

NEW MOBILITY AND URBAN SPACE

HOW CAN CITIES ADAPT?

MARCH | 2020

INTRODUCTION

The urban landscape has evolved throughout history in response to social, economic and environmental changes. Today, climate change and health issues due to poor air quality are major concerns. With urban areas responsible for 70% of global carbon dioxide emissions, it has pushed cities to rethink the way mobility is organised. Initiatives have been taken to discourage individual car use, offering a greater role to public transport, regaining space from cars and providing infrastructures for active mobility. The digital revolution has brought radical changes to our economies, freight and passenger mobility travel behaviours, and encouraged new actors to enter the mobility market. Their introduction affects cities' mobility management and impacts the urban streetscape. Cities have to adapt and find solutions to integrate these new mobility services in an efficient and sustainable way. In line with UN Sustainable Goal 11, the aim of this paper is to understand the impacts of new mobility services on the urban streetscape and how cities can remain inclusive, safe and resilient.

CREATING CITIES OF THE FUTURE NOW

URBAN GROWTH AND CHANGES IN LIFE STYLES

Mobility is a city's essential tool in providing access to employment, education, goods and services. More than half the world's population are already living in urban areas¹, and this is predicted to reach 70% by 2050. Global passenger transport activity (passenger-km) will consequently double², putting more pressure on mobility services. With the unprecedented rate of our ageing populations, and the inflow of young people attracted to these urban centres, the demographic changes are affecting mobility needs. These growing segments within the urban population are looking for accessible, safe and personalised transport.



• 1. UN Habitat, 2016. *World cities report*. • 2. In OECD countries

At the same time, customer expectations and public transport use are changing as travel patterns linked to employment are evolving. In developed countries, flexible work contracts and increasing non-commuting trips pushes public transport systems to reorganise schedules and transport offers. Behavioural changes, development of mobile information and the rise of the sharing economy and e-commerce encourages the progression of new forms of mobility services. This forces cities to rethink their mobility management and to plan ahead.

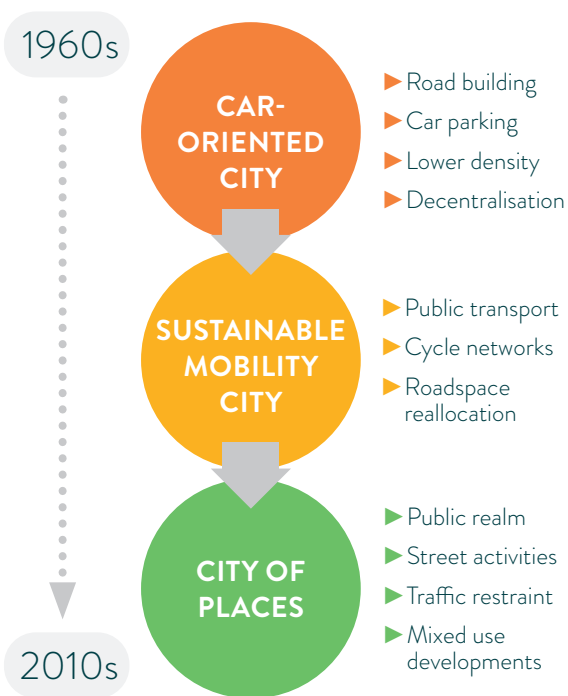
PEOPLE-CENTRIC CITIES

From walking to horse drawn carts, to tramways and private vehicles, our choices of transport has historically dominated the way our cities have been shaped. From the 1960s onwards, space was increasingly given to cars. The shape of the city transformed itself, expanding to the outskirts and taking spaces used for public transport and walking to accommodate cars. The fast growth and speed of traffic was no longer compatible with the active modes, putting pedestrians and cyclists in danger and creating urban sprawl. The demand for car transport became the main driver of urban development, resulting in negative impacts on the environment and people's health. According to the World Health Organisation (WHO), more than 90% of the world's children breathe toxic air every day. In order to reverse this car dependence, authorities need to actively provide alternatives for citizens and attract investments in high capacity, quality transport.

