Nicely crafted wall on the right side



Industrial area along the highway

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

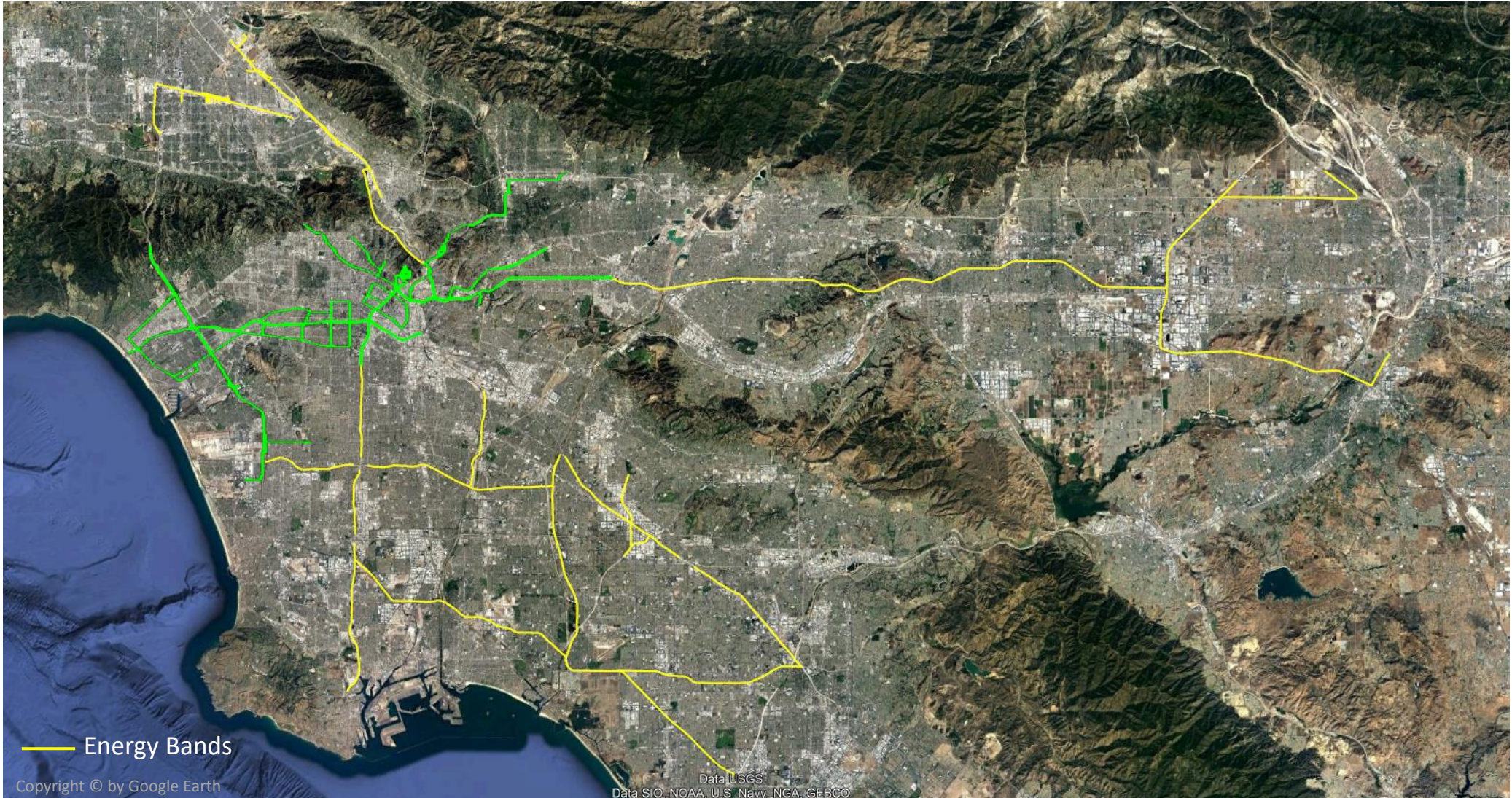
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Most of the LA Bridges are made of conventional reinforced concrete, the cement of which, however, is to be produced with green energy from the California Energy Bands: These can produce a total of 3.2 TWh p.a.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

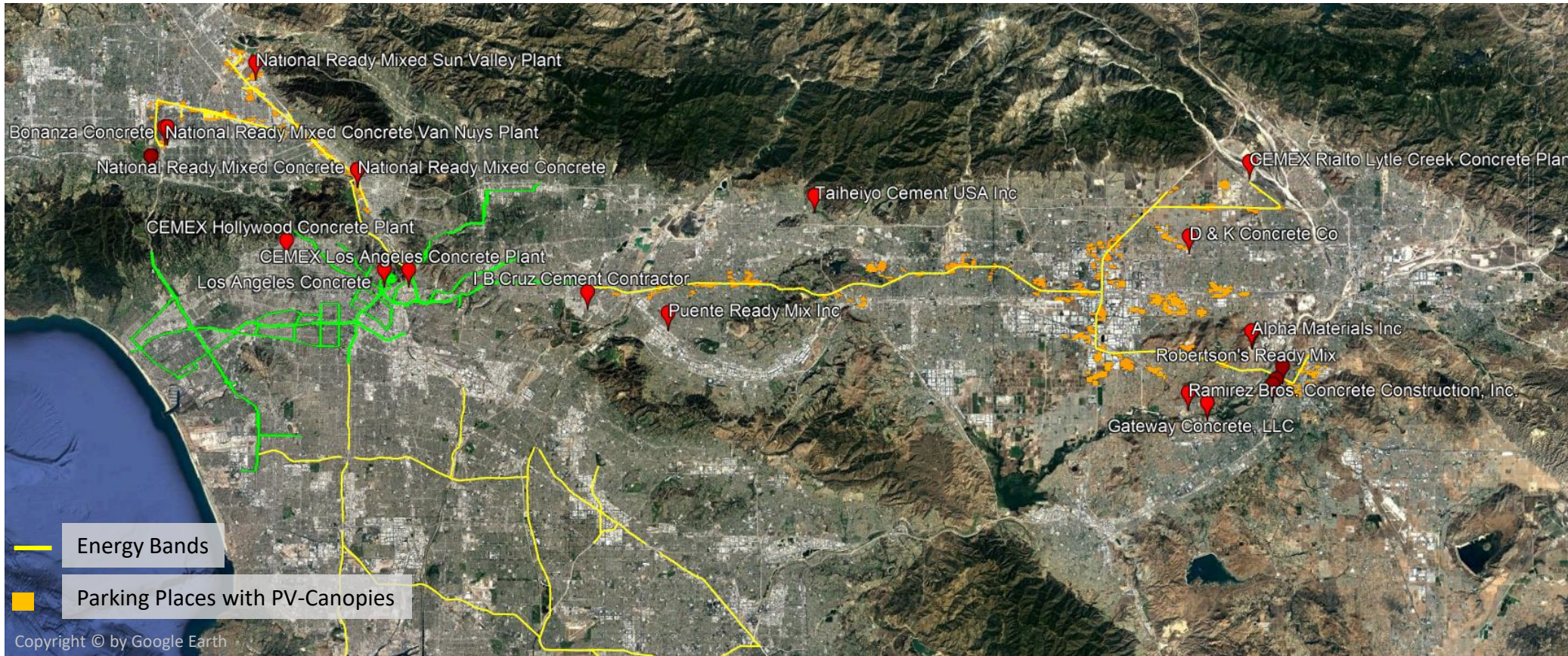
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Energy Bands can produce around 1.7 TWh themselves in the north and east, and they can collect further 1.6 TWh of photovoltaic energy from the car parks to their right and left: Thus, they can run towards the cement factories in the North and East and supply them with significant amounts of green energy

Even though the high temperatures for cement production today are still achieved by burning fossil fuels, it is possible in principle to achieve the same temperatures with the aid of high-current furnaces.

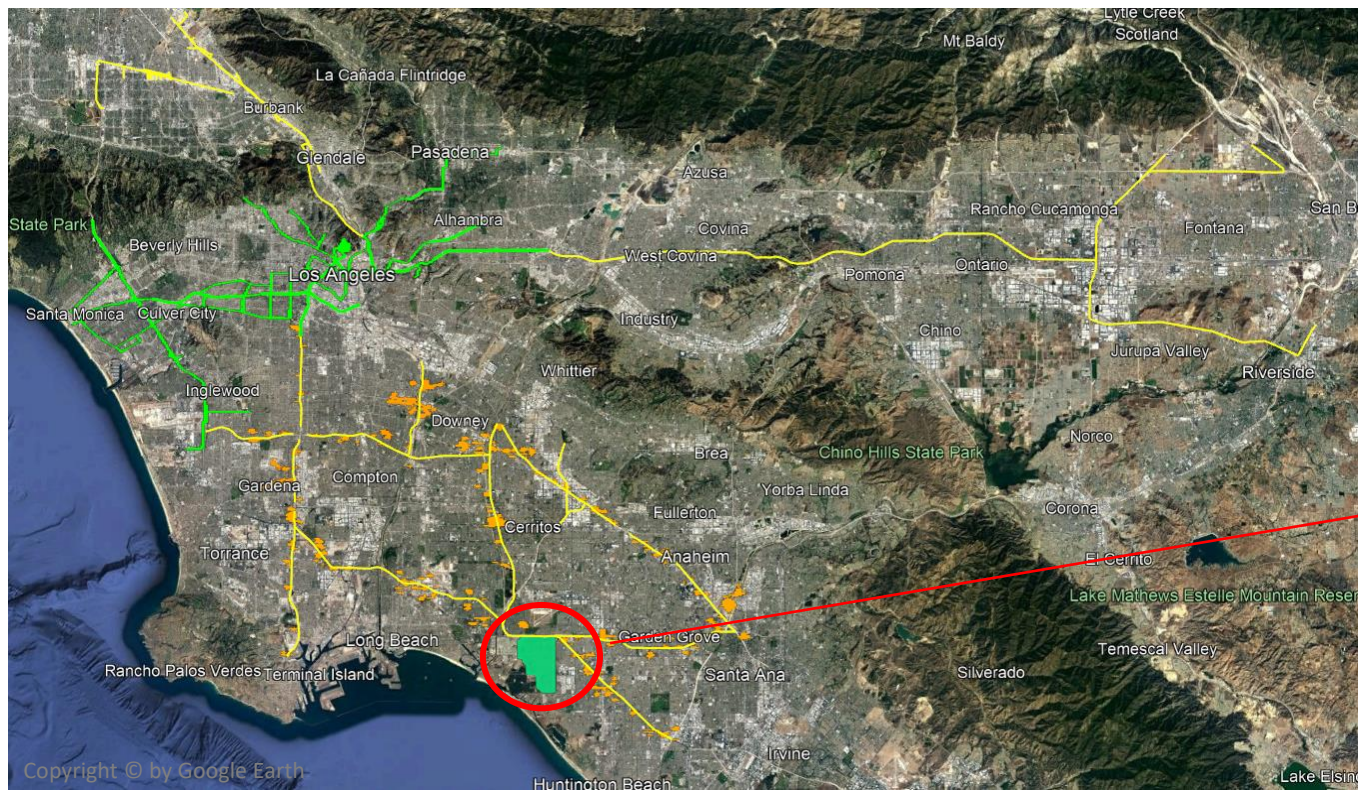
Since Energy Bands are extremely easy to build, a network of Energy Bands can be created during the planning of the LA bridges, which then already supplies the energy for the concrete and cement industry during construction.

South of LA, the California Energy Bands, along with the parking lots next to them, produce about 2.5 TWh p.a.: These could lead to a desalination plant and a hydrogen storage field

Northwest of the Seal Beach Wildlife Sanctuary are approximately 11 square kilometers of undeveloped land that could be used to install underground facilities powered by the Energy Bands:

An underground desalination plant could desalinate about 500 million cubic meters of water per year with the 1.26 TWh of the supplying Energy Bands.

The remaining 0.9 TWh could be used to fill hydrogen tanks with the help of underground electrolyzers and thus become a storage facility for renewable energies which could supply 300,000 people annually with electricity.



