

our cities ourselves

10 Principles for Transport in Urban Life





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THE FUTURE OF TRANSPORTATION IN URBAN LIFE

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What is this book about?

Addressing the global issue of sustainability. . .

. . .by emphasizing the local issue of livability. . .

. . .with mobility as a link between the local and the global.

Foreword

Livable today, sustainable for the future
The principles outlined here are intended to inspire us to improve the quality of life in cities today while ensuring their viability tomorrow.

The successful city of the 21st Century will be replete with choices, including non-motorized, post-fossil fuel travel options. Citizens of the world do not want to sit in bumper-to-bumper traffic. They do not want to walk in mud, nor feel threatened on a simple bike ride to work. They want to be in cities that provide for creative interaction, affordable living and healthy movement.

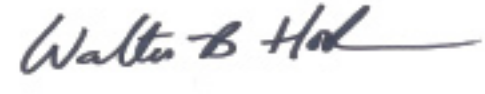
Cities that meet the challenge of sustainability will leap ahead of others by attracting people who demand a healthy and culturally-rich lifestyle.

Purpose of this campaign
Sustainability does not have to hurt. Reducing CO_2 emissions, conserving land, and making transport more efficient go hand in hand with improving quality of life. We aspire to lay the foundation for achieving global sustainability not through uniform technological solutions but through a global celebration of local difference and innovation based on a common set of principles.

The *Our Cities Ourselves* program invites design teams from ten cities around the world to apply these ten principles to ten unique locations. This book illustrates the ten principles that lay behind the designs. Our hope is that national and local leaders worldwide will look to it for inspiration.

The 26th of June, 2010

On behalf of ITDP



Walter Hook


歩行者
自転車専用
スタイル不動産

Shift the focus

from:
What we have
in 2010

to:
What we want
for 2030

Traffic dominates society → Choice dominates congestion

Economy primarily based on consumption → Economy based on quality of life

Designing objects → Making places

Disagreement on global sustainability → Local livability translates into global sustainability

The consequence:
Sustainability not seen
on the streets

The consequence:
Streets become the locus
for sustainability

Remaking our cities for livability

Moving towards sustainable and healthy lifestyles

1. Road space is a scarce public good intended to provide access to important locations by the rich and poor alike. As countries get richer, roads get taken over by motorists. Pedestrians and cyclists, whether they are rich or poor, are driven off the roads in fear for their lives. To return our streets to their basic function of equitable access, they need to be redesigned to give priority to those means of travel that use road space more efficiently, cost less, and generate less pollution and noise.

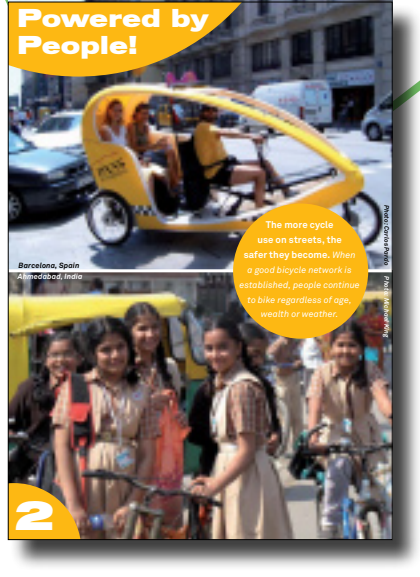
2. A growing number of cities around the world are finding that cultural amenities, great public spaces, and a high quality of life are more important than highways and parking lots to attracting educated young workers who will form the backbone of the competitive 21st century economy.

3. Too often, buildings are designed as symbols of cultural and political power. In the future, city residents will vote with their feet, choosing to live and settle in cities where the greatest architectural minds have focused on creating great places to meet and congregate, rather than on creating great monuments.

4. Achieving global sustainability isn't about accepting blame or responsibility for global warming; it is about making our cities more livable and our economies more prosperous while reducing carbon emissions.

Principles overview

Great cities start with great pedestrian environments. Walking is the most universal form of transport.



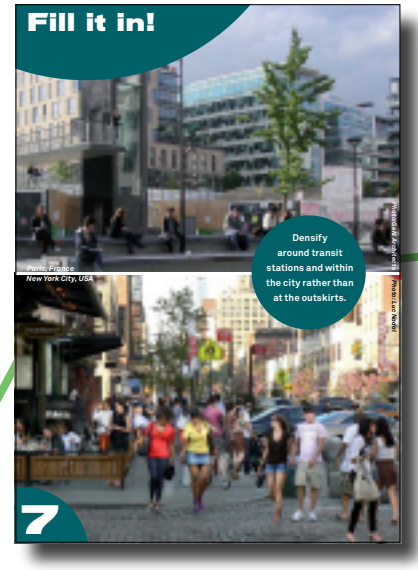
Bicycles and other means of people-powered transport, like pedicabs are great for short trips. Building bike lanes and slowing down traffic are key to making it safe.

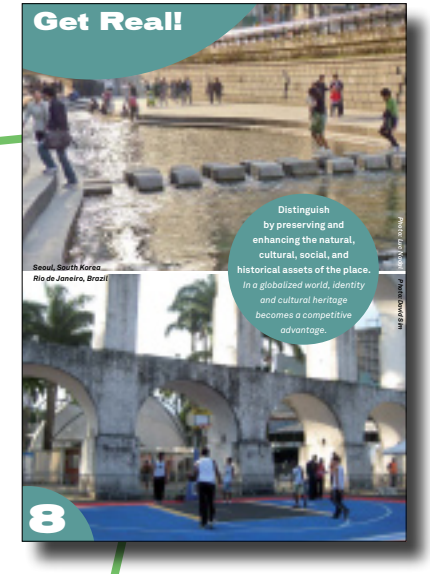
Mass transit can move millions of people quickly and comfortably using a fraction of the fuel and street space required by automobiles.

Some trips will need to be made by cars. By managing private car use and expanding car sharing, cities can minimize problems while creating space for pedestrians, mass and non-motorized transit.

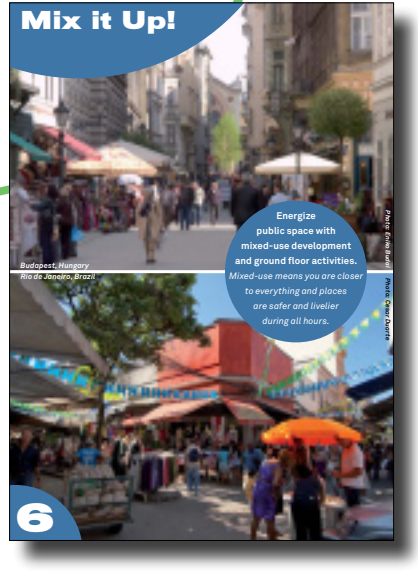
Cities need to create incentives to use cleaner, smaller, quieter, slower and safer delivery vehicles.

Building on vacant lots and brownfields prevents urban sprawl and makes urban neighborhoods more vibrant.

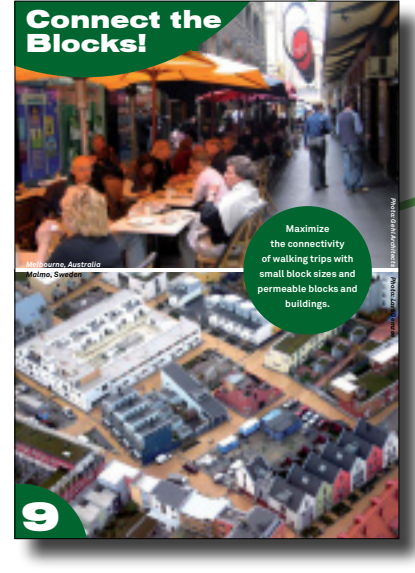




A community's history, natural environment and ethnic traditions all contribute meaningfully to what makes a place unique. Finding these elements and enhancing them is critical to distinguishing one place from another.



Lively cities stack retail on the ground floor, with residences and offices above, so the streets are vibrant day and night.



The more connected the blocks, the shorter the distance between destinations, making walking and biking more appealing.

Streets and public spaces, if built with quality materials and are well-designed, well-maintained, and well-managed, can last for decades.

Our stories over the next 20 years

Talking about aspects of a better life:

30-year-old career woman:
It would be much more convenient to take my child to day care on the bicycle on the way to work, but I'm just not sure it's safe, so I drive the minivan. It costs a lot and I spend more time looking for parking.

50-year-old decision maker:
I've thought of bicycling to the office, or at least as far as the express bus stop. It would be good for my cholesterol, and driving in all that traffic can really be a headache. But it seems really dangerous biking in the streets.

38-year-old:
I've decided to start biking to work. I'm not as young as I once was and I have to work harder to stay fit.

11-year-old:
I'd like to bike to school. With the new bike lanes, my parents are thinking about it, but they're still not sure.

58-year-old:
I've decided to bike to the express bus. I get a little exercise. On the bus, I can do some work or read the paper.

