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Good Reasons

for street transformation
in neighborhoods



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 723375



METAMORPHOSIS
www.metamorphosis-project.eu



Metamorphosis is about transforming our neighbourhoods, with a focus on children. The concept starts from the premise that when a neighbourhood has many children in its public spaces, this is a major indicator that the place is well designed as a sustainable neighbourhood. The word sustainability itself is already inseparably combined with children, as it implies that it is designed for the future generations.

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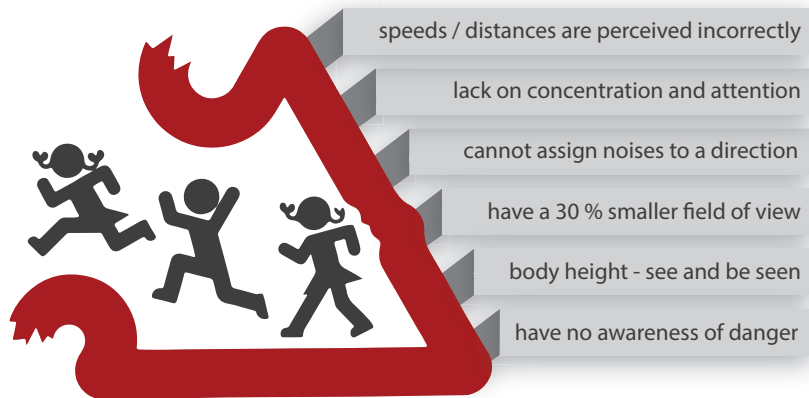
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Edition: April 2019

Cover/Graph: © Harry Schiffer

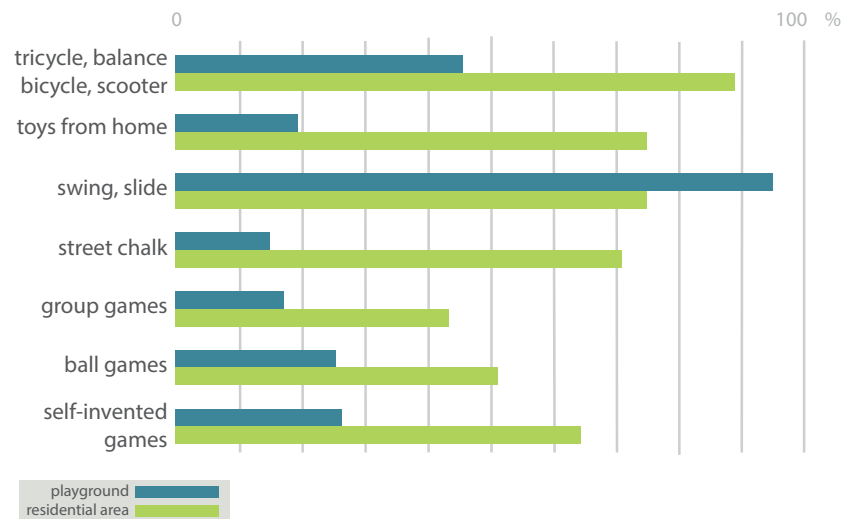
The concept of roads has been around for a long time, much longer than we have had cars. In the past, the space between the houses in our cities has been used for a variety of activities and purposes, including work, entertainment, communication, as a marketplace and for transport. Of course, our streets were also the perfect place for children to develop – to play, to argue, to fraternise, to grow up, and to become better adjusted to society. This has been the case for many centuries, but the situation changed radically over the last 60 years. The colourful multifunctionality of the street space became the monoculture of cars and other traffic, which is dominated by motor vehicles. The human city space has become a room full of combustion-energy machines. In this transition, children were left behind; like everything else that interfered with the free flow of motorised traffic, they were cleared out of the way. Instead, special reservations for children were built. We call them playgrounds! Because playing and lingering in their living environment was no longer possible. The street had become a hostile space, full of fear and danger, and it still is today. Children are even trained on how to survive in this environment. We call this traffic education! However, there are small glimmers of hope pointing to a way out of this motorised dead-end street. Step by step, 'living streets' make play on the street possible again, parklets (converted parking lots) turn machine compounds into friendly communication spaces, and school environments can be freed from car traffic and returned to children. These are just some examples, and this brochure will tell you about the 20 good reasons for giving back the street space to people, and above all to children!