Copyright © by Google Earth

Copyright © by Google Earth

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

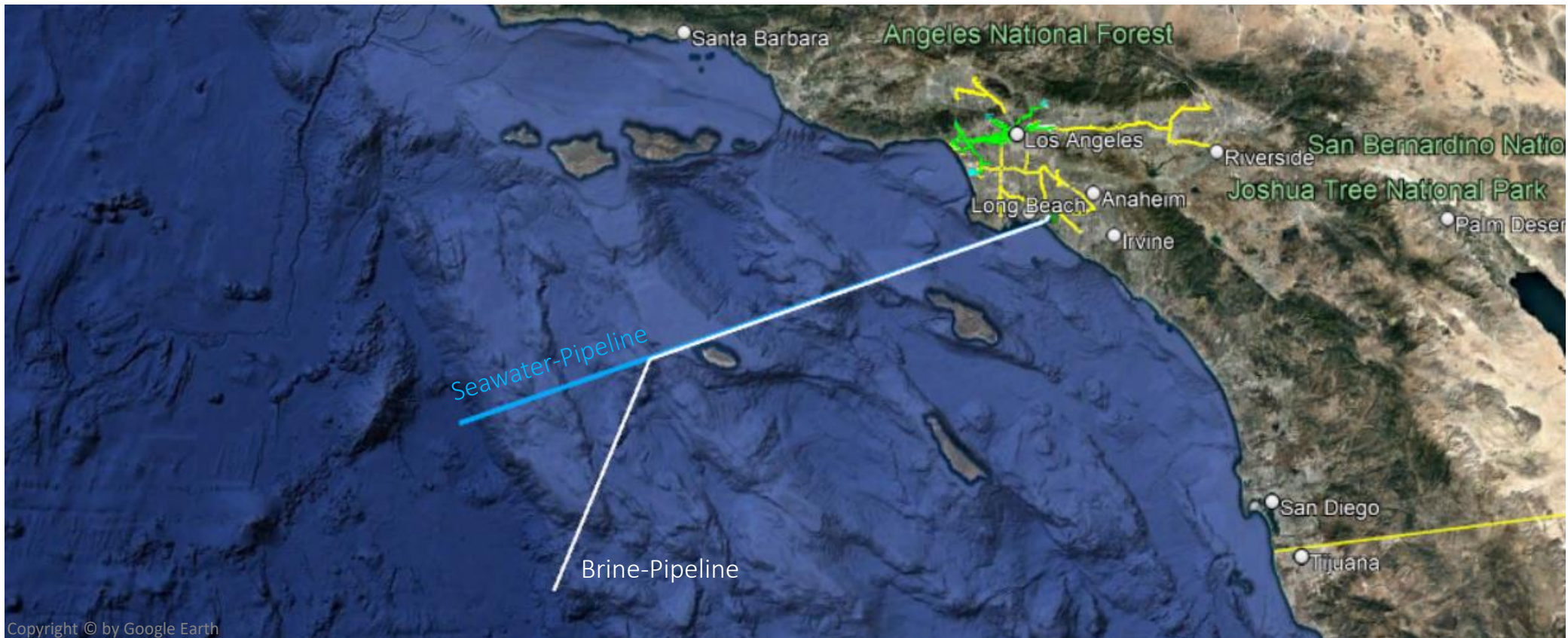
THE TEAM

CONTACT & IMPRINT



With the desalination plant, however, it would have to be ensured that the seawater is gently absorbed 260 km away from the coast and that, above all, the resulting brine is disposed of just as far away in deep waters

The cost of two such pipelines is likely to be around 400 million US dollars - but this could also supply 7.5 million people in Los Angeles County with drinking water each year or restore dried-up areas of land to their natural state: The drought in California not only affects the people, but also massively damages the native flora and fauna. Considering this, 400 million US dollars should be worth the investment.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Los Angeles, like all of California, suffers from drought and wildfires as traditional springs yield less water each year



If millions of cubic metres of seawater can be desalinated with the help of photovoltaic Energy Bands, there will no longer be a need to rely so heavily on nature's freshwater reserves for the supply of drinking water or the irrigation of gardens: More water is left for the regeneration of nature, both the natural spring water as well as the additional desalinated seawater.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

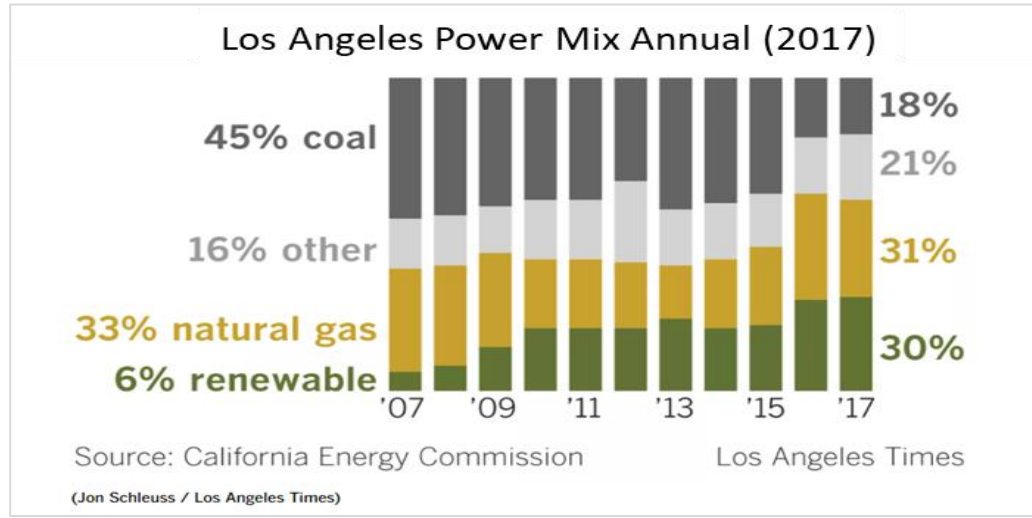
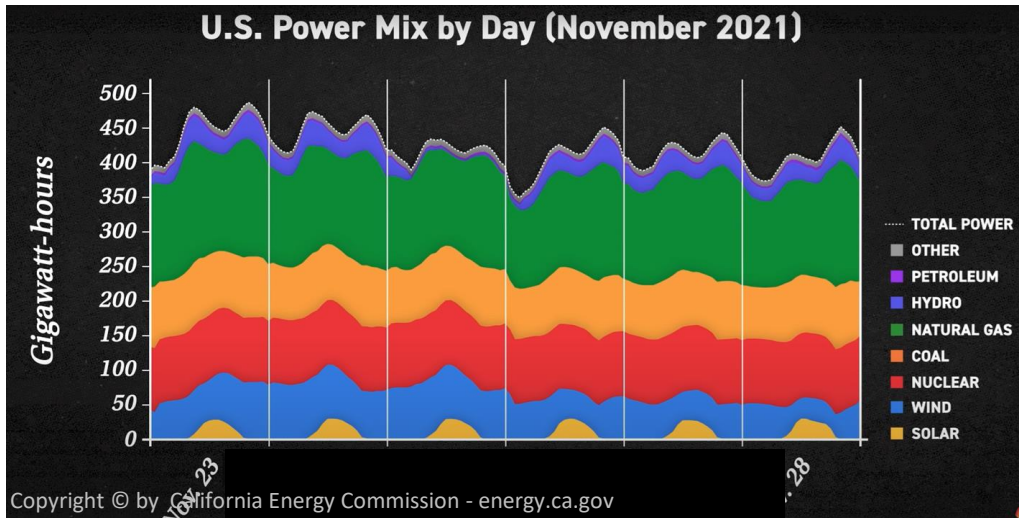
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Los Angeles has massively increased its share of renewable energy in recent years - but there is still considerable potential, especially if e-cars are to replace conventional cars



After all, 551 million US gallons of gasoline, or over 2 billion liters, will have to be replaced with renewable energy in the future.

Top 10 Cities Gasoline Sales (millions of gallons)		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	LOS ANGELES	543	577	570	513	462	490	578	597	553	551
2	SAN DIEGO	424	436	419	351	383	430	458	478	464	455
3	SAN JOSE	264	300	293	279	218	287	324	319	298	311
4	SACRAMENTO	237	260	255	255	174	256	279	284	264	278
5	BAKERSFIELD	191	194	194	179	169	181	221	217	205	204
6	FRESNO	150	154	156	144	108	154	185	192	176	159
7	RIVERSIDE	118	120	119	116	115	127	147	148	154	143
8	LONG BEACH	129	129	134	121	125	120	130	129	127	125
9	ANAHEIM	128	124	129	106	96	115	136	135	129	121
10	SAN FRANCISCO	112	129	127	118	71	107	120	120	105	107

Copyright © by California Energy Commission - energy.ca.gov

By 2035, Los Angeles wants to convert the majority of its vehicles to e-vehicles. Given the large number of cars and car trips in Los Angeles, it makes sense to generate photovoltaic electricity directly where the e-vehicles are parked: on the millions of square meters of parking space spread throughout the city. The vehicles can "fill up" with electricity whenever they park there, and thus also serve as storage for energy surpluses.

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

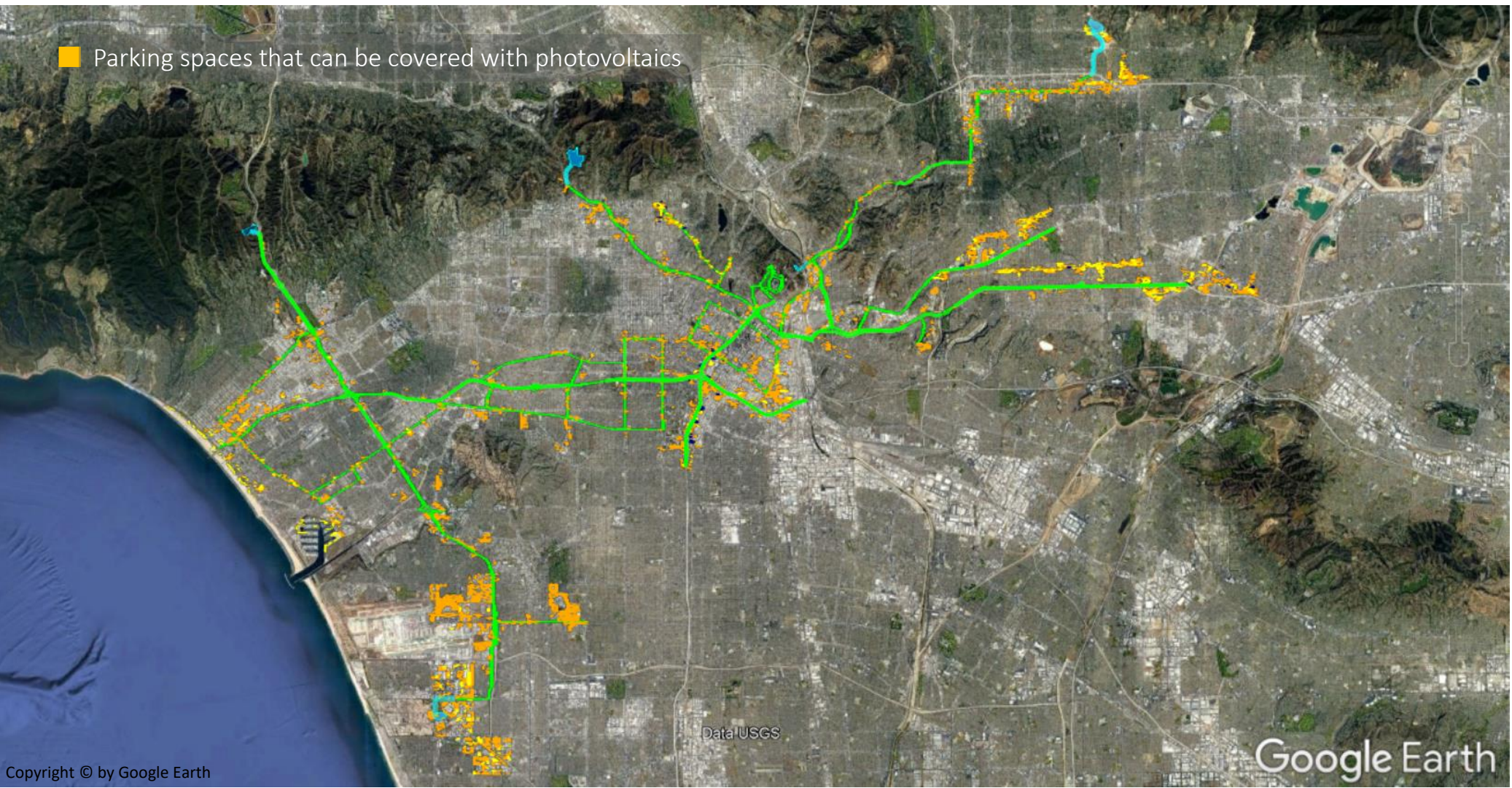
- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



It doesn't make sense to generate electricity centrally somewhere and then send it to e-charging stations where cars have to drive to and wait a comparatively long time for their "full tank" of electricity. It's much more practical to have electricity generated wherever cars are parked around, anyway: Over 9 million square meters of parking along the Los Angeles Bridges could generate 3 TWh of electricity per year, once they are covered with photovoltaic-canopies. The current power grid is not designed to collect or redistribute these amounts of electricity: With the LA Bridges, however, a "bypass" can be created through which additional electricity is routed, both to other consumers to the right and left of the bridges, and to storage locations.