Today, as cities grow and vehicle traffic continues to increase, cities are trying to regain space for citizens. Authorities are acknowledging the significance of street life as the motor of society. It benefits the economy and places citizens at the heart of city planning³.

THE HEALTHY STREET APPROACH IN LONDON

The Mayor of London and Transport for London are taking the Healthy Street Approach to encourage people to walk, cycle or use public transport to travel around London. The objective is for 80% of all trips to be made by walking, cycling and public transport by 2025.



Source: MORE, 2019

To reduce car use, cities need to deliver alternatives to citizens, and attract investments in high capacity and quality transport. The aim is to increase the number of people transported efficiently and sustainably. For this, cities need to build infrastructure to maximize accessibility.

The success of pedestrian areas in many cities worldwide demonstrates the positive impact they have on the urban realm. Cities with developed walking and cycling infrastructure have evidenced the positive effect they have on the urban realm⁴, and that increasing the quantity of people moving does not necessarily mean using additional space. Reducing land dedicated to roads and parking preserves open spaces and enhances cities' attractiveness for both citizens and businesses, positively impacting the local economy⁵.

• 3. UITP, 2018, *Integrating Mobility Health Impact in Decision Making*, Policy Brief. Available here: www.uitp.org/integrating-mobility-health-impact-decision-making ; EU Commission DG Environment, 2004. *Reclaiming city streets for people. Chaos or quality of life?* • 4. UITP, 2017, *Ensuring optimum accessibility of pedestrian zones*, Policy Brief. Available here: www.uitp.org/ensuring-optimum-accessibility-pedestrian-zones ; New London Architecture Research, 2019. *Future Streets*. • 5. UITP, 2019, *Public Transport as an Instrument for Urban Regeneration*, Policy Brief. Available here: <http://www.uitp.org/public-transport-instrument-urban-regeneration>

DECARBONISATION

In 2018, scientists at the United Nations Climate Change Conference (UNCCC) warned that transport is the only sector with globally increasing greenhouse gas emissions. With transport responsible for about 40% of carbon dioxide emissions⁶, cities across the world are implementing initiatives to improve the situation. Oslo aims to reduce CO₂ emissions linked to transport by 95% by 2030, allowing only emission-free vehicles in the city. Singapore's Land Transport Authority (LTA) is leading an integrated public transport policy structured around the rail and the bus system. The target is for 75% of trips during peak hours to be made by public transport. Paris wants to be a 100% bikeable city by 2020, ban diesel vehicles by 2024 and petrol by 2030. For such major changes, strong political support and will is imperative.

SPACE SCARCITY: WE NEED EFFICIENT USES OF SPACE

Parking space management

Space dedicated to mobility in cities is huge and not all modes are equal in terms of space requirements and access. Cars require a huge amount of space to move and park. **It is estimated that an average 10 bikes can fit in one car parking space.**

Source: KIM Netherlands, 2018



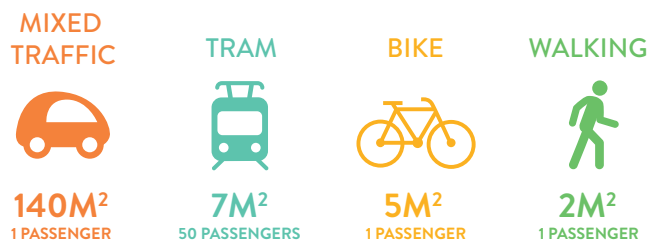
While many cities have traditionally imposed parking space requirements for real estate developments, more cities are limiting the number of cars and therefore reversing these regulations to parking maximums, or withdrawing the obligations. It is hard to estimate the average amount of land dedicated to parking in cities but in Los Angeles, the equivalent of 1,400 football fields of land is dedicated to parking cars. The city of Amsterdam is already gradually removing 11,200 parking spaces from the centre to make way for cyclists and pedestrians. **As cars are parked 95% of their time**, this represents a huge amount of space that can be used for other purposes.