3- year -old:
I want to play in the street, but mom and dad say it's dangerous, and there aren't any other places to play.

Non-motorized and public mobility have improved- private car use is down

Reducing greenhouse gas emissions through changes in lifestyles

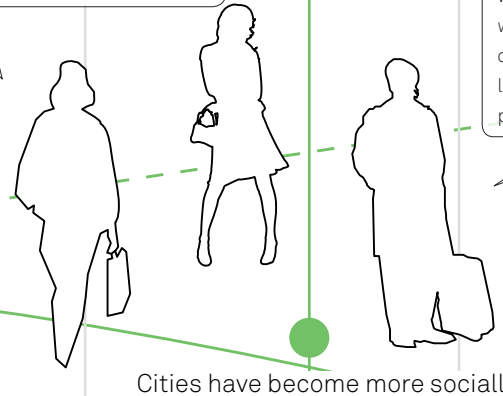
By 2030, if current trends continue, the world will produce some 49 gigatons of carbon dioxide. We need to reduce 19 gigatons of CO_2 per year to avoid cataclysmic climate change. The transport sector is responsible for about a quarter of this. Based on realistic estimates of what is achievable in other sectors, transport needs to reduce its total CO^2 emissions by at least 3 gigatons. As families and municipal leaders work together to solve their everyday transportation headaches, they are also bringing down the risk of irreversible climate change.

2010 2015 2020

45-year-old:
The new bus rapid transit system is so much faster, I wouldn't dream of driving to work on most days. Still, with the congestion charges, when I do need to drive the zipcar for something, I can get there in a hurry.

18-year-old:
I wouldn't think of going on a date in a car. Cars are so 2010. We'll just pick up a couple of those shared bikes over by the school, bicycle together along the new waterfront promenade, then drop them back near the house.

65-year-old:
Now that I'm retired, I have time to walk down to the new café down by the waterfront, work on my novel, take in a concert in that park where that parking lot used to be. I really enjoy the new public spaces in the city.



Cities have become more socially inclusive for everyone

Cities for people are livable today while ensuring a high quality of life for future generations

paradigm shift
regarding transport
quality of urban life

Business as usual

Global CO_2 emissions from transport

14 Gigatons

12 Gigatons

10 Gigatons

2025

2030

1 Walk the Walk!

Create great pedestrian environments

We are all pedestrians. Walking is the most natural, affordable, healthy, and clean way of getting around, but it requires more than just feet and legs. It requires walkable streets–the fundamental building blocks of a sustainable city.

A great walking environment must protect pedestrians from motor vehicles. Vehicle speeds need to be radically slowed or else streets need sidewalks. Sidewalks need to be unobstructed, continuous, shaded, and well-lit. Vehicle speeds at crossings must be slowed with tighter turns, narrower lanes, restrictions on free turns, and speed bumps. Crossings should be made safer with leading pedestrian crossing signals, pedestrian islands and curb extensions that minimize crossing distances. These facilities need to be ramped to ensure accessibility for all–including a person in a wheelchair or a family using a stroller. The pedestrian network should foster the most direct access to all local destinations, like schools, work, and transit stations, and should offer choices of pleasant and interesting routes. Streetscapes should be thoughtfully and artistically designed to draw more people to walk for both utility and pleasure.

The most successful and best-loved cities in the world have vibrant and walkable streets. They put great and constant care into improving them. Great cities start with great pedestrian environments.

Invite people to walk everywhere in the city

Ensure simple, direct street crossings always at grade. Rio de Janeiro, Brazil.

Canopies create critical shade for walkways. Dubai, United Arab Emirates.

Continuous sidewalks over side streets gives pedestrians priority. Copenhagen, Denmark.

Invite people to linger

Unlike other modes of transport, walking is not simply a means of getting from 'A' to 'B'. Guayaquil, Ecuador.

Space for activities and spontaneity invites people to spend time, which in turn promotes safety, economic activity and diverse street life. Paris, France.

Connect important destinations in a network

A high quality network of pedestrian and bike-only streets called 'alamedas' leaves cars in the dirt. Bogotá, Colombia.

Establish main pedestrian boulevards and a subsequent hierarchy of streets. Melbourne, Australia.

What does it mean *for the planet:*

Residents living in walkable urban communities use half as much energy per capita as their suburban counterparts.

Farr, Douglas, *Sustainable Urbanism*, 2008

I am likely to have a longer and more healthy life because walking is an enjoyable part of my everday routine.

for you:

If I walk an average of 2 km a day while growing up, I am 10% less likely to be obese.

Frank/Andresen/Schmid, *American Journal of Preventive Medicine, 2/2004*

Case Study

New York streets

From world famous to world class!
Pedestrianizing Broadway

By 2008, the sidewalks in Times Square were so overcrowded that pedestrians were spilling into the streets. In May 2009, New York City implemented the Broadway Boulevard project, which included new pedestrian zones in Times Square, Herald and Greenly Squares, and at Madison Square Park. Despite reclaiming nearly 500,000 ft2 (45,000 m2) of public space from traffic, congestion actually decreased on most surrounding avenues. Traffic injuries fell by 63% and pedestrian injuries fell by 35%.

Today, Broadway is thriving like never before. People from all over the world converge on this famous site to enjoy its cafés, concerts, art exhibitions, yoga classes, spontaneous snowball fights, or just to people watch.

Part of a comprehensive strategy for the public realm of NYC.

Herald Square-from a space for cars. . .

. . .to a space for people!

A safer street.

A more spontaneous place.

A more lively street.

Case Study

Mexico City for Pedestrians

Mexico City has been pedestrianizing streets in the historic city center to create a walking network of more than six streets and 4 plazas, providing more than 4.1km of pedestrian streets around the Zocalo, the main public square in the heart of downtown.

In addition, Paseo de la Reforma keeps its reputation as one of the world's most beautiful avenues, connecting Chapultepec's Castle with the Zocalo where a 2 km dedicated cycle lane is being constructed. Part of this avenue has a shaded median lined with sculptures and, further down, art becomes furniture that people can lounge on and relax. Every Sunday this emblematic avenue is closed to cars in order to become a public space shared by more than 10,000 cyclists, pedestrians, skaters, children and families.

Outdoor cafés, street performances and other activities create a vibrant, people-oriented environment.

Crossings have been improved with wide crosswalks, bike boxes and narrower lanes for cars.

Pedestrianized streets break up the large scale street grid and offer a pleasant walking experience.

Urban furniture is organized to allow places to stop while ensuring clear access for pedestrians.

2 Powered by People!

Create a great environment for bicycles and other non-motorized vehicles

Bicycles and other means of people-powered transport like pedicabs allow the convenience of door-to-door travel while using less space and fewer resources. They are the healthier and more sustainable alternative to cars and taxis for short trips. Many people will choose cycling if streets are made safe and comfortable. Bike sharing makes cycling possible for people who don't have their own bikes with them. Making cycling possible has allowed some families to save up to a third of their income normally spent on vehicles or transit fares.

The more bicycles on the streets, the safer the streets become. Segregated bike lanes are needed on higher speed roads, while on local streets traffic calming and shared street designs are better, allowing traffic to mix at slow speeds. In hot countries in particular, shade is very important. A great bicycling environment is one where a child can cycle without danger. A great bicycling network is one where a cyclist can safely and quickly travel to any destination.

Make cycling convenient

Simple interventions, like adding a ramp to stairs for people using cycles, make crossing more convenient. Changzhou, China.

The bike sharing program, Vélib, captured the imagination of Parisians and visitors alike. Paris, France.

Convenient bike parking can facilitate easy transfers between different modes. Amsterdam, The Netherlands.

Make cycling safe

Create bike lanes separated from motorized traffic. Beijing, China.

Striping the bike lane through the intersection is a clear indicator that bike traffic is expected and drivers should watch out especially when turning. Barcelona, Spain.

Make cycling fun

As a celebration of physical activity-'Muévete en Bici'-Move on your bike day. Mexico City, Mexico.

As semi-public transport -Pedicabs. Barcelona, Spain.

What does it mean *for the planet:*

Biking is the most efficient form of transportation yet invented. Using the same amount of energy you get 3 times as far as walking (and 60 times as far as driving a car).

Gehl, Cities for people, 2010

for you:

If I bike to work instead of taking the car for the next 20 years, I will save $100,000 more for my retirement, live 7 years longer, and cut 94 tons of CO_2.

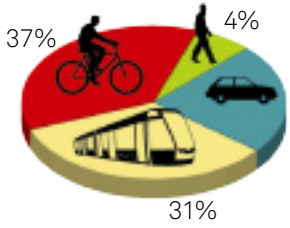
Case Study

City for Cyclists

Copenhagen, Denmark

37% of all residents in Copenhagen commute by bike to work or school every day. They travel a total of 1.2 million kilometres daily. It is also safer to cycle in Copenhagen than in most other cities. This is due both to good infrastructure—dedicated bike lanes (350 kilometres of cycle tracks and 40 kilometres of green cycle routes), and bicycle-friendly intersections, but also because so many cycle. Convenience is why a majority of cyclists chose to bike (61%), but some bike for health (16%), to save money (6%) or to protect the environment (1%).