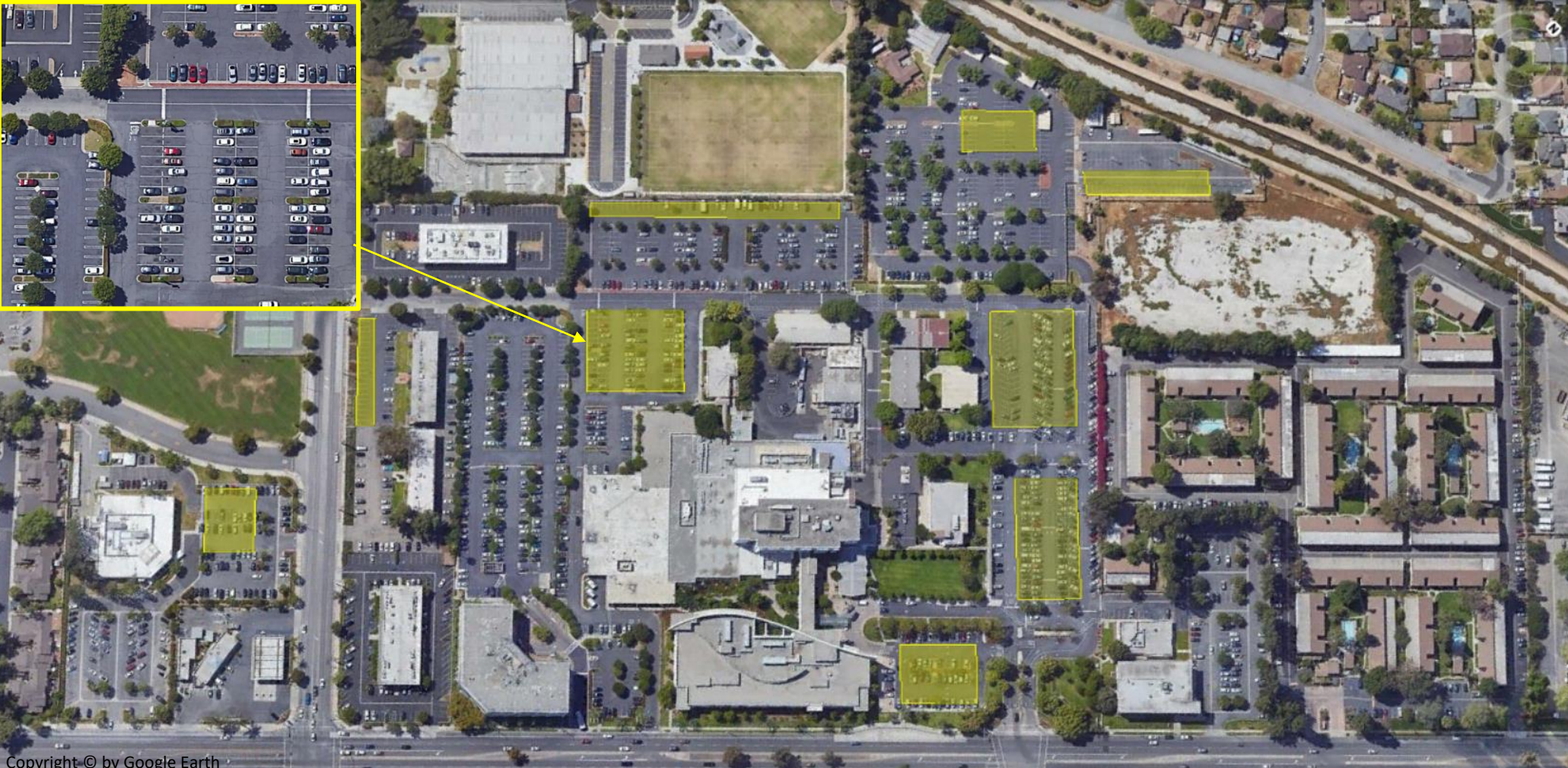
Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Parking lot canopies, like bridge construction, must be considerate of existing trees: Parking lots with dense rows of trees should not be covered with PV-canopies

Some parking areas need to be carefully segregated: There are sections that are planted with trees and therefore must be left out; and in the same parking place there might be areas where there are no trees and which can be covered with photovoltaics.



Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Copyright © by Google Earth

Canopy modules should be developed that can be assembled to create PV canopies around existing trees in parking lots.

Once such a "construction kit" is on the market, one can buy the appropriate modules depending on the tree stock and have them assembled.

Some parking lots in LA are already equipped with photovoltaic roofing: But the potential is far from being exhausted



Copyright © by Google Earth

Google Earth



Copyright © by Neoen - pv-magazine.com

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

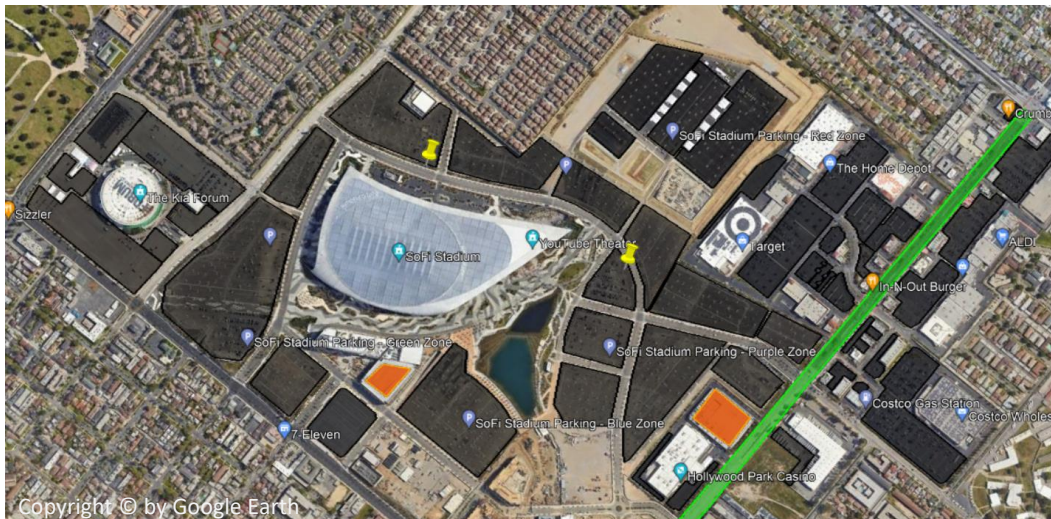
CONTACT & IMPRINT



Some suppliers in Europe have already brought PV roofing onto the market, which also covers the traffic routes between the parking strips



This approach not only leads to significantly more PV area and significantly higher "power harvest" on the same area, but also protects the traffic routes and people moving there - only access routes for the fire department must remain free between the roofs



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

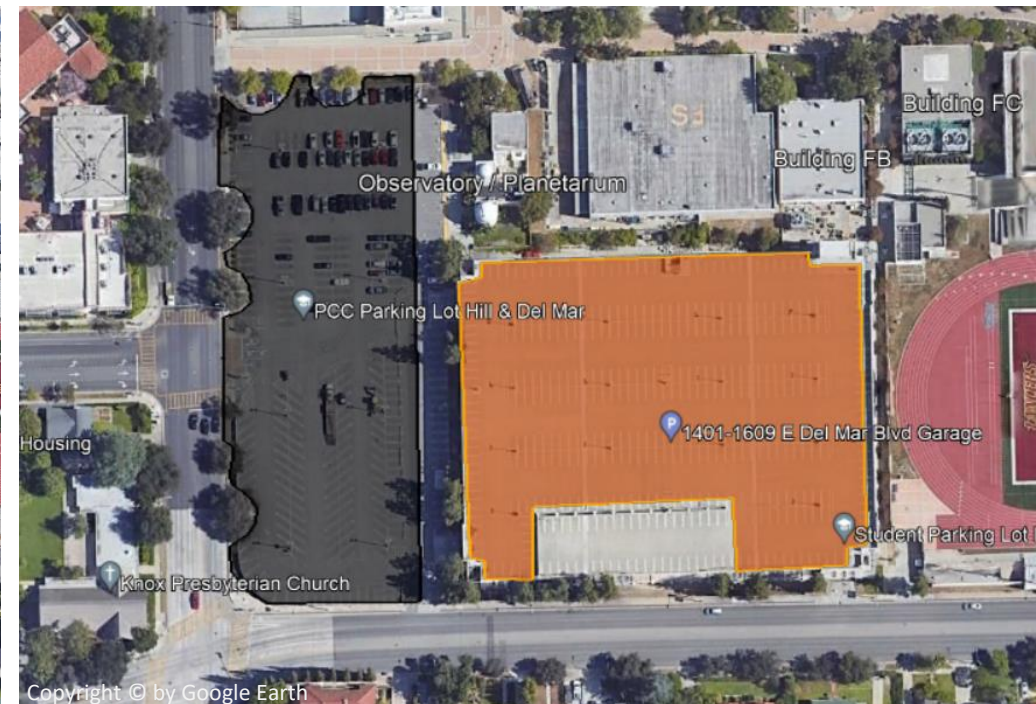
CONTACT & IMPRINT



The "E-filling system" can be further expanded: In addition to the 9 million square meters of parking space on the ground, another half million square meters of parking space on roofs along the bridge can be provided with PV canopies

On the parking decks, too, the principle makes sense of producing electricity where it will - at least in the future - also be consumed or stored in the batteries of the e-cars. With the roofing of the 500,000 square meters, another 200 GWh of electricity can be generated.

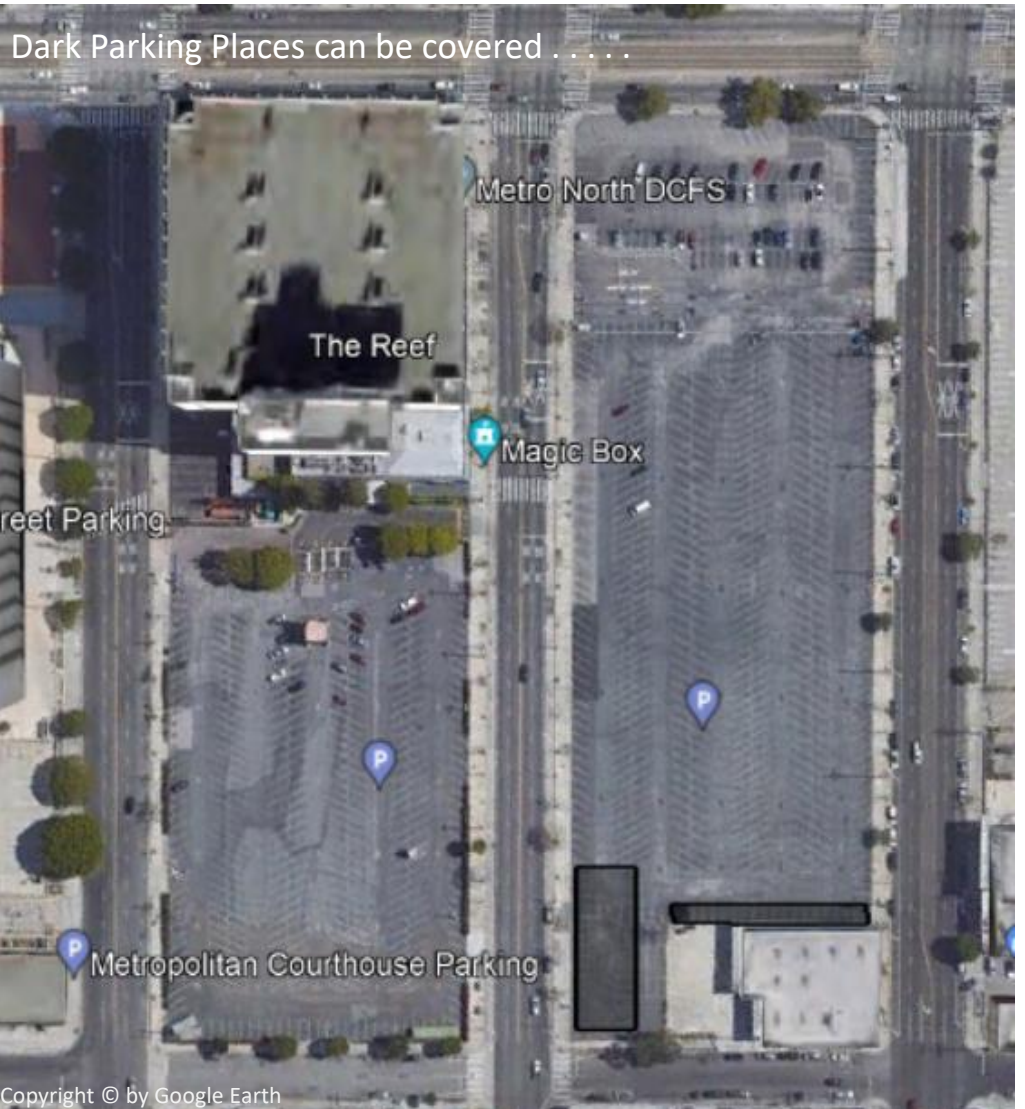
Structurally, however, roofing on parking decks is much more challenging, as the uprights for the roofing can be attached to the perimeter wall at the edge of the roof, but have to be anchored towards the middle of the roof in an area where you have to go through the roof cladding in many cases. However, it is worth developing solutions for this too, as the e-vehicles of the future will then not only be able to charge themselves on roofs, but also be shaded in the heat.