Children in road traffic



Source: Verkehrsclub Österreich VCO (1991)
Graph: FGM-AMOR (2019)

Where and what do children prefer to play?



Source: Hüttenmoser M. (2004)
Graph: FGM-AMOR (2019)

01 Children are not smaller versions of adults

Do you want child-friendly traffic or a traffic-friendly child?

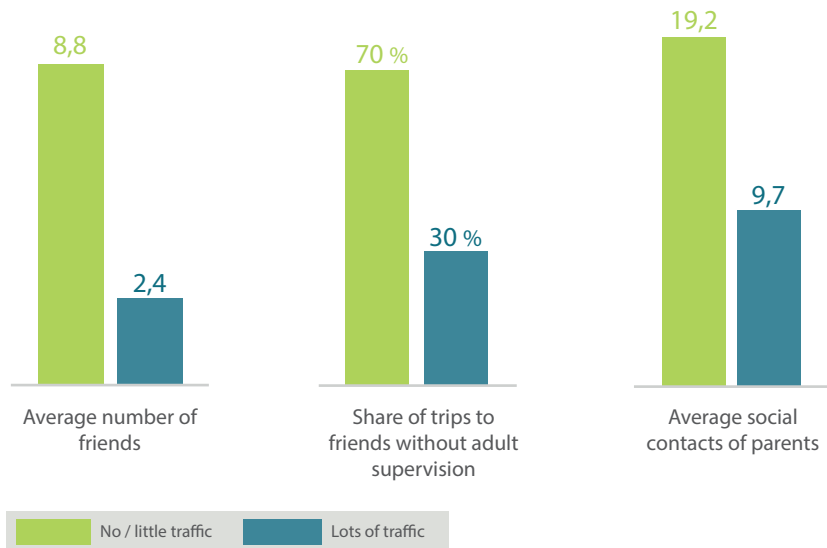
The visual perception and abilities of children are fundamentally different to those of adults. Especially in public space, where there is much to observe, with possibly too many things that children do not understand, cannot identify with or process. Designing child-friendly spaces around children, however, takes their needs and abilities into account, and offer the necessary open spaces, traffic-calmed areas, as well as school- and residential streets in order for them to play, socialise, grow and develop.

02 Helping children to develop

Children are more creative in their habits close to their home

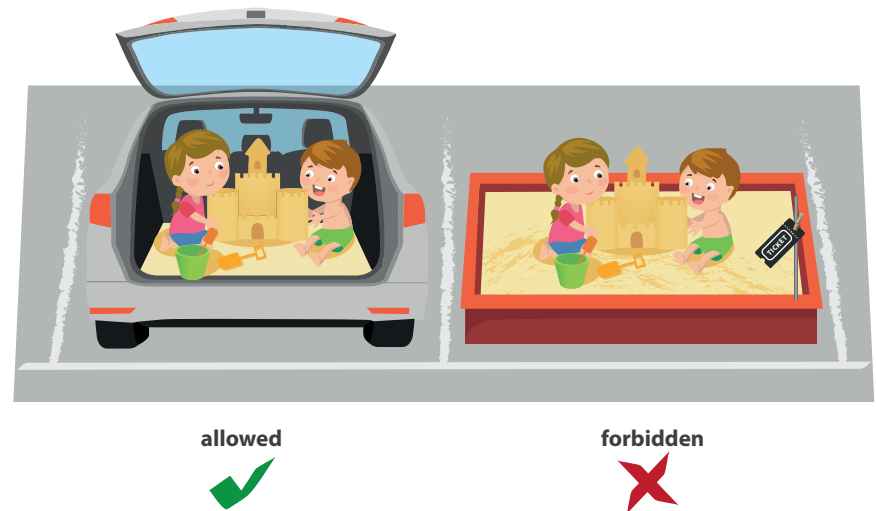
Play is essential for the healthy development of children, but space for this aspect of development must also be reachable. It is crucial that children deal with their environment independently and unsupervised and learn how to perceive and manage risk. The focus should be therefore on creating opportunities for children to move around and play in the streets close to their homes, and to make it safe. The city of Freiburg (DE) is an outstanding example of this, with the increased designation of 'liveable streets' and conversion of residential streets to traffic-calmed ones.