For every 10% of the population that bicycles to work and school every day, the city reaps a healthcare saving of USD 10 million annually while avoiding 57,000 sick days and adding 61,000 extra years of life (Municipality, 2007).



Commuting modes in Copenhagen 2008

Because of a good bicycle network and a developed bike culture, Copenhageners continue bicycling even in winter.

Blue dedicated lanes at intersections increase awareness and safety.

Biking-an everyday activity for all age groups.

Case Study

World's largest bike share

Hangzhou, China

In Hangzhou, some 43% of trips are made by bicycle. In addition to hundreds of kilometers of dedicated bike lanes, and a partial bus rapid transit system, Hangzhou also implemented the first and largest bike sharing system in the world.

Since opening, use of the Hangzhou public bike system has increased from 0.93 daily rides to 3.27 daily rides per bicycle. Hangzhou's bike-sharing program launched in October 2008, and has a total of 50,000 bikes and 1,700 stations (most of which are unmanned). City-owned and operated, the system uses a smart card integrated with the city's bus, bus rapid transit (BRT), and parking systems.

The bike-sharing program in Hangzhou has been a success, inspiring other cities to do the same.

Clearly marked bike lanes and special bike stoplights improve safety for bicyclists.

Tents, awnings and shelters protect cyclists from sun and rain at intersections.

Bollards connected by wire help slow cars down as they turn right. Cyclists get a left turn arrow and have their own left turn lane in the protected bikeway.

3 Get on the Bus!

Provide great, cost-effective public transport

Some trips are too long to make walking or cycling a viable option. As growing traffic from private cars and trucks slows down buses, cities need to intervene to improve their public transit systems. Mass transit can move millions of people quickly and comfortably using a fraction of the fuel and street space required by automobiles.

Because of their comparatively low costs and fast implementation time, bus rapid transit (BRT) systems are proving able to keep pace with rapid motorization and metropolitan growth while providing a service comparable to metros. Like a metro, BRT combines high quality stations, including level boarding and real time information systems, with exclusive bus lanes and clean and comfortable high capacity buses. Passengers pay before they board, reducing the time it takes for passengers to get on the bus.

The best transit systems are designed around the specific needs of their passengers, much as a good tailor builds a suit to fit a specific person. Investing in mass transit means investing in people.

Focus on the passenger

Weather protected stations with seating and real time information systems make the experience much more comfortable for the passenger. Ahmedabad, India.

Level boarding without stairs makes it easier for people with strollers and packages or people in wheelchairs to enter. Metrobús, Mexico City, Mexico.

Promote convenient, cost-effective solutions

Passing lanes allow buses to bypass certain stations to provide express service, connecting popular destinations for a faster trip. Bogotá, Colombia.

Since opening in 2004, TransJakarta BRT system has expanded to 118 kilometers, or 73 miles. Jakarta, Indonesia.

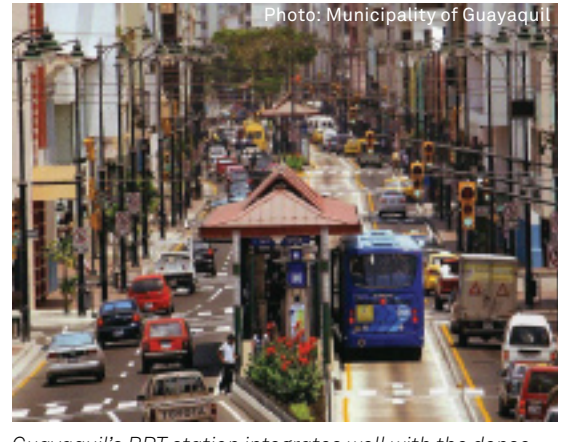
Make it flexible and responsive

Cali's BRT was the first full-featured BRT to build on the inherent flexibility of buses by allowing buses to operate both on and off the busway. This provides a more direct trip and eliminates transfers. Cali, Colombia.

Guangzhou's full-featured BRT system allows buses to travel quickly along the corridor and then to leave the corridor to drop passengers closer to their destination. Guangzhou, China.

Make it sensitive to the street environment

In Bogotá, the BRT has helped revitalize the city center by creating a transit mall where only buses, pedestrians and cyclists can go. Bogotá, Colombia.



Guayaquil's BRT station integrates well with the dense downtown. Guayaquil, Ecuador.

What does it mean *for the planet:*

A bus can typically carry over 8 times as many people as cars and proportionately use a fraction of the amount of energy per passenger. This benefits both global climate and street environment in cities.

If you choose the bus in Jakarta instead of taking the car, you save 0.2 kg CO_2 per kilometer, or 2 tons per year going to and from work.

for you:

Case Study

Rea Vaya BRT

Johannesburg, South Africa

Rea Vaya, the first full BRT system on the African continent, opened in Johannesburg, South Africa in August 2009, giving new meaning to the city's motto: "A world class African city."

Rea Vaya replaced 575 rickety and polluting 15-seater minibus taxis with about 140 high capacity Euro IV modern Scania buses. Rea Vaya has 25 state-of-the-art BRT stations which offer pre-paid boarding and platforms level with the bus floor. Each iconic and spacious station is decorated by local artists with a local theme.

The system runs in exclusive busways for nearly the entire 25.5 kilometer length. It has trunk services, feeder services, and also innovative "complementary" services that operate both on normal streets and inside the busway. Many stations include passing lanes to allow express buses to pass local services, and have multiple stopping bays to allow several buses to load simultaneously.

The Rea Vaya bus operators will be new companies made up of former minibus taxi owners. Because the drivers are paid to operate on schedule rather than by how many passengers they pick up, and the companies are penalized for speeding or not maintaining their buses, Rea Vaya is ending the dangerous practice of minibuses jumping in front of each other to capture passengers.

By the 2010 World Cup in June, daily ridership reached 35,000. Rea Vaya, a world-class BRT system, is quickly becoming a model transit system for the African continent as well as for the world beyond.

The BRT system brings passengers directly into the city center.

Level boarding make buses accessible for all user groups.

Stations are well-maintained, lively and well-lit, making them safe and attractive.

Photo: Philip Mostert

Rea Vaya BRT station downtown Johannesburg, South Africa

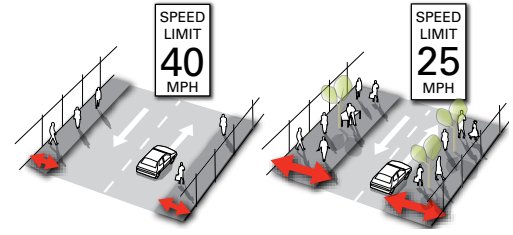
4 *Cruise Control!*

Provide access for clean passenger vehicles at safe speeds and in significantly reduced numbers

In the last century many cities were retrofitted and designed to accommodate automobile travel. Car travel will remain a preferred choice for some people on certain trips in 2030, especially where cost-effective public transit options are not available. These cars should be as clean, fuel efficient, quiet and safe as possible for both passengers and surrounding people.

Widening or adding roads in built up urban areas tends to damage local communities. More cars lead to greater congestion, pollution, fuel consumption, and greenhouse gas emissions. Cars consume too much road space to be viable for more than a fraction of total travel. If car travel keeps pace with population growth, gains from fuel efficiency and cleaner technologies will be countered by slow speeds—as drivers get stuck in traffic congestion. Car trips can be kept at levels that available roads can handle through parking policies, vehicle restrictions, user charges, and traffic cells that allow more direct access for transit vehicles and bicycles. These strategies can also be tailored to specifically encourage the use of cleaner and quieter vehicles. Better management of travel demand is critical for any city made for people, not cars.

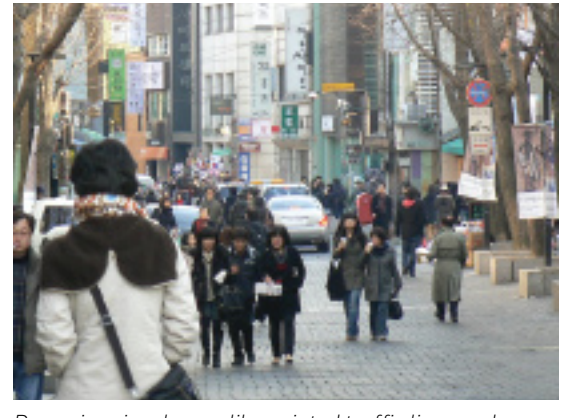
Slow down-increase space and safety for people



Pedestrian fatality risk 82% at 40 mph

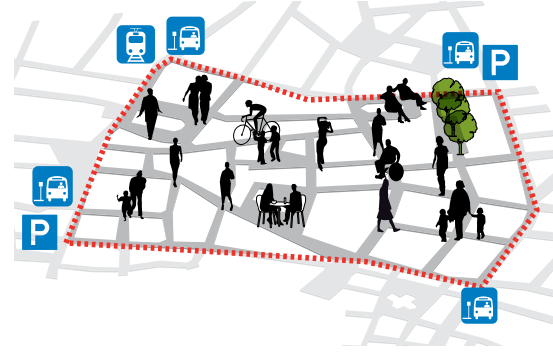
Pedestrian fatality risk 42% at 20 mph

Creating protected pedestrian space gives walking and other travel modes legitimacy alongside vehicle access. Bogotá, Colombia.