Old New Territory Frankfurt

THE PLAN

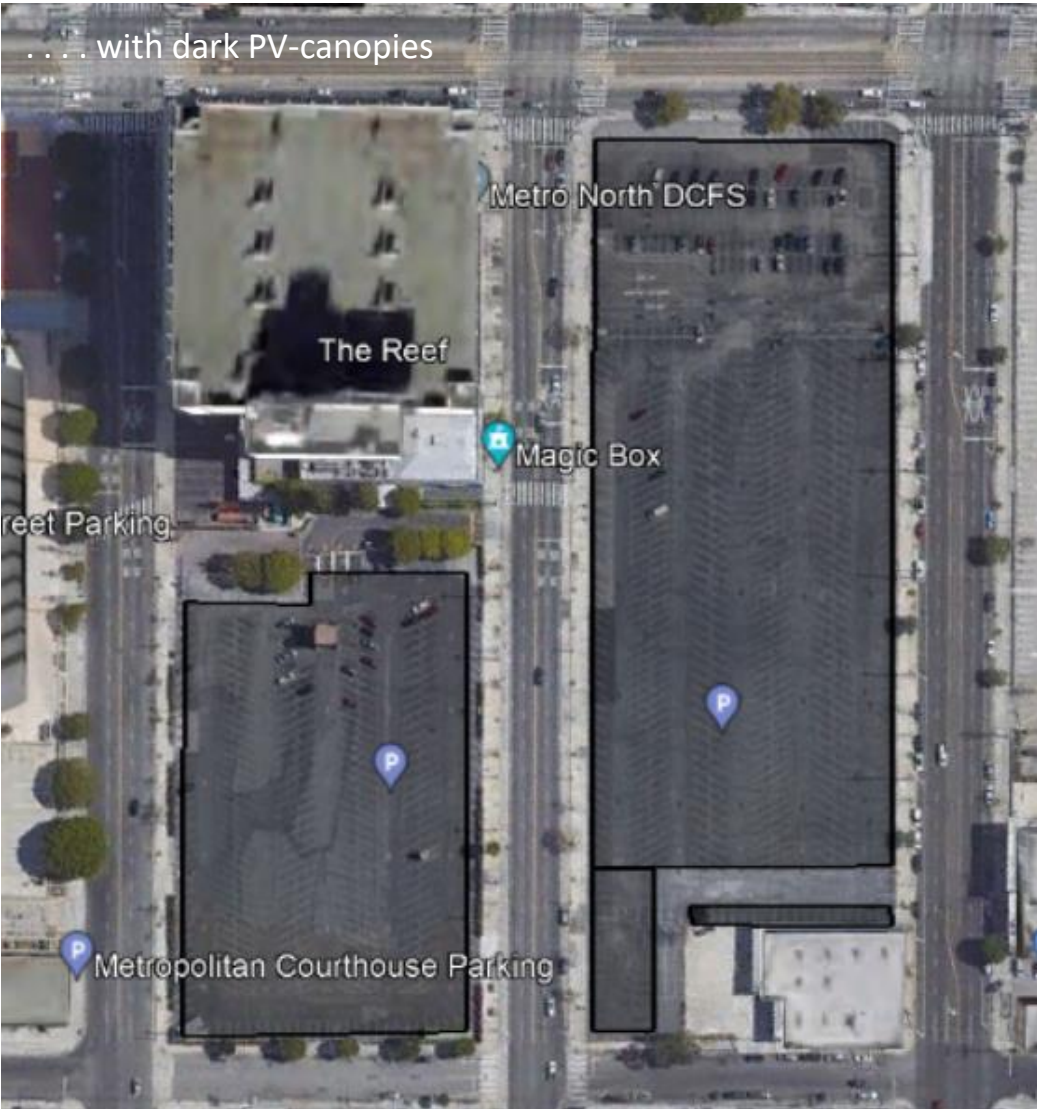
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Copyright © by Google Earth

In California, covering dark asphalted parking lots with black photovoltaics is better in terms of the albedo effect than covering bright desert surfaces with black PV modules

Surfaces that were already black do not heat up significantly more with PV over them than before.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

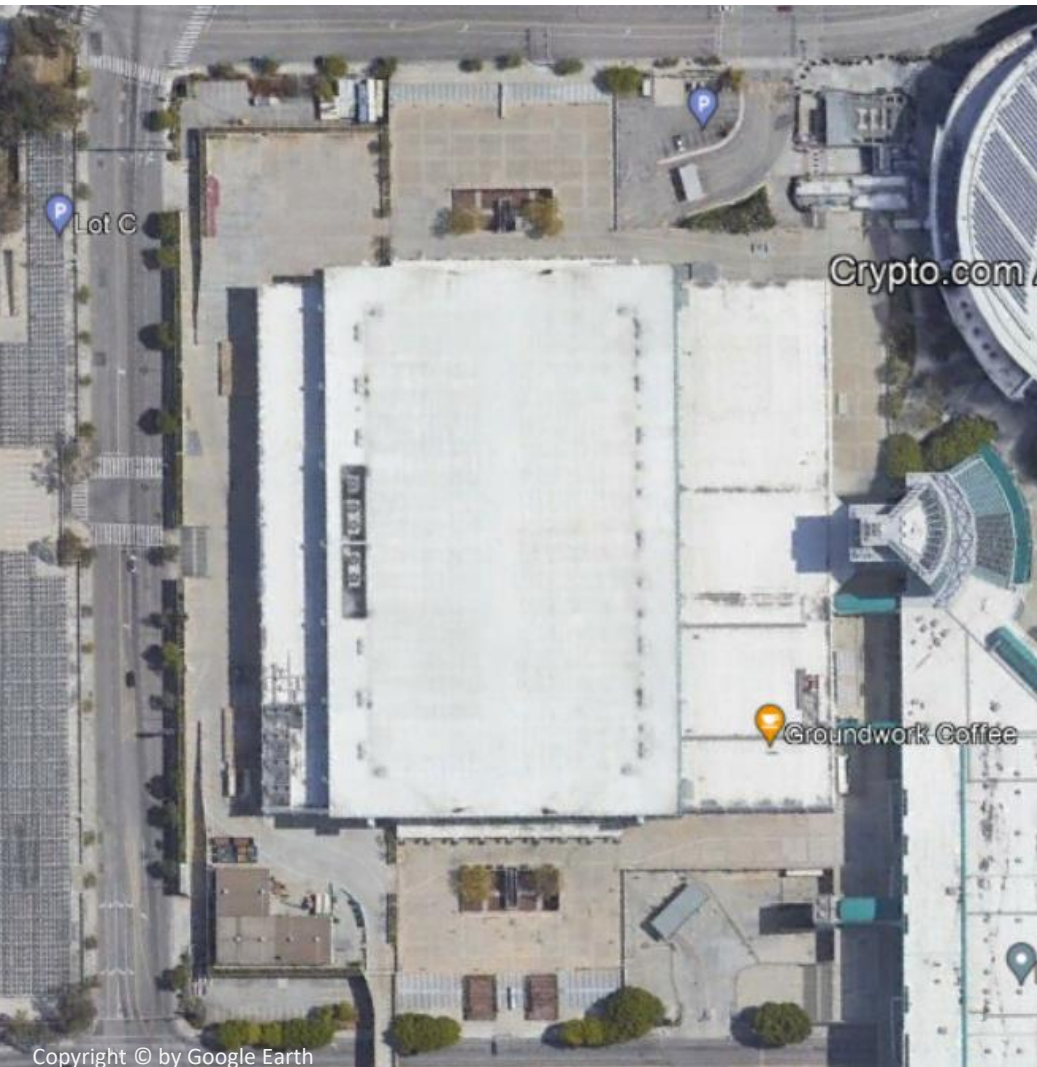
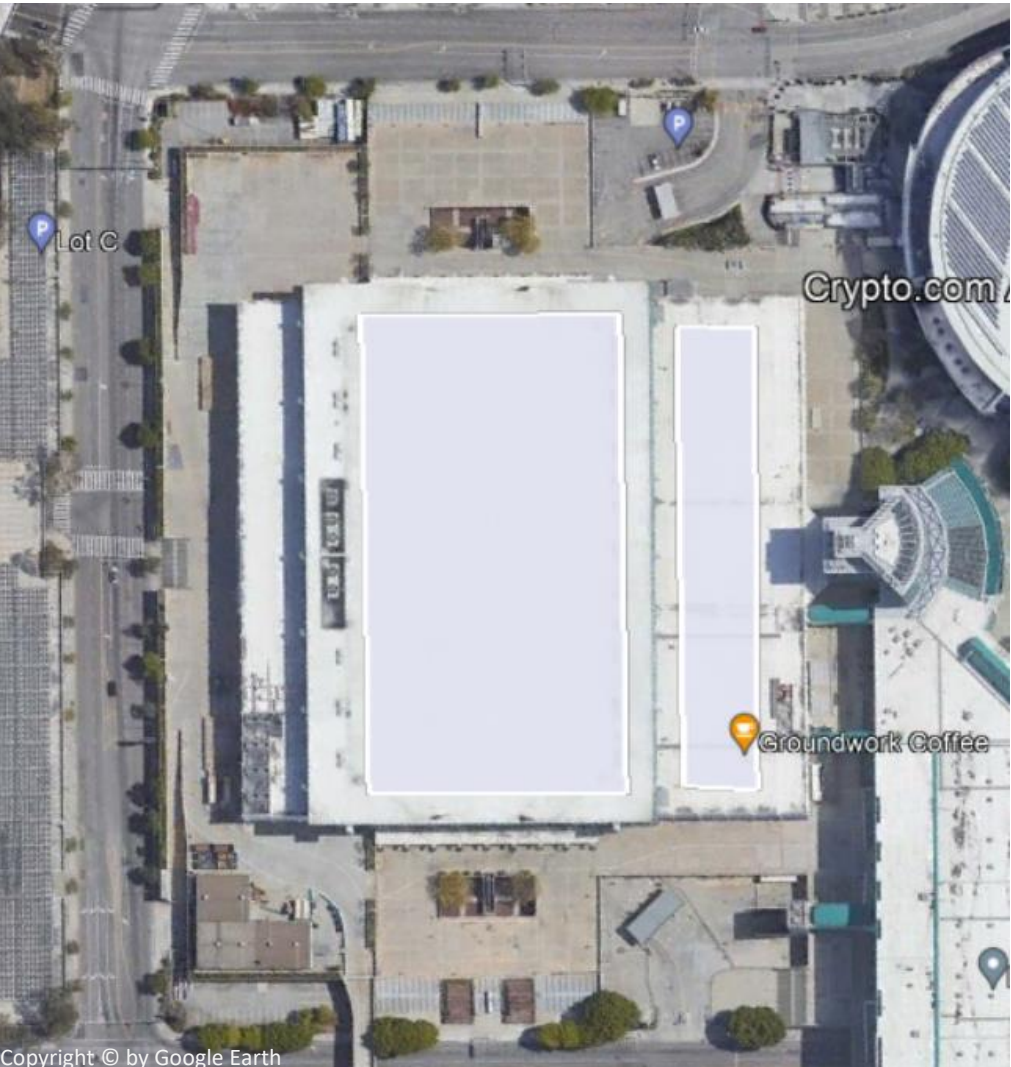
SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Bright surfaces, however, should be covered with white photovoltaics in a heavily sealed city such as Los Angeles - be it bright roofs or even bright parking lots

Areas that are bright (be it in the nature or in the city) have a positive Albedo-effect. It is unwise to turn them into black surfaces (at least not on a larger scale) because that would lead to regional warming – not due to CO₂ but due to dark surfaces being heated up.