Neighbourhood contacts of 5-year-olds and their parents



Source: Hüttenmoser M.; Sautner D. (2002)
Graph: FGM-AMOR (2019)

Limitations of access and opportunities



Graph: © FGM-AMOR (2019)

03 Less traffic = more friends

Permanent traffic calming has a positive effect on people's social connections

Research has shown that children can grow up mainly within their own four walls, because their parents are too afraid of the dangers that road traffic poses. In these cases, children's independent movement is restricted, and their opportunities to make new friends are thus limited. However, the expansion of traffic-calmed areas not only leads to the healthier development of children into independent adults, but also helps adults to build up their own neighbourly connections.

04 Is it really public?

Public space must be open and accessible for everyone

Public space should be a common good that is equally accessible by all residents. However, a high amount of city street space is dedicated to motorised traffic currently. Indeed, when it comes to on-street parking, the space is reserved exclusively for car owners. Currently, for children to be allowed to use a parking space for playing, it would be necessary to do that in a parked car! Spatial justice would avoid allocating a function to space and to a specific group of road users and their interests. By rededicating the car parking spaces for random use and interactions, they should be accessible to everyone.

School street lessons (Odense DK)

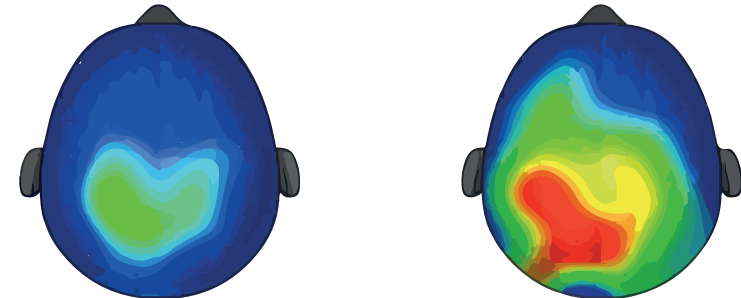


Source/Graph: cycling-embassy.dk (2010)

Brain activity during a test

After 20 minutes of quiet sitting

After 20 minutes of walking



Blue = lower neuronal activity
Red = higher neuronal activity

Source: VCÖ (2017), Eltis (2017)
Graph: activelivingresearch.org (2015); FGM-AMOR (2019)

05 Other ways of learning

The street space around schools could be used as an outdoor classroom

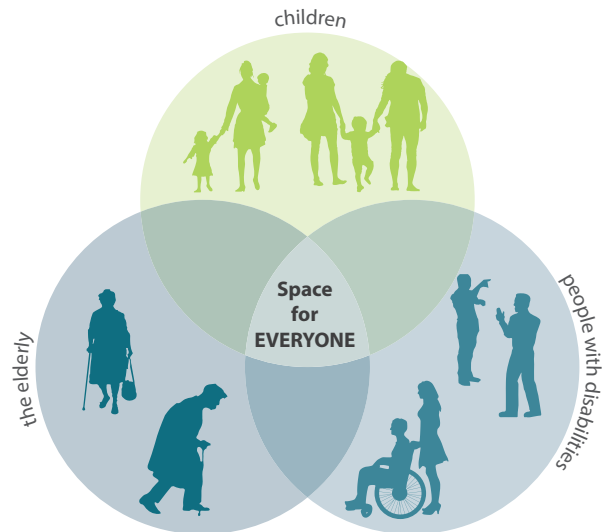
To benefit children, streets in front of schools and kindergartens can be used as additional playing areas and classrooms. The city of Odense, for example, closes the surrounding streets during school time. Students not only benefit from the improved space during their breaks, with additional options for physical activities and inspiring games, but teaching content such as mathematics is also taught there in the form of movement games. The Austrian city of Bregenz is also following this example by implementing street closures on school streets wherever it is possible from 7.15 a.m. to 5.00 p.m.

06 Be active for more brainpower

Walking or cycling to school results in improved school performance

It is well known that physical activity increases cognitive and brain function in people. Indeed, the experience from Bolzano (IT) suggests that small, selective investments in the form of 15-minute road closures before and after the start of lessons lead to an increase of almost 80% in children walking and cycling, and 45% of primary school children actively go to school on their own. As a result, they also show an improvement in performance and general well-being at school.

Basics of space for everyone



Graph: © FGM-AMOR (2019)

Strong neighbourhoods through street festivals (Seestadt Aspern, AT)



Graph: © nikohavranek.com (2018)

07 The multifunctional city

Cities that focus on multifunctional elements offer every resident the same chance to enjoy the city

A city that has attractive, multifunctional elements and enough seating to linger and relax, attract people back onto the streets. An improvement in the quality of the street space contributes to the functioning social environment especially of children, senior citizens and people with disabilities. The city of Griesheim in Germany offered spatial design and objects that are not only suitable for sitting and playing, but also as a meeting and gathering point, and a place to participate in the municipal cinema.