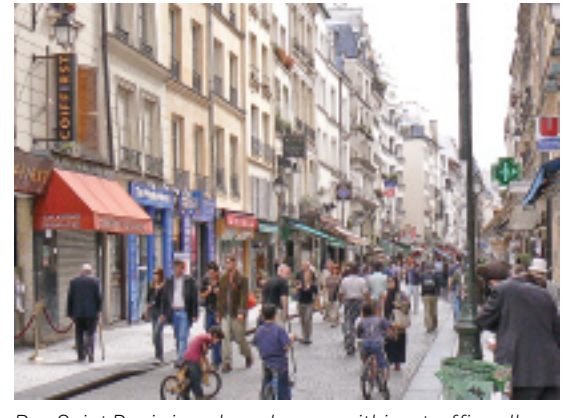


Removing visual cues, like painted traffic lines and built curbs, forces drivers to slow down when mixing with pedestrians. Seoul, South Korea.

Balance access with opportunies to linger



Traffic cells allow passenger vehicles and lorries to access a street only if it is their destination, giving pedestrians and cyclists priority.



Rue Saint Denis is a shared space within a traffic cell where people have reclaimed the street. Paris, France.

Get smart

Drivers have been paying to enter the city's central business district since 1977. A device linked directly to a car owner's bank account is used to deduct a fee at entry checkpoints. Tolls adjusted by the time of day keep traffic free-flowing at least 85% of the time on streets and highways. Singapore.

Real-time information display boards let drivers know where parking spaces are available nearby, lowering the distance cars travel cruising for parking. Chengdu, China.

Pay for the privilege

2-to-1 public opposition to congestion charges turned to 2-to-1 support after voters saw how a 20% drop in traffic led to a 30-50% reduction in traffic delays. Stockholm, Sweden.

On-street parking fees are used to optimize turnover at the curb and fund Bicing, the city's bike sharing scheme with stations in former car parking spaces on certain streets. Barcelona, Spain.

What does it mean *for the planet:*

A 5-kilometer per hour drop in speed results in 15 percent fewer collisions, 10 percent fewer pedestrian fatalities, and 20 percent less severe pedestrian injuries.

for you:

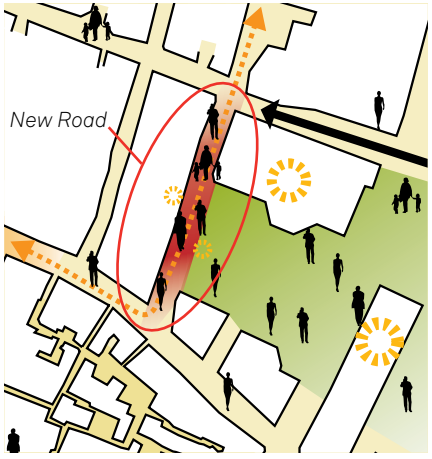
With car sharing, I always have access to a car—in fact, many types of cars.

Case Study

A street for everyone

New Road, Brighton, UK

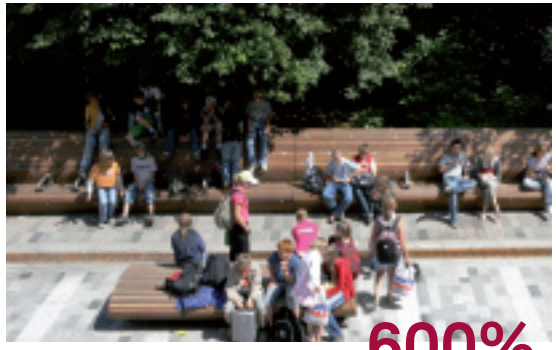
The improved New Road, one of Brighton's most important streets, is one of the few shared-surface, multi-modal, non-residential streets in the United Kingdom. The design is informed by a detailed understanding of how people use the street and the historically sensitive surroundings of Brighton's Royal Pavilion and its Gardens, where they walk and where they choose to spend time.



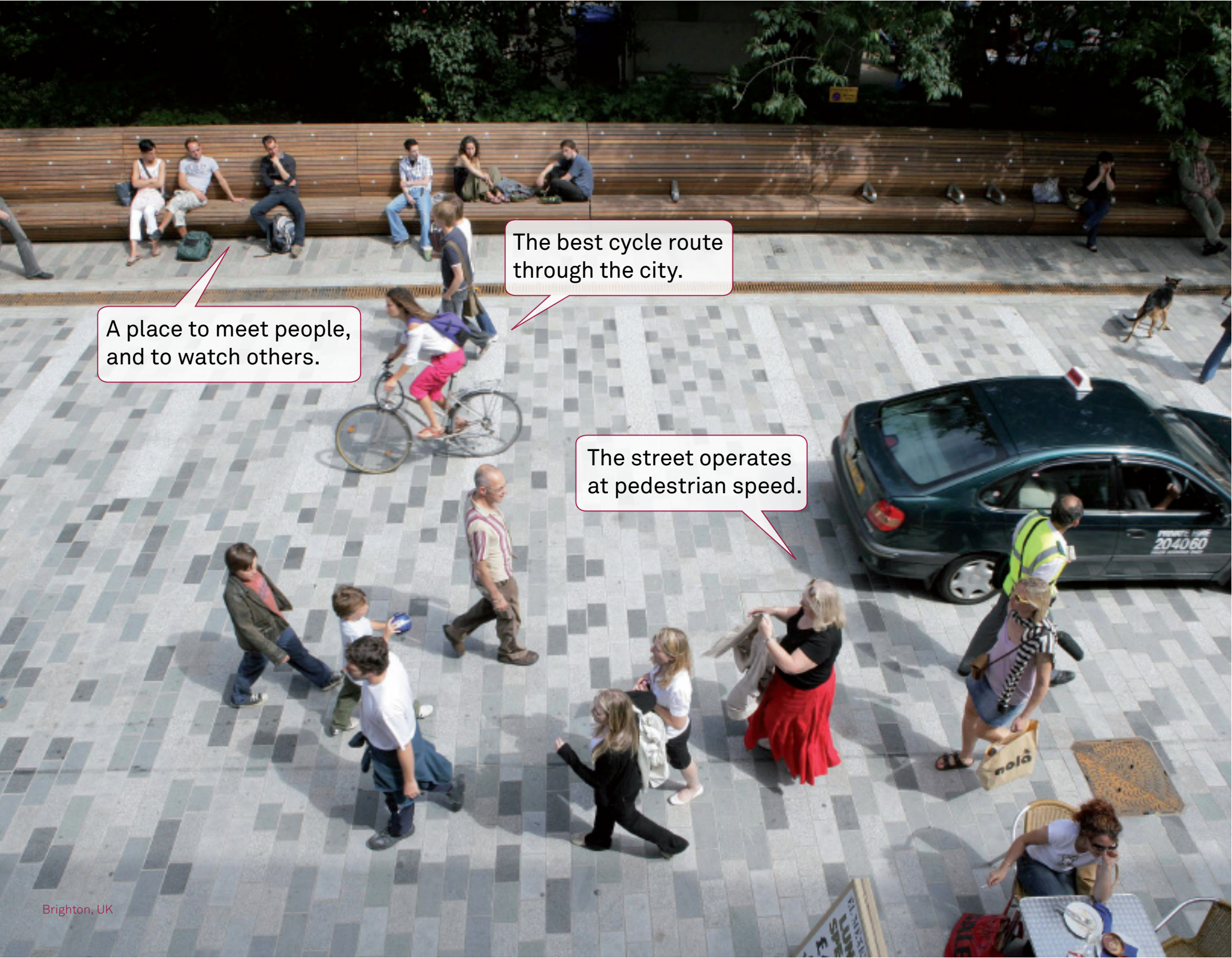
Plan over New Road with Brighton Dome and Royal pavillion

From a side street, dominated by motorized traffic. . .. . .to a vibrant inclusive and people oriented main street.

Pedestrian traffic has increased: **175%**



Staying activity has increased: **600%**


A place to meet people, and to watch others.
The best cycle route through the city.
The street operates at pedestrian speed.