Copyright © by Google Earth

Copyright © by Google Earth

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai

- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Although the efficiency of white photovoltaics is only 55% compared to that of black PV modules, white PV can still generate a total of around 250 GWh of electricity along the bridges in Los Angeles.



Los Angeles County consumes 65 TWh of electricity per year. If one wanted to produce this amount with photovoltaics, it is estimated that more than 400 square kilometers of area would have to be covered with them - which would lead to a noticeable deterioration of the Albedo effect in California. Therefore, about 15% of the areas along the bridges were planned with white PV modules as part of this concept.

Segment	m2	GWh
Parking places near the LA-Bridges with black photovoltaic modules	8.041.563	2.589
Parking decks near the LA-Bridges with black photovoltaic modules	491.818	158
Parking places near the LA-Bridges with white photovoltaic modules	724.375	128
Rooftops of buildings near the LA-Bridges with black photovoltaic modules	89.138	29
Rooftops of buildings near the LA-Bridges with white photovoltaic modules	688.780	122

Old New Territory Frankfurt

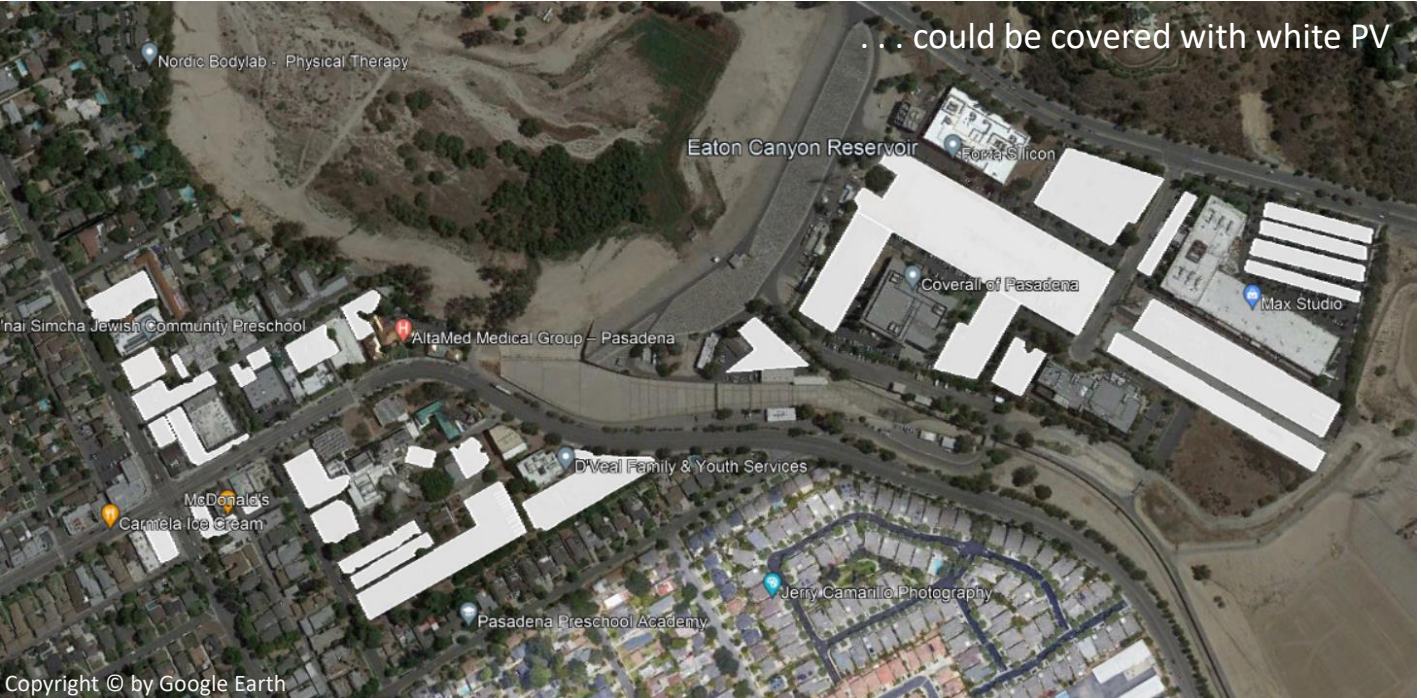
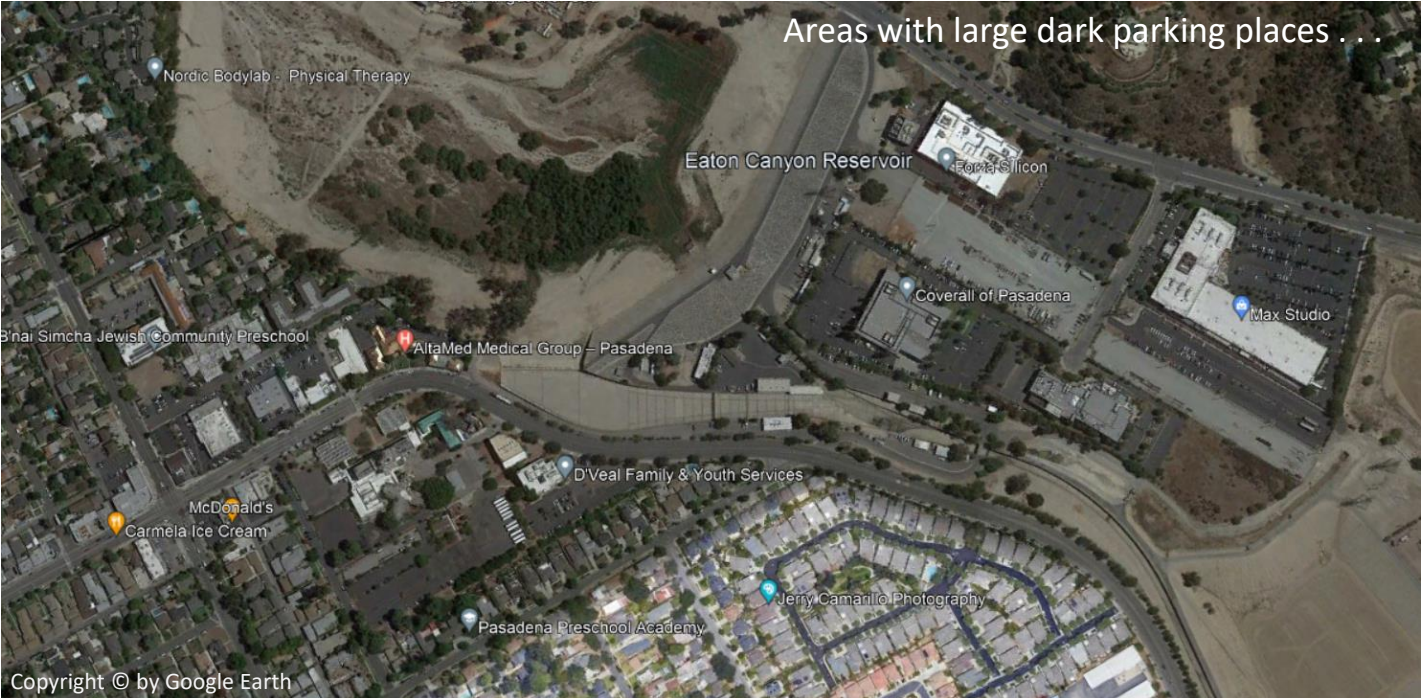
- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



In order to climatically upgrade areas that are currently sealed in black, entire areas can be deliberately equipped with white photovoltaics.

Even if this is not directly noticeable in individual cases, it is important in the aggregate for a heavily sealed city like Los Angeles to counteract a deterioration of the urban climate.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