08 Temporary 'street openings'

Temporary street closures enlarge the area that people regard as their 'neighbourhood'

The concept of 'place' is built on interpersonal relationships, the creation of a common identity, and a sense of belonging – and spaces provided for people reveal a welcoming environment for the development of a neighbourhood. Street festivals, guided walks/ marathons or car-free days can raise awareness of how we use public space, and its further potential. In Paris, Brussels or Copenhagen, for example, streets are already open to the public during annual car free days. The City of Bogotá tops that with car free days every Sunday and public holidays from 7.00 a.m. to 2.00 p.m.

Community gardening as a 'crystallisation points' (Graz AT)



Graph: © bergschaf (2018)

'Parklets' fill places with life (Vienna AT)



Graph: © Hinterland / Krongarten Wien (2013)

09 Crystallisation points

Social meeting points offer a variety of advantages in a neighbourhood community

'Crystallisation points' lead to a community spirit, as results of common efforts and goals, trust, mutual support and investment in a common space. For example, community gardens not only enliven the neighbourhood, but also provide enjoyment of contact with nature, regular physical activity and reduction of stress which are beneficial to the health of residents. In addition, city gardens can give people the opportunity to overcome social barriers and get to know their neighbourhood.

10 Pleasure in parking

A parklet turns the street into a meeting point

Public Parking spaces can be transformed into a public space for people to (re)activate streets, to create more vibrant neighbourhoods, and to promote economic vitality. Parklets are transformed former parking spaces which typically are created by building a platform as extension of the pavement, and by furnishing them for instance with benches or plants. When parking spaces become places that are accessible by everyone, the quality of life within a city neighbourhood improves greatly.

Feeling at home in the Hybrid Zone



Graph: © Hertha Hurnaus / feld72 Wien (2018)

Natural surveillance (Copenhagen DK)



Graph: © Stan Petersen (2017)

11 Reactivate the ground floor

Pedestrian-orientation enlivens the ground floors of the city

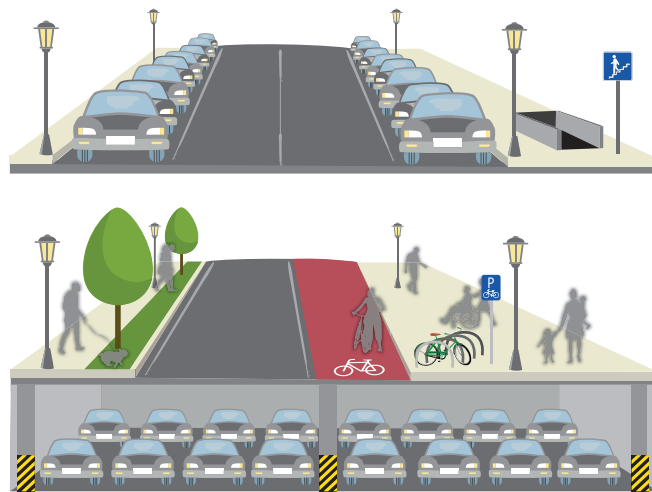
'Hybrid zones' are areas where public space meets private space, where households, jobs, shops and civic buildings touch local streets, parks and squares. These ground floor zones shape the image of urban life, and fulfil important social functions. They are the areas in which we linger, shop and spend our leisure time – at least that's how it was many years ago. A good neighbourhood is one in which the ground floor areas of the building interact with the surrounding public spaces, and offer flexible everyday use as well as enough space for people to meet comfortably.

12 Eyes on the street

A thriving urban centre makes people feel safe and secure in public spaces, despite being among complete strangers

People who walk through the city, cycle and spend time in public spaces create a sense of security – by having many eyes on the street. However, to achieve this, it is necessary to balance the needs of all users. The design of open or ground floor areas, the ability of people in buildings to observe street life, and well-defined routes and clear sightlines (day and night) ensure the quality of public spaces and their ability to attract people onto the street. The promotion of walking in particular increases the activity, liveliness, social interaction and 'natural surveillance' in public places – and reduces the risk of crime.