Brighton, UK

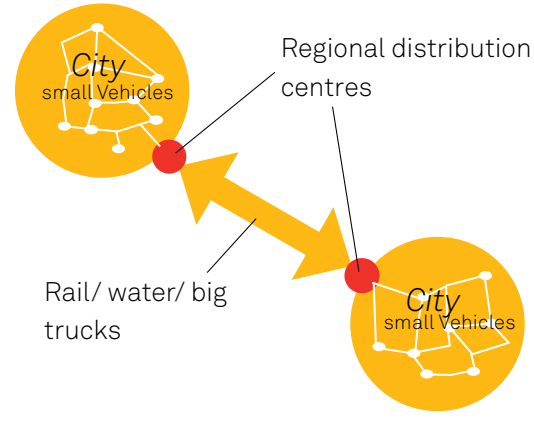
5 Deliver the Goods!

Servicing the city in the cleanest and safest manner

City life is fed by the movement of goods. Food, fuel, clothing and garbage are often transported between and within cities by truck. Freight contributes 40-50% of air and noise pollution, while, on average, accounting only for 10-15% of all vehicle-miles traveled. Sustainable cities will need to ensure efficient delivery while minimizing impacts on communities. Regional movement of goods could be shifted from trucks to rail- or water-based delivery systems, while city logistics might include cargo cycles.

Smart logistics systems and incentives to use cleaner, smaller, slower, quieter, and safer delivery vehicles are important to optimizing goods movement. Deliveries by truck in the city, often made at the already congested and contested curbside, can be improved through fees and regulatory controls. Trucks cruise for parking and slow traffic by blocking the carriageway when no dedicated space for loading and unloading is available. Regulating freight by time of day, location, and vehicle emission standards will help minimize the impact on local areas. Empty haul truck trips can be avoided by locating distribution centers more strategically. Cargo bikes, small vans and hand carts along with fuel-efficient trucks will enable more diversified ways of moving goods around the city.

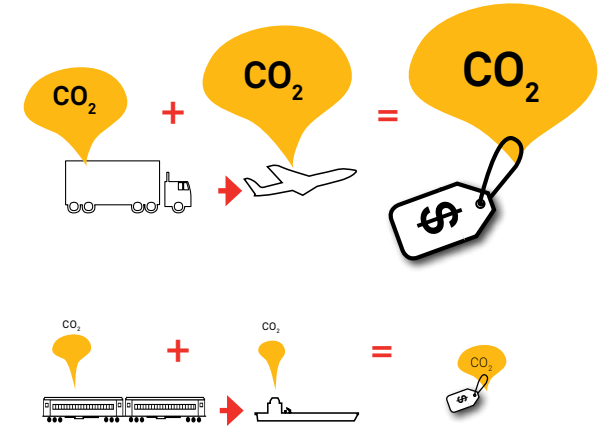
Going the last mile



Many of the challenges in freight logistics are at the end of the supply chain. Organizing distribution centers at strategic locations around the city in addition to efficient handling of goods can bring cost and time savings.

Inter-city deliveries can utilize customized forms of non-motorized transportation to efficiently navigate urban areas. Rio de Janeiro, Brazil.

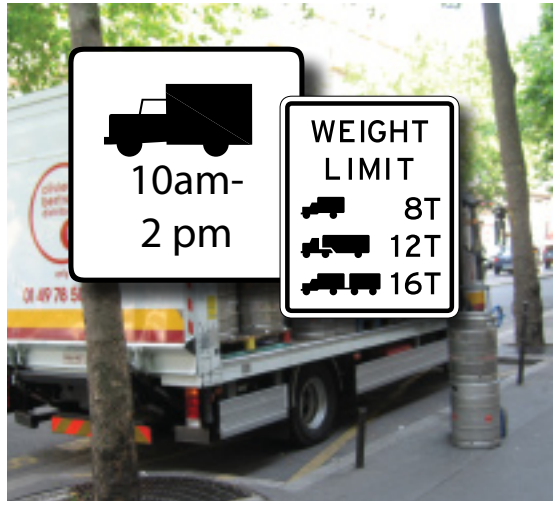
Regulate for results



Charging for freight movement based on CO_2 emission levels would facilitate a shift to cleaner goods delivery.

Trucks entering the EcoPass zone pay a fee based on emissions and vehicle size. Revenue from the charges funds public transit and cycle ways. Milan, Italy.

Manage the curb



Regulate delivery times and size of vehicles in city centres to lower emissions and congestion. Paris, France.

Only small trucks allowed for deliveries, during morning hours only. Macau, China.

Diversify deliveries

Bicycles are used to pick up goods from a central distribution market. Dar es Salaam, Tanzania.

The catering company Fruta Fresca hires triathlon athletes from low-income communities to make deliveries by bicycle in a city where most are done by motorcycle. Rio de Janeiro, Brazil.

What does it mean *for the planet:*

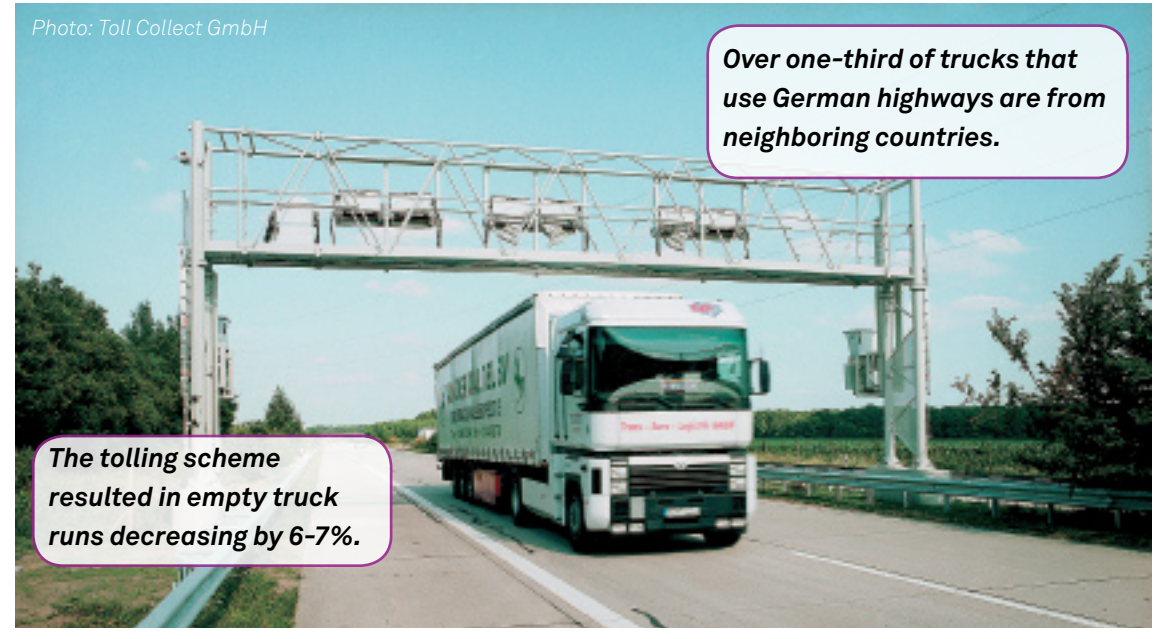
Every year in the state of California, the air pollution generated by the movement of goods causes an estimated 3,940 Californians to die prematurely and costs $34 billion in associated health care costs.

Lin/Prakash, Taking a Toll, 2009

for you:

If you live in New York, buying a bottle of wine from California will cause over ten times more carbon emmissions than a bottle from France because of the way it is transported.

National Geographic, May 2009



Drivers can pay the German tolling fee at manual payment terminals. The Berlin Umweltzone applies to the area inside the city's rail ring.

The low emission zone, or Umweltzone, in many German cities restrict polluting lorries from entering. Only vehicles with a red, yellow or green sticker could enter the zone in 2009.

Photo: La Petite Reine

An average delivery van weighs more than one metric ton, and delivers less than 100 kg of goods within a total distance of only 15 km. Cargocycles weigh only 100 kg, have a load capacity of 180 kg, and an autonomy of 30 km, making them much more efficient.

Photo: La Petite Reine

Photo: La Petite Reine

It's faster and 10-20 % cheaper to use these bikes instead of trucks.

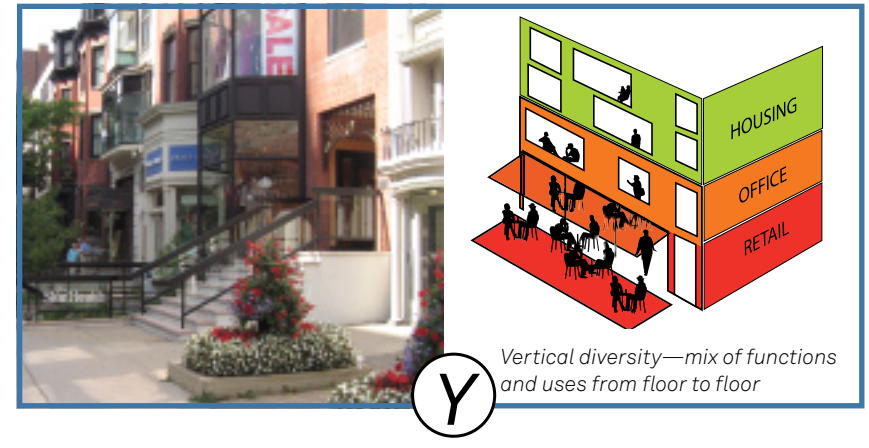
6 Mix it up!