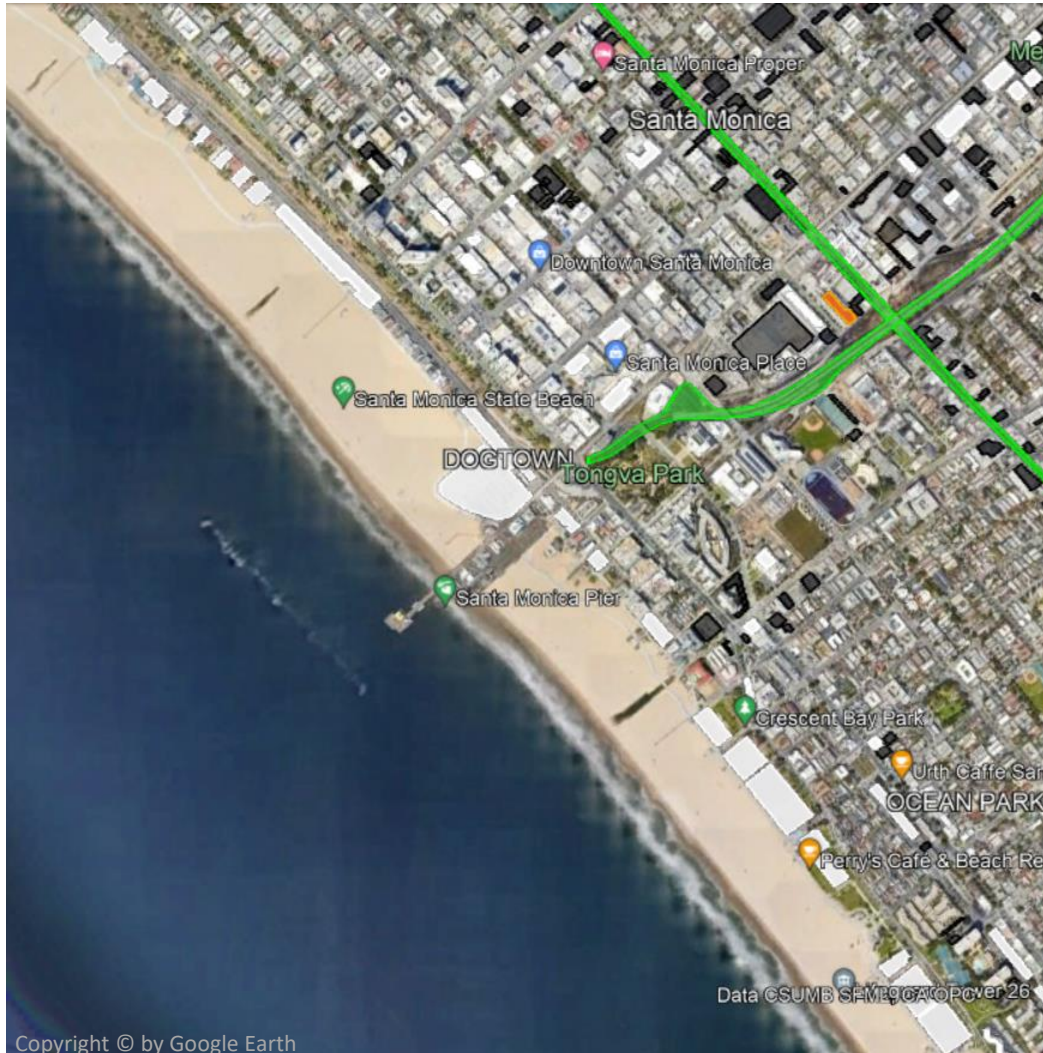
SEARCH

THE TEAM

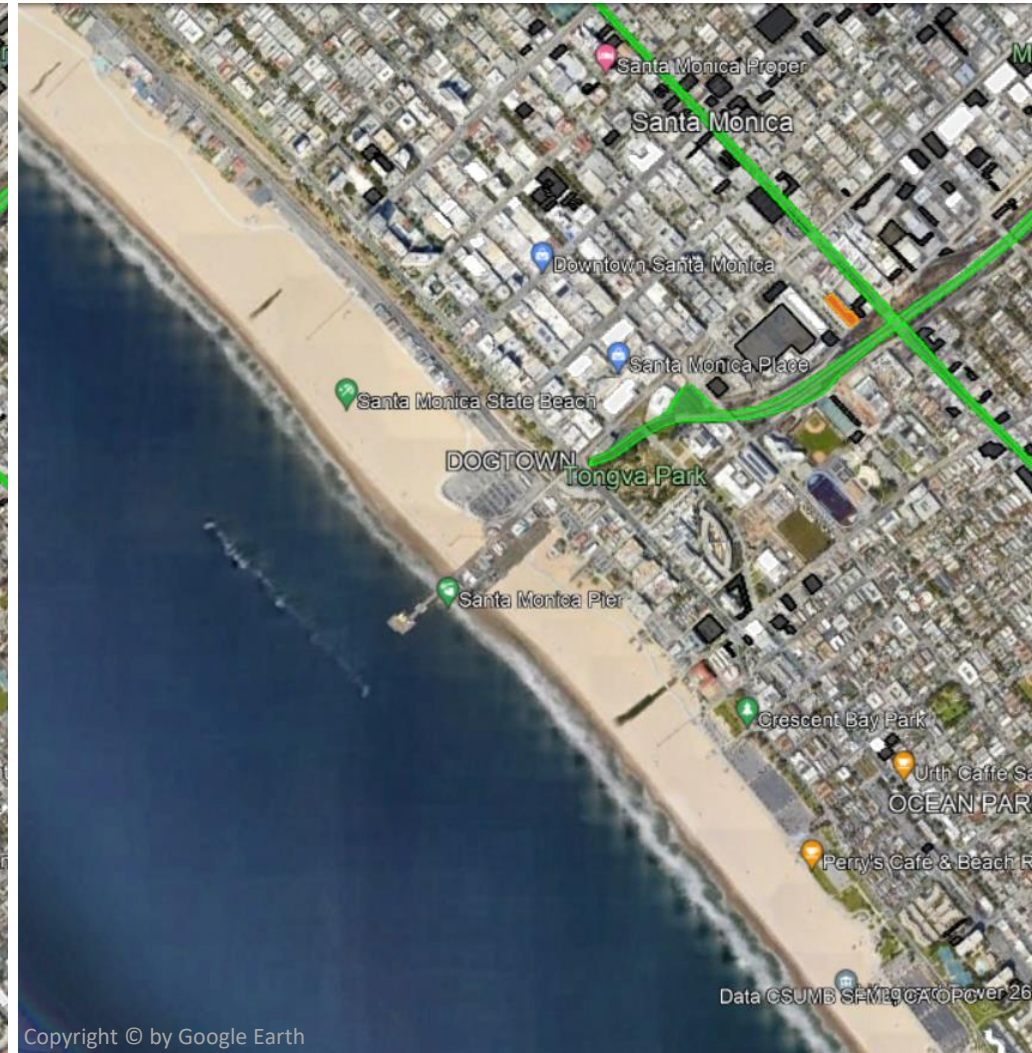
CONTACT & IMPRINT



White photovoltaics are also more aesthetically pleasing - which is why they should be increasingly used in tourist locations such as LA's beautiful beaches: In the present concept, all parking spaces on the beach are accordingly covered with white PV modules



Copyright © by Google Earth



Copyright © by Google Earth

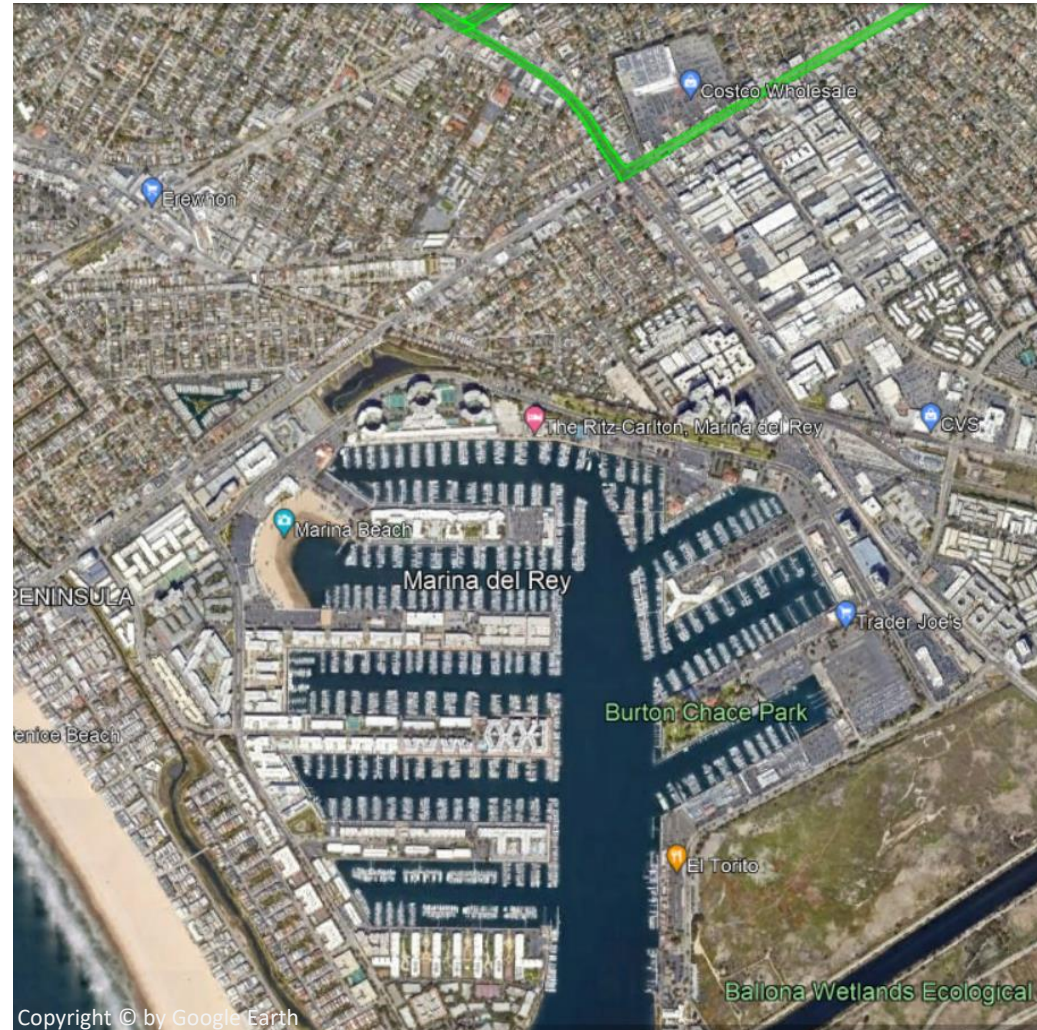
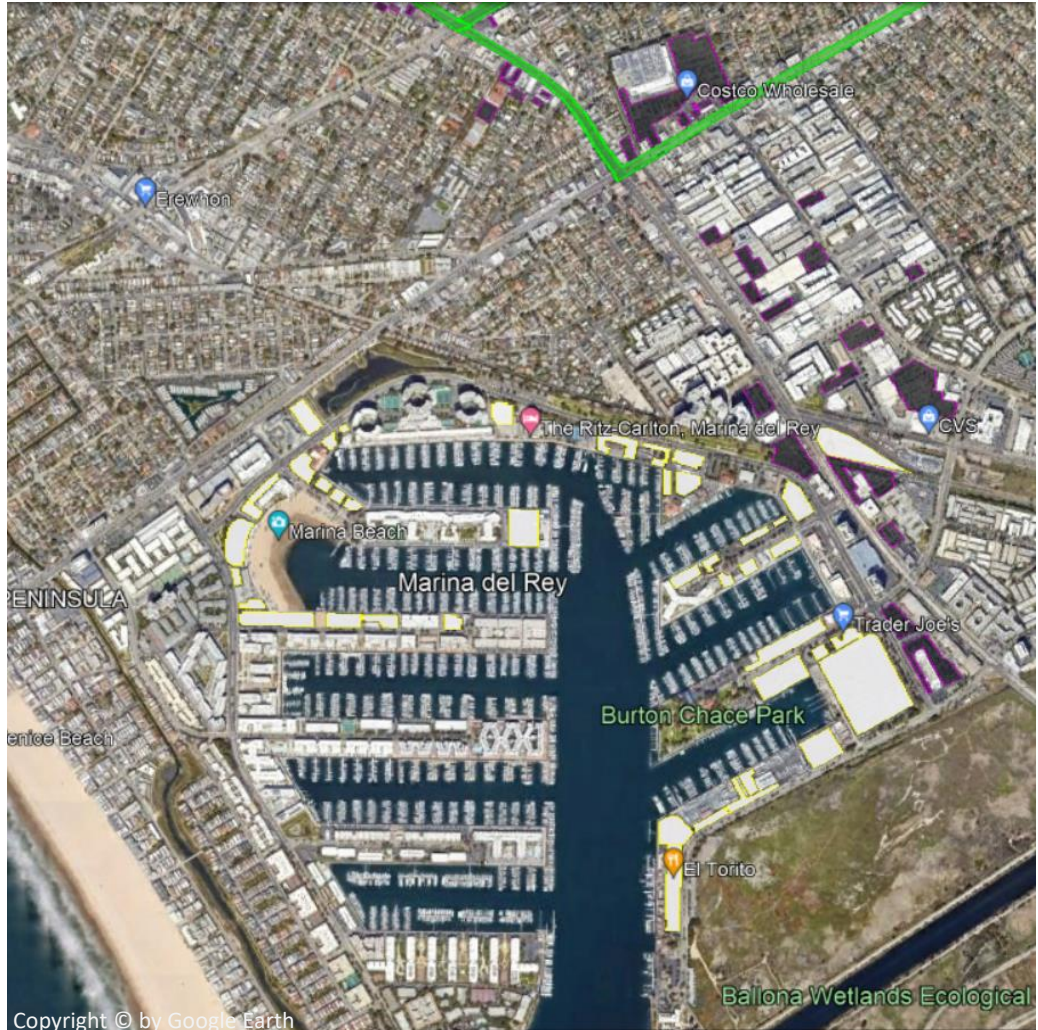
Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The same applies to the boat harbour in Marina del Rey: here, too, in the present concept, the canopy-roofing around the harbour and on the jetties is made exclusively out of white photovoltaic modules



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

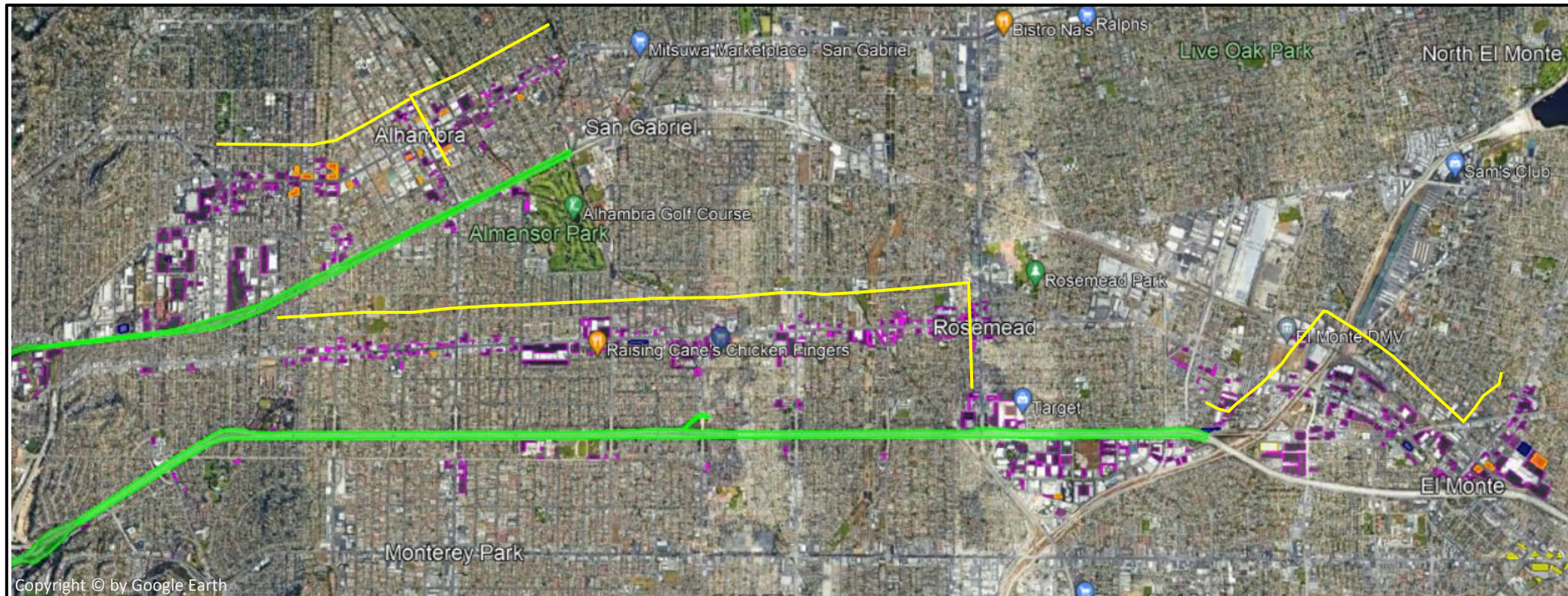
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Not only areas directly at the bridges can be connected to the bridge energy grid: The connection is also worthwhile for more distant areas