Introducing automated vehicles could mean more people moving from car ownership to sharing vehicles. This could reduce parking needs, and instead require spaces for charging and pick-up and drop-off zones.

Travel space per mode

Mobility in cities is either individual (walking, cycling, micromobility and driving) or collective (mass public transport and shared mobility). By comparing different modes, cars are incredibly inefficient in terms of space needed for moving and parking.



Source: KIM Netherlands, 2018

Despite this, cars are dedicated significant amounts of space. In Paris, 50% of the public space is dedicated to motorised transport, and yet the car is used for only 13% of trips⁷. The city government wants to reduce this space to 30% but has to find solutions to maintain the necessary space for buses and shared trips. If cities manage to reduce the space allocated to cars, they will enable sustainable modes to run efficiently and can allocate more land for green spaces, dedicated lanes for mass public transport, and better cycling and walking infrastructures. With new players, such as shared (e-)bikes, (e-)scooters, (e-)mopeds and ride-hailing systems, additional pressure is put on the urban streetscape, challenging cities to accommodate them which in returns creates sustainable solutions.

• 6. Transport accounts for about 23% of global carbon dioxide emissions in 2010 and 27% of end-use energy emissions with urban transport accounting for about 40% of end-use energy consumption (IPCC, 2014). • 7. Breteau, P. 2016. A Paris, la moitié de l'espace public est réservée à l'automobile. Le Monde.

NEW MOBILITY PLAYERS⁸

RIDE-HAILING



App-based platform / provider which matches customer demand with drivers. Also called Transportation Network Companies (TNC), For Hire Vehicles (FHV) or ride-sourcing.

Spatial needs: Space for pick-up and drop-off.

CAR-SHARING



Car-sharing (“car clubs” in the UK) enables its members to use a vast fleet of different vehicles with 24/7 access.

Spatial needs: Station-based car-sharing requires dedicated parking spaces. Free-floating cars are parked on public parking spaces within certain business areas.

SHARED E-SCOOTERS AND MOPEDS



A fleet of electric scooters or mopeds that can be localised and unlocked through an app, typically operated in a determined business area in free-floating service.

Spatial needs: Public space. Some cities have installed parking zones.

SHARED (E-)BIKES



A fleet of bikes with or without electric assistance. Accessed through an app or at stations with a ticketing system. The system can be either docked or dockless.

Spatial needs: Docked systems need dedicated spaces for their stations. Dockless bikes are parked on public spaces.

FREIGHT TRANSPORT



Delivery of goods to customers.

Spatial needs: Regular pick-up and drop-off activities. Space required can range from bike delivery services to cargo vehicles.

OPPORTUNITIES AND CHALLENGES OF NEW MOBILITY SERVICES

These new forms of mobility services are increasingly deployed in cities where congestion and traffic is already high. They offer the opportunity to reduce private car trips and ownership by providing diverse options to move around. There are multiple new mobility services and so it is important to look at each service separately to understand how it is used and the impact it has.

Free floating bikes and e-scooters are flexible and use little urban space compared to private cars. Bike-sharing encourages active, healthy and zero-emission mobility. However, if they are not managed and regulated appropriately, they could replace trips that would otherwise have been made by foot or by public transport. This also poses challenges in terms of safety as lack of regulation risks cluttering on the public realm.

Car-sharing ensures access to a car anytime without having to own one, shifting the focus towards a more rationalised car-usage approach. **One shared car replaces 5-15 privately-owned cars.** This helps to reduce the number of cars on roads and free up parking spaces. Numerous customer surveys have shown that, after joining a car-sharing scheme, users walk, cycle and use public transport more often than before. Clients also state that joining the scheme prompted them to sell their car or refrain from buying a new one.



Recent studies carried out in the US on **ride-hailing** indicate that this service contributes to increasing city centre traffic. In San Francisco, the two main ride-hailing companies account for 15% of all vehicles trips⁹, and a third of ride-hailing services occurs without any passengers on board (up to 50% in New York)¹⁰. It is also estimated that 40-60% of ride-hailing trips in the US substitute public transport, walking or cycling. Additionally, pick-ups and drop-offs disturb overall traffic flow because of the lack of dedicated infrastructure. However, regulated or shared ride-hailing services can play a role in traffic reduction and contribute to car-free living.