Mix people and activities, buildings and spaces

Integrating residential, work, retail, and entertainment activities into one area makes for better cities and better places. When the destinations that people need to access everyday are mixed together, as opposed to concentrated in separate spaces, many trips become short and walkable. Time spent commuting or running errands can be reduced, as it becomes easier to combine trips. Streetscapes become more varied, rich and interesting. Overlapping activities animate the streets at all hours. Liveliness attracts life, people attract people, local business thrives and diversifies, and safety improves.

The liveliest cities are those who stack lower-floor retail with residential and office functions above. Combined with dynamic public spaces and plazas, mixing it up creates vibrancy in and above the streets.

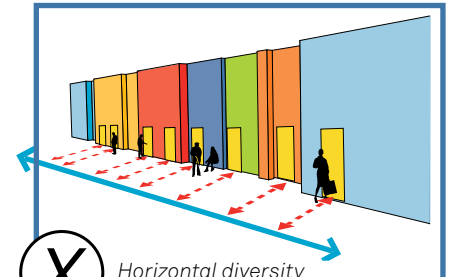
Foster a fine-grain mix of uses in the three dimensions



Y *Vertical diversity—mix of functions and uses from floor to floor*

Inside-outside connections -permeable frontages

Z



X *Horizontal diversity - small units, many entrances*

Keep ground-floors active where people walk

Pedestrian flows help retail businesses and services, which in turn activate the streetscape. Avoid blank walls and long building set-backs. Santiago, Chile.

Allow for ground floors change of use over time. Encourage the most people-friendly uses. Boston, USA.

Allow for different activities in the public space

Encourage a diversity of activities on sidewalks and public space. Beijing, China.

Create a place where a diverse mix of people can meet or retreat. New York City, USA.

What does it mean *for the planet:*

Mixed use development can reduce average vehicular miles travelled per person per day by 30%

Farr Douglas, *Sustainable Urbanism*, 2008

for you:

The daily activity most injurious to happiness is commuting (by car). With a shorter commute, you'll be happier!

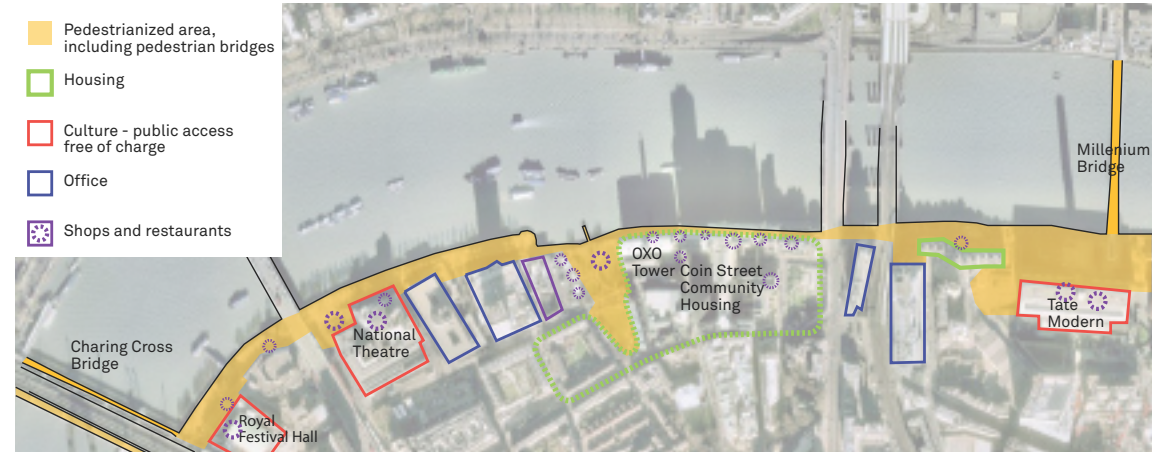
Stutzer/Frey, The Commuting Paradox, 2004

Case Study

London Southbank

Re-imagining the public realm-inside and outside

The regeneration of London's South Bank provides a model of mixing users and functions day and night. Dynamic and flexible spaces are open to the public and welcome a range of events, from local school plays to international fashion shows. Indoor and outdoor public spaces, free wi-fi networks, electronic outlets, and good places to sit encourage people to linger, mix, and mingle. Students and professionals with laptop computers flock to the South Bank which functions as informal office space.



The addition of two pedestrian bridges (Charing Cross and Millenium) acted as a catalyst for the revitalization of the Southbank. With improved accessibility, a vast mix of institutions and destinations have located along the waterfront, attracting diverse activities and events as well as people from all walks of life-locals and tourists alike.

Always a draw for special events and activities, the South Bank is in many ways Londoners urban living room.

The space has been reinvented to act as a public living room, mall and promenade, with invitations for residents and tourists.

Indoor public spaces at the National Theatre provide for meeting, eating as well as a collective work and study places.

Case Study

Guangzhou-Tianhe Nan

Vibrant mixed-use district emerges out of single-use housing complex

Tianhe Nan, in Guangzhou, China, is a housing complex composed of dozens of walk-up apartment buildings constructed in the early 1990s, up to 9 storey high. The community was initially fenced off, access-controlled, and single-use. Starting in the early 2000s, some ground floor owners began converting apartments into coffee shops and small retail stores. The area soon became a vibrant cluster of trendy independent designers. The streets were gradually opened to the public and closed to cars; their design and material improved. The transformation process rapidly spread to adjoining communities.

Streets have filled with people as shops have opened up.

The careful integration of trees and planting improve the comfort and quality of the street.

The former single-use, residential complex has turned into a vibrant neighbourhood.

Ground floors are being retrofitted to create opportunities for shops and businesses.

7

Fill it in!

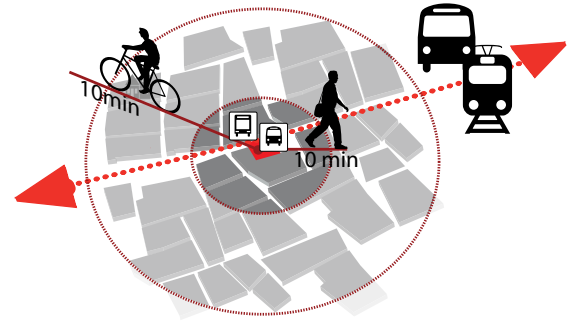
Build dense, people and transit-oriented urban districts that are desirable

By 2030, cities worldwide are projected to absorb two billion more people. The ecological footprint of the new city dwellers will differ by several magnitudes depending on whether urban growth is concentrated into efficient compact cities or into automobile-dependent sprawl.

Dense communities use fewer resources and cover less land. They are built of much less concrete and asphalt, pipes and wiring per person. Above all, they require less energy-intensive transportation, connecting to other communities while making great transit systems viable by ensuring sufficient ridership. Some of the most attractive locations in the world are also among the most dense and well developed urban cores.

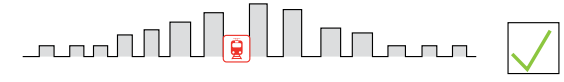
The first step to accommodating future urban growth is to densify existing urban land while providing excellent and diversified services and amenities. Dense communities are a foundation for the lively mixed-use urban areas where walking, cycling, and transit can be integral parts of the most enjoyable way of life.

Build density around transit nodes



Densify around transport nodes according to pedestrian and cycling 10-minute catchment areas; 800 meters for pedestrians and 3 km for cyclists.

Existing low-density areas. . .



. . .should be densified horizontally along a wide area, becoming denser towards the transit nodes

Photo: Municipality of Curitiba

Land use planning encouraged densification around the BRT transit corridor in Curitiba, Brazil.

Streetscape of Bus Rapid Transport. Curitiba, Brazil.

Revitalize the existing before building new

Industrial area metamorphosed into a hub of life, work and leisure. New York City, USA.

Reused structures preserve elements of neighborhood history and identity. Vertical extensions accommodate additional people and activities. New York City, USA.

Intensify the urban fabric by building in the gaps

New infill development. Budapest, Hungary.

Selective redevelopment on existing footprints allows densification while preserving the grain of the walkable district. New York City, USA.

What does it mean *for the planet:*

By encouraging infill development, the economic savings to society would equate to over $300 million per 1000 housing units or $110,000,000,000 over the next 50 years for a city with 4-5 million inhabitants.

Adams Rob, Transforming Australia, 2009

for you:

A dense neighborhood for me is a place where my friends and kids can easily live nearby, I can walk to where I need to get to, and everything I need is close at hand. My neighborhood is my community.

Case Study

Massena, Paris

From obsolete industrial district to people and transit-oriented, dense and mixed used neighborhood.