Electricity supply networks have grown over decades and, as things stand today, function in one direction all over the world: a central supplier generates electricity and sends it to decentralized consumers. If you suddenly have a large number of decentralized consumers that are also temporary producers, the existing power grid and its control units are not designed for this: A new infrastructure is needed. Since it is not possible to tear up every street to lay new power lines, this can only be done efficiently if the decentralized generation areas are located along new lines that are connected to the LA Bridge Network.



In total, the PV areas of the LA Bridge system and the California Energy Bands connected to it can generate around 10 TWh of electricity per year.

There are a lot of suitable areas in Los Angeles for the photovoltaic generation of electricity: But without a grid structure, as it is created with the LA Bridges and Energy Bands, the resulting large amounts of volatile energy would not be controllable in the existing grid system and would also not be efficiently usable without appropriate storage options.

Segmente mit Photovoltaik	m2/km	Strom (GWh)
Parkplätze neben den Brücken mit schwarzer PV	8.041.563	2.589
Parkdecks entlang der Brücken mit schwarzer PV	491.818	158
Parkplätze neben den Brücken mit weißer weiße PV	724.375	128
Dachfläche von Gebäuden neben den Brücken, schwarze PV	89.138	29
Dachfläche von Gebäuden neben den Brücken, weiße PV	688.780	122
Energiebänder Süd (km)	175	1.913
Energiebänder Nord (km)	155	1.690
Parkplätze an Energiebänder Süd (m2)	84.480	27
Parkplätze an Energiebänder im Nord (m2)	4.912.058	1.582
Brückenseite	84.750	25
Dachfläche auf der Brücken	2.801.650	516
Fassade der Gebäuden auf der Brücken	324.739	28
Baldachinen	445.327	75
Säule	102.420	1
Fahrstühle	5.507	2
Stationen	22.946	7
Summe	28.159.335	8.891

Roof areas next to bridges were only considered if they were larger than 1000sqm.

No roof areas were considered along the Energy Bands.

If all PV-capable areas along the LA Bridges and Energy-Bands were taken into account, a further 5 TWh of electricity p.a. could be generated - albeit with much smaller-scale PV systems.

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE
- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE
- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide
- LAW
- FINANCES
- IMPLEMENTATION
- SPECIALIST INFORMATION
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The storage of energy surpluses for the night and days with little sunshine can be carried out in underground hydrogen storage facilities or with hydroelectric power plants

In the future, the storage of excess electricity will take place in many different ways: Batteries of e-cars can function as decentralized storages, or else larger, lithium-free Reddox batteries can be used. However, the bulk of the energy will require extremely large, infrastructural storage. For the LA Bridges and the California Energy Bands, it is necessary to examine where along their course it is possible to locate underground hydrogen storage: Open space such as farmland that can be restored and used after the hydrogen storage facilities are installed is particularly suitable. However, water dams can also be extended to generate additional energy. From the multitude of possibilities and localities, the ones have to be selected that require the least effort and are most compatible with the environment.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

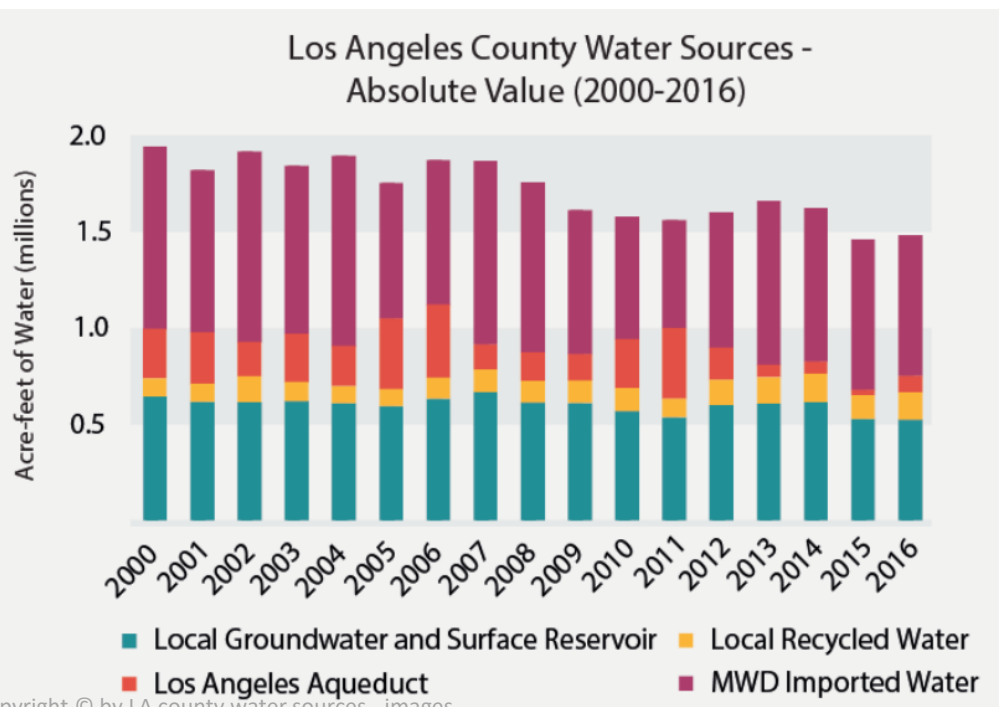
- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Los Angeles, like all of California, suffers from drought and wildfires, especially since it imports about half of its water from other parts of the country

In California there have been intensive efforts for years to improve the water situation: Rainwater is collected in canals and directed into water reservoirs; large water treatment plants purify wastewater so that, after appropriate filtering stages, it becomes drinking water again or enriches groundwater bodies through infiltration; and desalination plants are also an important part of the water supply in California.

In spite of all efforts, Los Angeles has to appeal to its inhabitants every year to use the precious resource water even more sparingly. Actually, a relatively large amount of precipitation falls in Los Angeles City (approx. 360 mm p.a. - Frankfurt has 600 mm p.a. in comparison): But unfortunately, most of it falls on sealed surfaces and evaporates from there.



Copyright © by LA county water sources - images

Copyright © by ourcountyia.lacounty.gov

Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The more than 9 million square meter of bridge surface area in Los Angeles is covered by around 3.4 million cubic metres of water per year - at least 1 million of which can be transported by a ring main (to be installed below the LA Bridges) to water reservoirs: existing ones and, if necessary, new ones to be created



For new reservoirs, the Singapore concept of "floating photovoltaic on reservoirs" should be tested as evaporation protection instead of the currently used shade-balls

Shade balls are supposed to protect against the development of harmful bromide and chlorine compounds under UV light, but also to protect against evaporation: the shade balls are supposed to save around 1 million m³ of water per year. But their production is energy-, resource- and water-intensive, and it is still untested whether they emit microplastics over time. A dense covering with photovoltaics, on the other hand, is at least sustainable due to the energy generated at the same time and should have a better ecological balance.





Conclusion: Los Angeles can use the bridges to create attractive neighborhoods that solve infrastructural and social problems today, while being extremely lucrative real estate investments for the future

On the LA Bridges, green quarters are being created that are architecturally fascinating and permeated with artistic life: an urban space on the second level that offers a life almost without cars and can help to improve all the neighbouring districts.

15 million square meters of building space can be created on the bridges, 12 million of which could be used as living space for 340,000 people, while educational facilities, shops, spaces for art and culture, and social institutions can be built on the remaining 3 million square meters of space. Los Angeles will have the opportunity to significantly upgrade its city center.

Financed by private investors, some parts of the bridge should nevertheless be used to solve social problems and homelessness. The innovative approach is: Neighborhoods that offer social housing on the LA bridges today should be directly created as cool and at the same time as beautifully planted urban areas, and thus be prepared for later gentrification (i.e. an attractive return on investment) - even if these entire neighborhoods only become the property of the investing owners a generation later (i.e. in 30 years), and are used exclusively for social purposes beforehand. The main advantage of this is that the socially disadvantaged are not ghettoized but, on the contrary, are housed in exciting and popular neighborhoods.

The LA Bridges can also simultaneously serve as a new grid for the collection, storage, and redistribution of photovoltaically generated electricity, regardless of their construction: 3.5 TWh of electricity can be generated by the bridge PV and the photovoltaic areas adjacent to them, with an additional 6.5 TWh coming from the California Energy Bands that connect to them.

1 million cubic meters of rainwater can be collected by the LA Bridges and transported to storage locations. If, following the example of the Frankfurt Bridges, water cisterns are installed in the ground at the large parking lot areas that are provided with PV canopies, into which the rainwater from these canopies is fed and which release it into the bridge pipeline, then several hundred cubic meters of water are added, which can be processed into drinking water and distributed again.

Conclusion: With the help of the LA Bridges, Los Angeles can offer its citizens a better quality of life and at the same time become the sustainable city of the future.

Brücken Weltweit

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



„Old New Territory Bridges“ around the world can ensure that the cities of tomorrow do not just consist of gigantic glass buildings in the middle of huge green open spaces

Bridges above large grey motorways provide the opportunity to complement gigantic visions of the future for our cities with bridge-streets in which local traditional architecture is revived. The living environment on these „Old New Territory Bridges“ is on the one hand characterised by humane and artistic tradition, and on the other hand technically ultra-modern and in line with the latest sustainability standards. At the same time, the bridges can offer solutions for the environmentally friendly orientation of a city in terms of energy, water and transport. Even though the focus and orientation in the use of the bridge concept is different for each city, the principle remains the same: To implement humane second-level solutions in an existing city.

Old New Territory Frankfurt

- THE PLAN
- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Most architects imagine the city of the future to be large buildings made of glass and steel

The buildings in modern urban planning are on the one hand huge and can accommodate thousands of people, but on the other hand a lot of space is left between the individual buildings, so that in total not the maximum building space is created that such an area would allow. Traditional architecture, on the other hand, follows exactly the opposite principle: The buildings have only two to three floors and are built at smaller distances from each other, surrounded by small gardens or city greenery, divided by narrow streets and alleys. Due to the low storey height, their total building space is naturally significantly lower than that of the towering vision buildings, despite denser development, but humane, walkable neighborhoods are being created to make up for it.



Old New Territory Frankfurt

THE PLAN

- BUILDINGS & BRIDGES**
- URBAN GREEN & NATURE**
- WATER**
- ENERGY**
- TRANSPORT**
- URBAN CLIMATE - GLOBAL CLIMATE**

- ART & CULTURE**
- PACKAGING - INNOVATIVE**
- OLD NEW TERRITORY WORLDWIDE**

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



In the latest designs by city planners and star architects, the gigantic buildings are surrounded or even covered by greenery, so that the areas as a whole appear attractive, but do not necessarily appeal to everyone

What's more, such thoroughly fascinating urban districts can only be created around mature cities; in the existing cities themselves, on the other hand, there is no room for them. And for reasons of sustainability, we will not remove the entire building landscape of our cities just to implement new urban planning concepts, however green they may be. With the bridge concept, modern techniques and innovations can be brought into the existing cities, and at the same time the cities can be enriched with traditional as well as humane modern architecture. Thus, for people who prefer to live in buildings with few floors, new modern living space is created that is traditional only in terms of structure and aesthetics, but is state-of-the-art in terms of technology.