• 8. This Brief does not include automated vehicles and drones as they represent a topic on their own. They are addressed by UITP's research project, SPACE: www.space.uitp.org
• 9. Erhardt et al., 2019. *Do transportation companies increase or decrease congestion?* • 10. Schaller, 2018. *The new automobility.*

Opportunities for services vary depending on whether they are **deployed in urban or peripheral areas**. In city centres, where trips are shorter, the potential is in reducing of the number of private vehicles and cutting space consumption, congestion and emissions. While in peripheral or lower density areas, the potential lies in first and last-mile trips, or as substitutes to public transport where demand is very low. Shared (e-)bikes and (e-)scooters can replace cars for medium distances, provided they have adequate infrastructure, such as dedicated lanes.

IS THERE A NEED FOR PARKING?

The Helsinki region carried out a study on the potential impact that mobility changes will have on parking spaces in the city for housing, offices and commercial services. In the case of a versatile urban structure where there is good public transport and cycling is popular, where both the cost of driving and parking have increased, and where new transport services have made a breakthrough, the study found that the need for parking spaces can go down by 70% for housing and 30% for shopping and business areas.



New mobility services represent an opportunity for cities to regain urban space, improve the urban streetscape, reduce congestion, improve air quality and contribute to creating more dynamic and attractive cities, where active modes and public transport form the backbone of the mobility system. But only if all current new mobility services are well managed, regulated, deployed in the right place with the appropriate street infrastructure and well integrated both physically and digitally with other modes. Together new mobility services and public transport offer a complete mobility solution and a real alternative to car ownership.

PRIORITISING INFRASTRUCTURAL NEEDS

When rethinking the streetscape it is important to align the allocation of the space with the mobility policy in place and develop a sort of hierarchy amongst the different modes to ensure sustainability goals are reached.

Below outlines the space needed in the city for each mode, showing what can be prioritised based on a city's infrastructure.

WIDE/ACCESSIBLE PAVEMENTS



Pedestrians

DEDICATED/PROTECTED LANES



Mass public transport, bikes, shared bikes, e-scooters, ride-hailing services

KERB ACCESS



Mass public transport, ride-hailing services, freight and goods delivery

PICK-UP/DROP-OFF AREAS



Ride-hailing services, freight and goods delivery

SPACE FOR PARKING



Bikes, free-floating shared bikes/e-scooters

DEDICATED PARKING



Car-sharing, docked shared bikes

ACCESS TO STATIONS AND STOPS



Mass public transport, pedestrians, bikes, shared bikes, e-scooters, car-sharing, ride-hailing services, freight and goods delivery

WHAT DOES THIS MEAN FOR URBAN SPACE?

Space is a rare commodity and there is strong competition for claiming land to build infrastructure. For this reason, the easiest way to expand is through urban sprawl. Recognising this as an unsustainable model for future development, cities have increasingly implemented strategies that support densification and public transport-oriented development in the last 20 years. This has strengthened the relation between land use and public transport networks.

The question now is whether the arrival of new mobility services will enhance the more sustainable city model, and what measures need to be put in place. As these services will initially put additional pressure on the streetscape, new conflicts will appear. However, their growing importance should be considered in urban planning, even if this means redefining the urban space.

SPACE AVAILABILITY

The challenge of space availability is critical in very dense and economically active areas, where available land is scarce and competition to access it is high. This competition also happens on the level of the kerb. It is therefore necessary to understand the purpose of the street (residential, commercial or mixed-used area), differentiate the various needs and understand how new mobility services impact the space, so as to make appropriate use of street space. Although it is expected that with the falling numbers of cars cities will regain land, it is rather unsure whether traffic will decrease due to the growing number of shared trips.