The 20-block, compact, mid-rise new development on the left bank of the Seine river take cues from the old neighborhoods around and blends these with innovative contemporary solutions. Narrow streets, short blocks, calm traffic, limited parking, and advanced bike facilities make the new district highly walkable and cycleable. Storefront retail, cafes and restaurants animate the public realm. The free-standing buildings can access light and air from all directions and open on small private gardens and courtyards but they are set close enough together to clearly shape the urban blocks and the public space around.

Masterplan and urban design: Atelier Christian de Portzamparc

Small plots and many designers create varied architecture.

Aerial view of the Massena district before development

. . .and during construction.

Narrow streets and active ground floors.


CHANTIER

8 Get Real!

Preserve and enhance the local natural, cultural, social, and historical assets

What makes a place special? Its history, its natural environment, the culture of the people who live and work there? It's all of these things.

Cities must grow and transform. They must accommodate a rising urban population, satisfy new needs and wants, and adapt to the historical change brought by economic, social, climate related, and other factors. The identity of the place, and the livelihoods of its residents should be preserved and enhanced; not destroyed or displaced.

Preservation has a role beyond enshrining isolated monuments and sights. Old districts with modest buildings are signposts of the city's collective memory. Ancient rivers, canals and roads upon which the city was built, trees that shaded generations, lampposts that illuminated the nights of our childhood; these constitute valuable and non-renewable assets. When gone, they cannot be resurrected. The value of a place's distinctive features is sure to increase over time as globalization renders our cities more generic.

Older neighborhoods laid out before the era of the automobile are naturally conducive to walking lifestyles.

Embrace diversity and enhance social networks

Facilitate interaction between cultures, ages, genders, and classes. Sao Paulo, Brazil.

Local markets reduce need for transport, while creating local jobs and a social forum. Ahmedabad, India.

Protect cultural assets

Keeping local skills in the community. Guangzhou, China.

Architectural heritage under restoration, Historic Center. Mexico City, Mexico.

Rediscover neglected amenities

With the demolition of the old motorway that covered it, an ancient river was reinvented and turned into a popular recreational area. Cheonggyecheon River, Seoul, South Korea.

Old tree preserved and bus station built around, Mexico City, Mexico.

Reuse rather than redevelop

Former industrial area turned into a multifunctional landscape park. Duisburg-Nord, Germany.

New cafés tucked under the arches of a railway viaduct. Berlin, Germany.

What does it mean *for the planet:*

With renovation of old buildings, energy use from heating can be reduced by 77%. The energy used from renovating an old building is far less than from constructing a new building.

Haselsteiner, Edeltraud, New Standards for Old Houses, 2005

for you:

When you buy food and services from locally owned businesses instead of large chain stores, three times as much money stays in the local economy.

Civic Economics, 2009

Case Study

Lapa, Rio de Janeiro

Historic district rebounds

The motorized middle-classes abandoned the city center starting in the 1930s and moved to the beachfront communities of Copacabana and Ipanema. They left Lapa and much of the old city center impoverished and dominated by gangsters and drug dealers.

By the 1980s, new groups of bohemian artists and intellectuals were moving back. Municipal policies shifted from large scale demolition and redevelopment to the upgrading of municipal services and incentives to rehabilitate older properties. Lapa today is a nightlife hot spot, the address of countless creative firms, and the residential population is growing again.

Rio's historic viaduct is preserved, creating a dramatic backdrop to a variety of contemporary urban activities.

Regeneration has occurred with 'a light touch', preserving the area's heritage and spirit while encouraging new investment.

Lapa is a melting pot, with music and culture enjoyed by locals and visitors across diverse ethnic and socio–economic groups.

Thoughtful and high quality building renovations have invigorated the area.

Case Study

Factory 798

Beijing, China

798 Art District is located in the Dashanzi area, to the northeast of central Beijing. It is the site of state-owned factories including Factory 798, which originally produced electronics.

Beginning in 2002, artists and cultural organizations began to divide, rent out, and re-make the factory spaces, gradually developing them into galleries, art centers, artists' studios, design companies, restaurants, and bars. It became a "Soho-esque" area of international character, replete with "loft living," attracting attention from all around.

Bringing together contemporary art, architecture, and culture with a historically interesting location and an urban lifestyle, "798" has evolved into a new cultural concept of both urban culture and living space.

Old and new exist side by side in a creative mix, with public art integrated in the public space.

Public plazas have been created between the old factory buildings.

Old factories turned into exhibition halls.

Cafés and shops activate the area.

9 Connect the blocks!

Make walking trips more direct, interesting and productive with small-size, permeable buildings and blocks

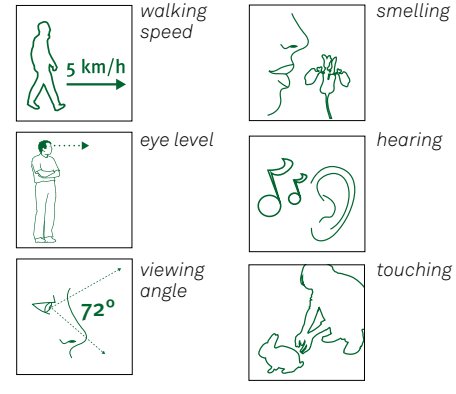
Cities that are pleasant to walk and bicycle through typically have large numbers of narrow short streets and many intersections per unit of area. This makes the traffic slow down while walking becomes more direct, varied, interesting and attractive.

The tighter the street grid, the less detour to a destination. Detours can affect the decision to undertake a trip and by what means. At walking speeds, detours matter much more than at car speeds.

Streets that are short and relatively narrow are well scaled to the perception of people on foot. They afford good opportunities to connect with the surroundings. Each corner offers glimpses of alternate routes or places where to stop, and new possibilities. Buildings, shops, trees and other streetscape elements are closer to the pedestrians and the cyclists as they travel.

Protect fine grain environments

Lanes and small passages increase connectivity, and appeal to the senses. Guangzhou, China.



In an environment well scaled to the physical size of the human body, all senses can engage.

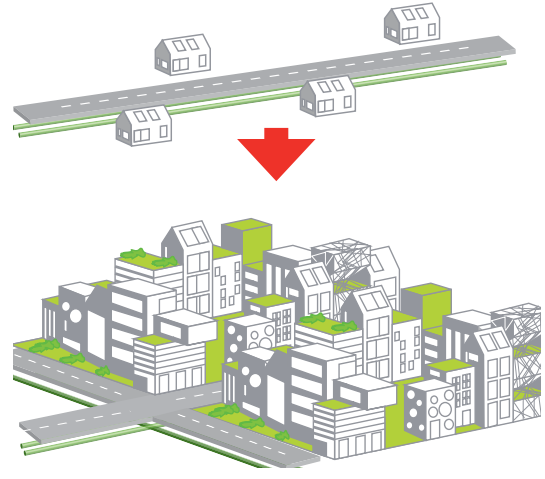
Fine grain area filled with restaurants and small shops. Istanbul, Turkey.

Make new city blocks short and easy to walk

Almere's short and connected pedestrian priority streets are attractive and animated.

Large buildings can be divided into small walkable blocks. Almere, The Netherlands.

Save resources; build compact blocks



In a high density city, the cost of infrastructure will be divided by more people

Nice amenities can be provided cost-effectively and benefit many people.

What does it mean *for the planet:*

Total land consumption as a result of dense urban living is 1/1000th that of suburban living.

Farr, Douglas, *Sustainable Urbanism*, 2008

for you:

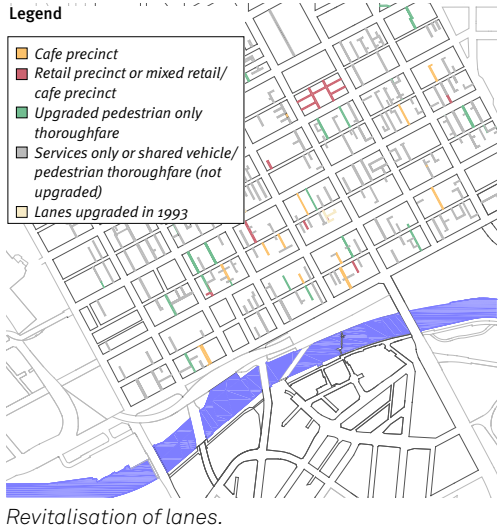
Humans are linear, frontal, horizontal mammals that walk at a maximum of 3 mph and have an eye level of approximately 5 feet. Human mobility and human senses should be the biological basis for how streets are designed.

Case Study

Opening the laneways Melbourne, Australia

Accessible and active laneways in Melbourne city centre have been increased from 300m (1994) to 3,43 km (2004). Of these, 500 m are completely new lanes or arcades, while the rest are existing, previously unaccessible service laneways that have been opened up with active facades, various functions and art installations. The lanes offer an alternate route through the city centre with a more human scale atmosphere. The opening of the lanes along with other investments in the public realm have contributed to a remarkable increase in public life in the centre of Melbourne, documented in the public space-public life surveys in 1994 and 2004 respectively.