Historical compromise in Zürich (CH)



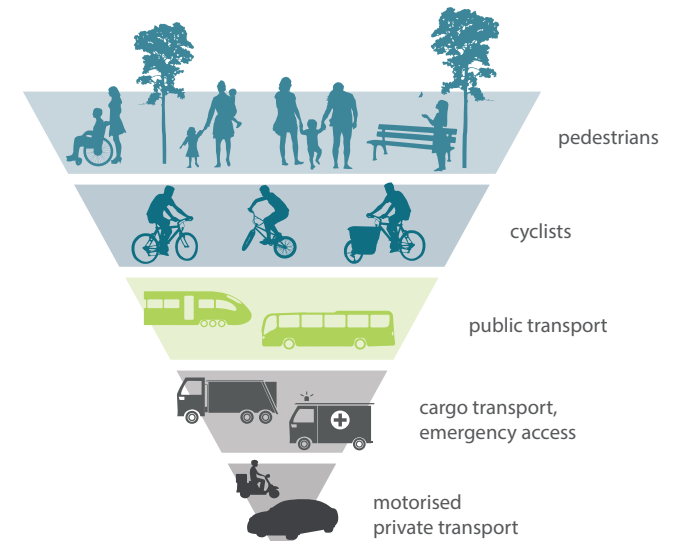
Graph: © FGM-AMOR (2019)

13 Do more with less!

For every underground parking space built, the City of Zurich transformed one on-street

In almost all cities, there is a perpetual discussion about the shortage of parking spaces. Contrary to this, there is the well-known rule: that more lanes, and more parking spaces also attract more traffic. The City of Zurich has demonstrated that this is not necessarily the case. The policy of historical compromise states that the number of parking spaces is fixed with the amount available in 1990. Whenever a new underground parking space is offered a on-street parking space must be removed. This strategy led step-by-step to more public space being devoted for other use.

Priorities in road planning



Source: Schnaitl E. (fairkehr); Tschinder S. (Stadt Salzburg) (2013)
Graph: © FGM-AMOR (2019)

14 Prioritising Space between buildings

Gain more quality of life through intelligent planning

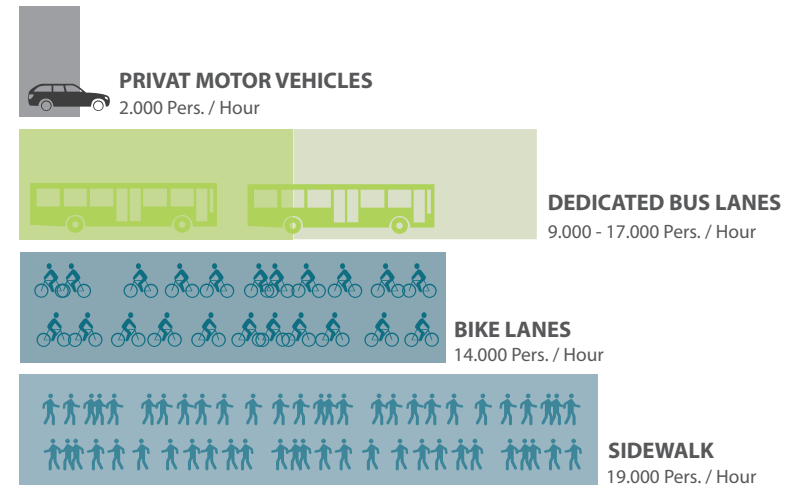
The distribution of space between buildings must be privileged towards people. In particular, during the course of total street renovations, there is an opportunity to strive for better streets that are worth living in. At the top of the priority list must be people, and a more attractive design of their physical environment. This not only creates enough space, but also makes the otherwise dull and grey streets a pleasure for the 'eyes and soul'.

Redesign of Slovenska Main Steet (Ljubljana SLO)



Graph: urb-i.com - Urban Ideas / google streetview (2013); planet.si (2015)

Maximum capacity of a 3m wide lane



Source: FSV, RVS 03.04.12; SUP u.a. (2008); UITP (2015), GIZ, TU Delft
Graph: © UITP 2015, GIZ, TU Delft; FGM-AMOR (2019)