Solutions for the future must be realised in our existing cities - because we cannot tear them all down in order to make room for visions

Moreover, simply greening buildings is no guarantee that people will feel comfortable in them

When buildings are extremely large, they run the risk of seeming impersonal to people, however planted with green they may be. The feeling of security tends to come with smaller units and will not be forced by greenery. Accordingly, it will be an architectural challenge on bridges worldwide to apply traditional architecture to multi-story buildings. Traditional large structures tend to have only three to four full stories. On the bridges, however, buildings with up to six or seven floors are possible - a potential that should definitely be exploited to create living space.

THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER

- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



The "green solutions" for the city of the future also need to be further developed, because at present a great deal of plastic is still used in facade greening, which carries the risk of microplastics being secreted with rainwater over time

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



The bridge concept can be adapted to the needs of each metropolis - but some principles of the concept apply equally to all cities

There are a few rules to keep in mind, no matter whether it is about building neighborhoods on top of bridges or other building plans to redensify a city in order to reduce urban sprawl:

1. The architecture should be as humane as possible: Not only gigantic mass buildings of glass and steel with huge windy open spaces in between, but also small-scale, varied architecture, arranged in alleys for strollers, should come into play.
2. The architecture of residential buildings should always be geared exclusively to the people who will inhabit them or *have to* live in them (unlike the architecture of libraries, museums, commercial buildings, terminals, etc., which can also be less humane or even uncomfortable, but spectacular in the sense of star architects and builders who want to immortalize themselves, because unlike residential buildings, people do not have to spend their lives in these buildings if they don't want to).
3. The architecture on the bridges should accordingly consist of modern houses on the one hand and incorporate traditional local architecture on the other, as this is mostly made of sustainable building materials of the region, is climatically adapted and many people love their traditional architecture and the associated handicrafts and like to live in such houses.
4. In addition, all of the country's innovative construction methods were to be represented on the bridges in order to create a kind of giant research laboratory for sustainable construction.
5. Not only should as much urban greenery as possible be planted around the new bridge neighborhoods, but greening of the bridges' buildings should always also be a focus of bridge design. For facade greening, ground-based greening is preferable in order to conserve resources and keep the carbon footprint low, and for irrigation systems, a water-saving, low-plastic underground system should be chosen whenever possible.
6. In all quarters, the potential for photovoltaics should be exploited, whereby visible or prominent areas should be equipped with inconspicuous or aesthetically pleasing PV modules so as not to detract from the ambience.
7. When planning PV areas in new neighbourhoods, it must be checked whether too much conventional black PV at one location can lead to heat island effects. If this effect is to be feared, a switch should be made to white photovoltaics.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Humane architecture: It doesn't always have to be old buildings. But whether traditional or modern - for residential purposes, people usually love buildings that have a manageable size

With high-rise buildings, the view is cool: But above a certain height, windows no longer open wide, and it's usually too windy to sit on balconies and terraces.



6.7 billion people are expected to live in cities by 2050 - around 70% of the world's expected population by then. Not all of them will be able to live and work in single-family homes or manageable apartment buildings with just a few floors. Gigantic buildings will be unavoidable if the surrounding areas of cities are not to be massively urbanized. However, it is then all the more important to build as humanely and pleasantly as possible. On the bridges, further city districts can be built in the middle of the city, which usually have two to five floors, certainly have balconies and often also have terraces or even small gardens, while urban sprawl is reduced.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Tradition and arts and crafts are important additions to mega-smart cities of the future

Arts and crafts give a city a special flair. At the same time, it creates identity and can also give newcomers a sense of home.

If people around the world allow architects to stop constructing buildings in traditional architecture with traditional craftsmen at all, then the knowledge and skills for such construction methods will be lost.

Modernity and tradition are often seen as opposites. That this is not necessarily the case is shown by cities such as Singapore, where neighbourhoods with colourful, varied and artisan buildings stand surrounded by impressive skyscrapers.

People all over the world love artfully decorated buildings and objects. At the same time, there are (still) craftsmen who are capable of building such things. There is therefore no obvious reason why we should not start to create such fascinating buildings again.

Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Often the price of craftsmanship is used as an excuse for not venturing into traditional construction, but modern buildings that are not prefabricated, but are a little more customized, are usually just as expensive or even more expensive

There are lavishly designed modern buildings that can certainly hold their own in terms of artistic ambition with old buildings designed with artistic craftsmanship, whether as apartment buildings or as spectacular solitary buildings with special uses.

However, in terms of cost, such buildings are also in no way inferior to old buildings. In contrast to buildings based on traditional architecture with craftsmanship, though, an annoying disadvantage here is that there is often no experience with the implementation of modern ideas, and thus no experience with how much the building will cost and how long it will last. With traditional buildings, on the other hand, it is much easier to know how much they will cost and moreover: how long they will last - because old buildings have proven by their very existence that their construction methods are long-lasting and therefore sustainable.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



In particular, the glass facades of modern buildings are usually just as expensive as traditional facades with stonemasonry - but, unfortunately, usually not as sustainable

Glass facades are notoriously not as sustainable as traditional façades in terms of energy, whether it is for heating or cooling the building. But they also cannot compete with the sustainability of traditional buildings due to their shorter lifespan.

The greatest advantage of a glass façade is potentially the light that can penetrate the interior of a building. However, if a master academy for the preservation and innovation of European arts and crafts is founded in the course of building bridges in a city, as is planned for Frankfurt, then a challenge for that academy may be to use traditional design language to develop facades that also have huge window areas but still have a classical style. Because in Northern Europe this is extremely important since sunlight is rare, whereas in hotter countries normal windows in classical facades make more sense in terms of energy.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA – Los Angeles

Bridges Worldwide

LAW

FINANCES

IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Transport: The transport of the future should be energy-efficient and offer an adequate substitute for individual transport

Often, visions of the city of the future include drones or other unspecified aerial vehicles that are supposed to act like cars. The principle has two inherent disadvantages that have not yet been technically solved: First, it takes an extremely large amount of energy to first lift people off the ground and then travel a distance (without acceleration as with a plane); second, the process of lifting a cargo with the weight of a human through rotors is very noisy, which can be observed with helicopters. Only a zeppelin technology, which works with gases, would be -quietly hovering- imaginable.

A second idea for means of transport in the city of the future aims at extremely long modern trains. Complementary to other, smaller means of transport, this is undoubtedly an interesting option, but it cannot satisfy people's need to be able to get off where they want to go, as individually as possible along the routes that are bound to the road. And especially in regions with extreme climates, it is inconvenient if stations are located at very long distances from each other and people have to walk long distances forwards or backwards after getting off.

The autonomously driving traffic on the bridges solves both: it "floats,, quietly right through the city, without wasting energy, and the vehicles, although they are bound to the road, come "on demand", and especially the cars, can transport people to any point on the bridges.



THE PLAN

- BUILDINGS & BRIDGES
- URBAN GREEN & NATURE
- WATER
- ENERGY
- TRANSPORT
- URBAN CLIMATE - GLOBAL CLIMATE

- ART & CULTURE
- PACKAGING - INNOVATIVE
- OLD NEW TERRITORY WORLDWIDE

- The City of the Future
- Singapore
- UAE - Dubai
- China - Shanghai
- USA – Los Angeles
- Bridges Worldwide

- LAW
- FINANCES
- IMPLEMENTATION

SPECIALIST INFORMATION

- SEARCH
- THE TEAM
- CONTACT & IMPRINT



Photovoltaics: PV should be installed in each city, differentiated according to the area

It can be efficient to produce energy decentrally where it is also consumed, i.e. everywhere in the city. The bridges can collect this electricity and transport it to where it is needed with the help of control systems, and electric cars can refill at the bridge pillars. But photovoltaic does not fit on every facade (e.g. it does not fit on old buildings with decorative facades); moreover, not always only black PV should be installed, but (to avoid heat islands and to increase acceptance among the population) white or aesthetically pleasing PV should be applied, as well.



Old New Territory Frankfurt

THE PLAN

BUILDINGS & BRIDGES

URBAN GREEN & NATURE

WATER

ENERGY

TRANSPORT

URBAN CLIMATE - GLOBAL CLIMATE

ART & CULTURE

PACKAGING - INNOVATIVE

OLD NEW TERRITORY WORLDWIDE

The City of the Future

Singapore

UAE - Dubai

China - Shanghai

USA - Los Angeles

Bridges Worldwide

LAW

FINANCES

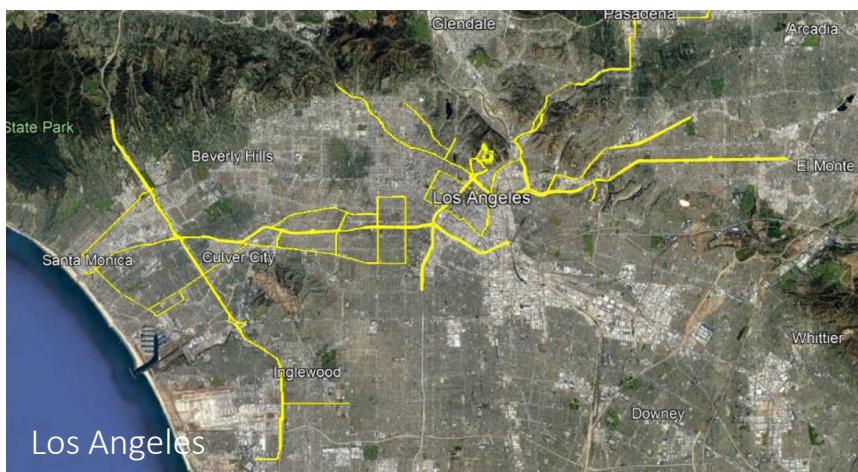
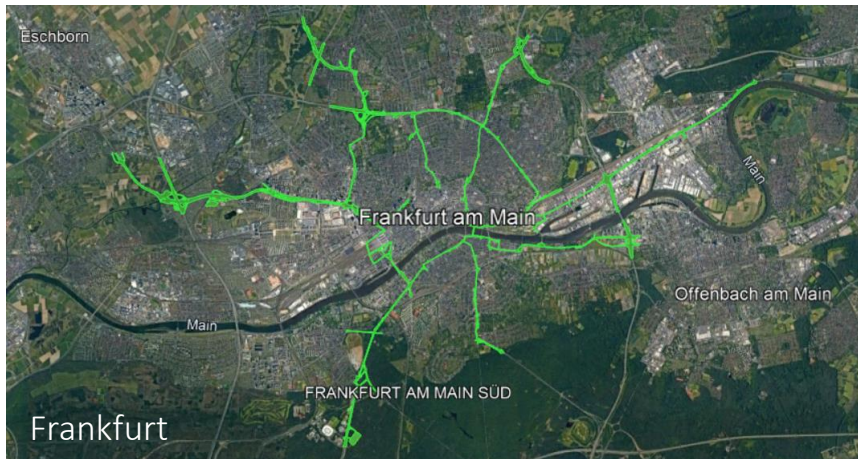
IMPLEMENTATION

SPECIALIST INFORMATION

SEARCH

THE TEAM

CONTACT & IMPRINT



Conclusion: "Old New Territory Bridges" can help worldwide to transform today's cities into humane cities of the future

Compared to other visions of "the city of the future", the bridge concept has the advantage that it can implement modern technology and humane architectural design in the middle of existing buildings and not outside in new development areas or by demolishing existing urban structures. With „Old New Territory Bridges“, you can take the grown city districts with you on the way into the future.

The bridges realize on a second level everything that cannot be introduced on the first level. In doing so, they use the space above motorways, which is in any case lost space for people's lives, but passes right through their living spaces. Everything that is realized in terms of concepts on top of the bridges can successively spread along them into the rest of the city. In addition, the bridges represent a mega-routing structure through areas where it is not possible to tear up kilometres of road in order to lay pipelines: by running through the city as a green shading lung, collecting water, distributing it and transporting it to storage locations or acting as a modern network of pipelines for decentralised volatile energy.

They solve numerous problems on the second level in a transdisciplinary way, which otherwise cannot be solved in in the existing building landscapes of our cities