Previously unaccessible laneways. . . *. . .transformed into human scale, active routes through the city centre.*



Revitalisation of lanes.

Nightlife at Hardware Lane.

Lanes used for art installations.

Case Study

Bo 01, Malmo, Sweden

The designers of Bo01, a recent community development in Malmo, Sweden, laid out the development on a short and irregular 60 meter by 60 meter grid of well differentiated streets that are highly accessible and user friendly to pedestrians and cyclists. They further enhanced the diversity and variation of the architecture and the public space by breaking down the 60 meter blocks into small plots all allocated to different developers. The blocks were designed to protect the streets and plazas from the strong prevailing winds and open them up to sunlight as much as possible, thereby creating microclimates able to sustain a vital public life even during cold weather. A range of green building systems, including rainwater collection and rigorous building insulation further elevated the environmental sustainability standards set for the development.

Bo01 is testament to the ability of urban planning to create developments that respond to local conditions. They can be perfectly scaled to the needs of pedestrians, and they can offer a diversity of spaces and architectural details as stimulating and intriguing as those more usually associated with pre-modern city designs.

The new area has become a meeting place for all inhabitants, a place where anything can happen.

Aerial view of Bo01 development.

Narrow, short, zig-zag streets and small squares create a varied streetscape suitable for walking.

10 Make it last!

Build for the long term

Sustainable cities bridge generations. They are memorable, malleable, built from quality materials, and well maintained.

Memorable-most of the great streets and plazas in the world were built to last and it shows. They are part of the public's image of the city and evoke the past.

Malleable–cities that adapt survive. Just like a good building, cities grow and expand to accommodate current demands. The best streets and spaces evolve; they are constantly repurposed, yet the structure remains.

Materials–the use of high quality, sustainable materials bestows a sense of pride to a place.

Maintenance–cities that are well maintained attract investment, both personal and financial. Keeping the place up is an expression of ownership that begets higher values. Local management groups, citizens bridgades, people shoveling snow all contribute. Instead of allowing deterioration, sustainable communities fix it first.

Quality of materials, design and production

The use of high quality, sustainable materials bestows a sense of pride to a place, marking its importance. Hamburg, Germany.

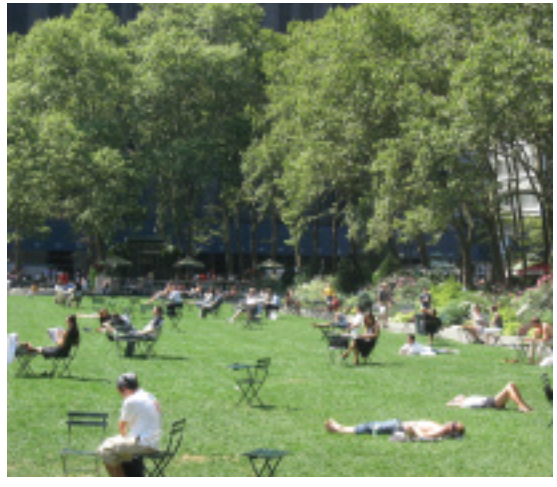
High quality materials ensure resilience despite rigorous use. Berlin, Germany.

Robustness and re-use

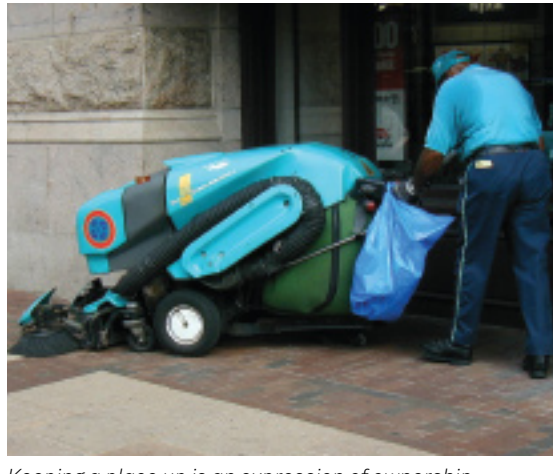
Needs may change, but a robust design can accommodate change. Paris, France.

Re-use of old building—former industrial building retrofitted to attractive office space. London, UK.

Taking care-maintain and manage



The Bryant Park Corporation engages the local community to act as a steward of this public park. Bryant Park, New York, USA.



Keeping a place up is an expression of ownership that begets higher values. Philadelphia, USA.

Memorable and inspirational

Most of the great streets and plazas in the world were built to last and it shows. They are part of the public's image of the city and evoke the past. El Zócalo, Mexico City, Mexico.

The Lyon river waterfront was recently redesigned to encourage interaction-both between people and with the water.

What does it mean *for the planet:*

Investing in quality of design and materials will pay off in the long run. A life cycle assessment helps to show the environmental impact on the whole life of a building, not just the production.

for you:

Is this cinderblock big block megastore the sort of building I want to see my grandkids grow up around?

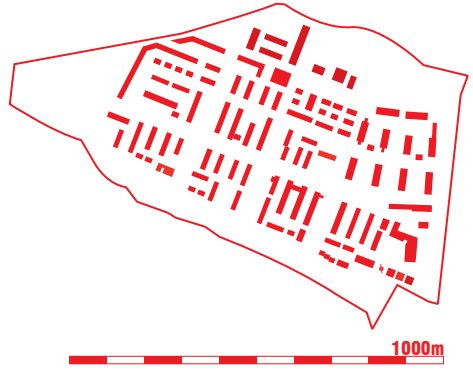
Case Study

Vauban-Freiburg Small solutions to big problems

Once a military area occupied by the French, it was abandoned after German reunification. In 1992 it was bought by the City of Freiburg which decided to develop a new urban district. In 1994, an urban planning competition for Vauan was carried out. At the same time, different groups of committed citizens started taking an interest in the area.

Finished in 2006, Vauban is now a sustainable city with 5,500 residents and 600 workplaces. Through extended participatory processes, Freiburg created an urban district of high ecological standards where the residents had a strong influence on the design of the neighbourhood.

A close-knit community providing a social network.



Plan of Vauban

Aerial view of Vauban.

Direct involvment by the inhabitants in the design process contributed to a human scale environment.

Case Study

The High Line, New York

The High Line, a public park in New York City, was formerly an elevated rail structure used to transport goods to the factories and warehouses of the West Side. The project captured attention nationally long before it opened in 2009, helping to contribute to the revitalization of the Meat Packing District.

The first section opened in 2009. The project was headed by the Friends of the Highline, a non-profit partner to the New York City Department of Parks and Recreation. The organization, a bottom-up initiative headed by citizens, is responsible for maintenance of the park and provides over 70 percent of its annual budget. Section two of the High Line, which will expand the park to its full 1.5 mile length, is projected to be completed in 2011.

Projects like the High Line exemplify the 21st Century trend of focusing on usable landmarks to improve the quality of urban public life, rather than iconic monuments. The park provides a unique public space that expands over the city's bustling streets, giving individuals the opportunity to experience New York City in a new way.

A concrete pathway spans the length of the High Line, providing an interesting walking experience, as well as new views of the city.

Both stationary and movable seating gives chances for rest and observation.

More intimate niches are integrated throughout the High Line.

Summary

Example group 2

1. Walk the Walk!	1.1 Invite people to walk everywhere in the city	1.2 Invite people to linger
2. Powered by People!	2.1 Make cycling convenient	2.2 Make cycling safe
3. Get on the Bus!	3.1 Focus on the passenger	3.2 Promote convenient, cost effective solutions
4. Cruise Control!	4.1 Slow down-increase space and safety for people	4.2 Balance access with opportunities to linger
5. Deliver the Goods!	5.1 Going the last mile	5.2 Regulate for results
6. Mix It Up!	6.1 Foster a fine-grain mix of uses in the three dimensions	6.2 Keep ground-floors active where people walk
7. Fill It In!	7.1 Build density around transit nodes	7.2 Revitalize the existing before building new
8. Get Real!	8.1 Embrace diversity and enhance social networks	8.2 Protect cultural assets
9. Connect the Blocks!	9.1 Protect fine grain environments	9.2 Make new city blocks short and easy to walk
10. Make It Last!	10.1 Quality of materials, design and production	10.2 Robustness and re-use

Example group 1

1.3 Connect important destinations in a network	
2.3 Make cycling fun	
3.3 Make it flexible and responsive	3.4 Make it sensitive to the street environment
4.3 Get smart	4.4 Pay for the privilege
5.3 Manage the curb	5.4 Diversify deliveries
6.3 Allow for different activities in the public space	
7.3 Intensify the urban fabric by building in the gaps	
8.3 Rediscover neglected amenities	8.4 Reuse rather than redevelop
9.3 Save resources; build compact blocks	
10.3 Taking care-maintain and manage	10.4 Memorable and inspirational







our cities ourselves
THE FUTURE OF TRANSPORTATION IN URBAN LIFE

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