15 It pays to think big

Courage to act and letting go of old habits creates spaces for new possibilities

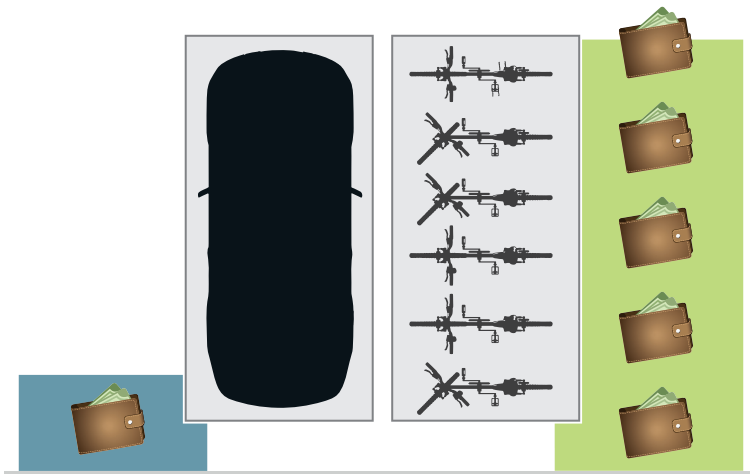
Adapting new ways of thinking increase urban quality of life. A reduction in emissions and the relief of congestion, as well as an increase in the area available for local walking and cycling, are only some of the beneficial consequences. For example, the once four-lane Slovenska main street in Ljubljana, a relic of the car-friendly city of the past, has become a space that gives priority to pedestrians, cyclists and public transport. Trees and the absence of car traffic now characterises the cityscape and improves the environment for people and thus support the theory that disappearing car-traffic can be made possible.

16 The right road diet for space efficiency

Increase the overall street capacity by allocating space to more efficient and active travel modes

Our traffic systems are exposed to enormous stresses, especially during the peak hours at morning times. People want to go to work or take their children to school and kindergarten during these periods, but there are substantial costs involved. As an example, the external congestion costs in London are estimated to be about 7.9 billion pounds per year (INRIX 2018) and this challenge will grow, as the population of the City increases. However, investments in the infrastructure for walking and cycling encourage people to change their lifestyle and choose more active forms of travel instead in sitting in everyday traffic.

Space used by cyclists lead to more turnover per m²



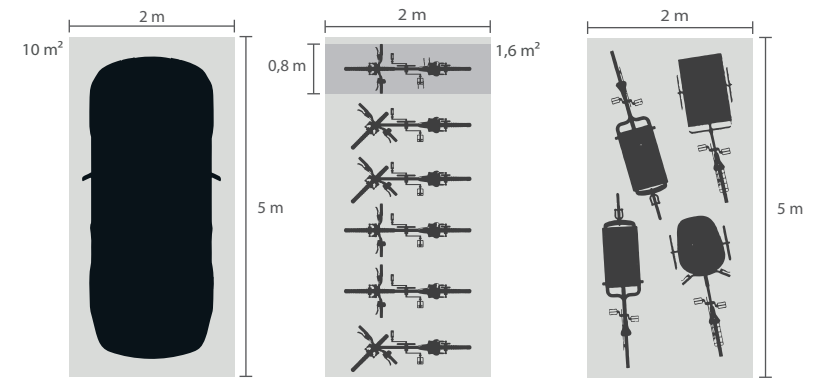
Source: BMLF 2010, tfl.gov.uk (2018)
Graph: © FGM-AMOR (2019)

17 Same space, more customers

One car user “wallet” need the same space as 5 cyclists “wallet”

Given a fixed area, the retail sector can achieve significantly higher turnover with bicycle and pedestrian customers (at full utilization) than motorists. How is this possible? Research shows that people who reach for their bicycles more often or walk are more frequent guests in shops close to the centre. Over the year, they spend up to 40 percent more than car customers. This means that they are not only the better customers but also ensure that purchasing power remains in the local area. Improvements in public space for cyclists, pedestrians and public transport can lead to an increase in turnover of up to 30 percent.

1 car = 6 bicycles



Values depend on the arrangement and situation on site.

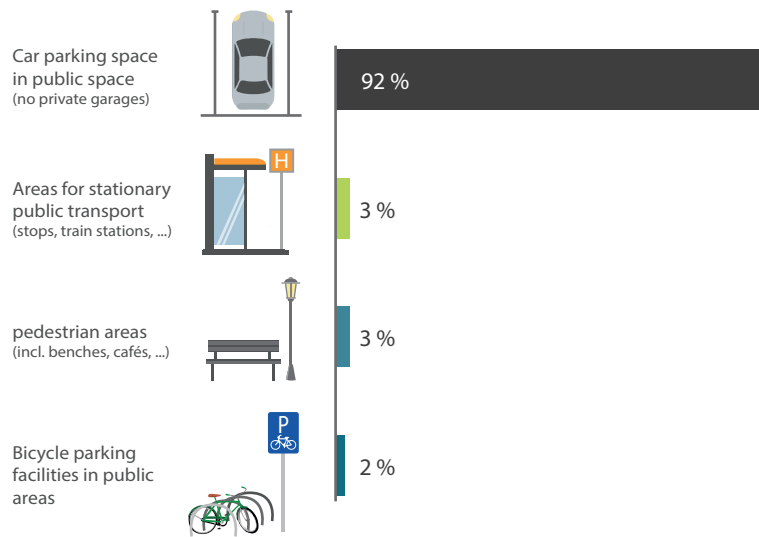
Source: BMVIT (2018), Stadtentwicklung Wien (2018)
Graph: FGM-AMOR (2019)

18 Fully exploit the potential of space

Cars are wasting space: where there is one car, there could be up to 9 bicycles

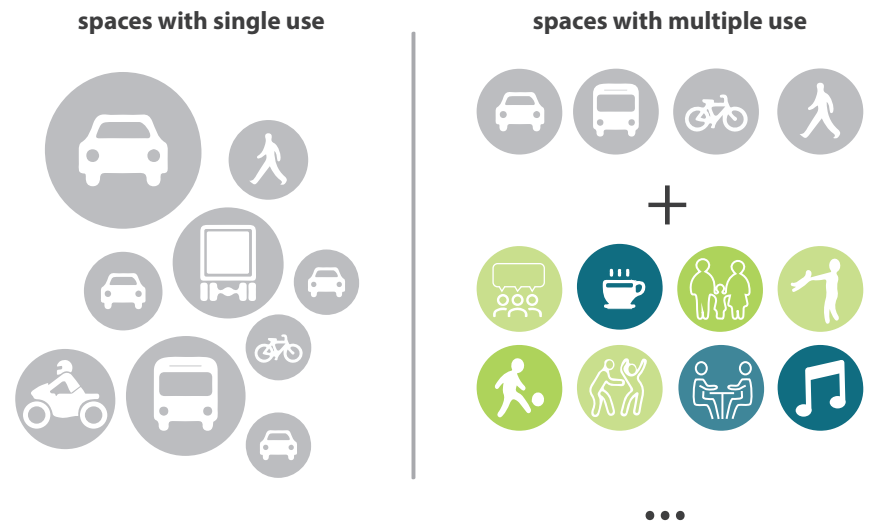
Cars need a lot of space, and they contribute to environmental pollution and traffic congestion. In addition, parking spaces are expensive. A bicycle takes up much less space than a car. Furthermore, space-saving systems can be set up by handlebar height or front wheel overlap of the bicycles. Depending on the arrangement and situation on site, between 6 and 9 bicycles can be parked in a single parking space. Even with bigger bikes, despite the increased space requirement, it is still possible to park between 3 and 4 cargo bikes onto one parking space.

Spatial distribution of stationary traffic (Graz AT)



Source: Holding Graz, Parkraumreferat (2016)
Graph: © FGM-AMOR (2019)

Monoculture versus Diversity



Graph: © FGM-AMOR (2019)

19 Is that fair? Cars get preferential treatment in public space

In many cities, planning and design is geared towards cars. But cars need space – not only for driving, also for parking. Many people perceive owning a car automatically entitles them to a public parking space. However, on average, a car is parked for 162 hours a week and only six hours are spent being used on the road. This is not fair, and a reduction in stationary motor vehicle traffic would not only have a lasting effect on the choice of means of transport, but also make room for people to use the space more effectively, for example to socialise, rest or play.

20 Streets for people Cities are not only functional, but they should also be liveable

Finally, public spaces provide us with the opportunity to meet other people. The challenge is to transform streets into liveable, open and diverse spaces for everyone. With 'walking trees', the city of Munich is setting an example for urban greening and enriching the street space with temporary mobile trees. Also, the introduction of shared spaces, home zones or school streets contributes to a more balanced distribution of the urban space. Temporary trials, or testing of different urban settings, opens our streets to multiple uses, and give people the opportunity to rediscover their neighbourhoods – and make our streets worth living in.

Created as part of the EU project “Metamorphosis”
supported by the European Commission.

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