Mode prioritisation

Urban space management has evolved from a local approach, with projects dedicated to specific areas, to a vision which encompasses the city as a whole, such as Sustainable Urban Mobility Plans and Transit Oriented Developments. With such development plans, mobility is managed and prioritised through space allocation and pricing, making way for measures to reduce cars. Examples include low emission zones, congestion charging, parking policies, traffic calming measures and street design.

With the arrival of new mobility services, cities need to decide which services to encourage, how to accommodate them and how to regulate them so that they complement public transport without adding more pressure

on roads or becoming safety hazards¹¹. To achieve their mobility vision, cities have to:

- Understand how each mode disrupts the mobility system.
- Prioritise modes.
- Manage providers' expectations.
- Redefine and reallocate the street space for safe multimodal traffic.
- Maintain and improve universal street accessibility. This means removing objects or vehicles that clutter pavements.



SO MUCH MORE THAN CARS

The EU project, MORE, is developing procedures for the design of busy urban corridors to accommodate current and future multi-modal and multi-functional requirements. The aim is to address problems such as congestion, noise, pollution, safety and security. The project particularly looks at infrastructure needs of road users (cyclists, pedestrians, public transport drivers and passengers, freight transport drivers). The research highlights the importance of safety as a common challenge and giving a high priority to public transport, cyclists, pedestrians and shared mobility infrastructures to improve traffic flow in a city¹².

• 11. UITP & ECF, 2017. Unlicensed dockless bike sharing. Position paper. Available here: www.uitp.org/unlicensed-dockless-bike-sharing.

• 12. For more information on the project: www.roadspace.eu

PEOPLE OVER TRAFFIC

Rotterdam's 2016-2030 Urban Traffic Plan set out an ambitious plan to redesign the city centre for pedestrians and cyclists with fewer vehicles in the city. The investment focuses on improving the public realm, investing in the public transport network, pavements, bicycle lanes and parking, and restricting street parking for cars. Priority is given to people rather than traffic.



Understanding the kerb

The kerb is the place between the street and the pavement, preventing cars from entering pedestrians' space.

It is used by vehicles, pedestrians, public transport passengers, cyclists, freight drivers, emergency assistance, rubbish collection, etc. It is a contested space with multiple interactions between all mobility actors who compete to access it. Ride-hailing systems, shared mobility and delivery services often need to access the kerb in busy areas. Their influence on the street design can be already seen, for example in North America, where some infrastructures have been adapted. Pilots are being carried out to improve traffic flow and service efficiency.

➤ Data collection and analysis

Understanding how the kerb is used is often too small scale for city governments. This knowledge might be in the hands of either the transport authority or the various city departments linked to street control, or different mobility actors. This makes it difficult for public planning authorities to get a good understanding of what is going on at the kerb level and how to improve the situation. However, large amounts of data are collected by the many providers to enhance their services. They are

able to provide information such as: travel activity, type of mobility demand, hot spots, travel patterns etc. Analysing and managing the data of these services, as well as parked vehicles, represents a great potential for cities. It can allow public authorities to take decisions and actions on streets management, rules, mode prioritisation and infrastructural needs. This would be beneficial for all mobility service providers as the kerb could then be adapted to their specific needs.

To prevent data being used solely for commercial purposes, it should be shared with the relevant authorities such as transport authorities or public planning departments, to enable and control monitoring, operating and planning of the transport network.

➤ Coding the kerb

To understand how space is used and users' requirements, it is important to code or digitalise the kerb. This means building "a common syntax for inventorying kerb assets, signifying rules relating to these spaces and monitoring their use to improve understanding and efficiently allocate kerb space"¹³. New technologies offer the possibility to put all the information relating to the kerb use in one single platform where information is gathered and shared. Being able to collect, share and analyse this information would mean better mobility planning and management, including informing all users on pricing, restriction times and parking slots. A good example of open and shared data management is SharedStreets¹⁴ which provides an open source software that collects data from new mobility services providers and turns them into open metrics that are accessible to all and free to use.



• 13. ITF & OECD. 2018. *The shared-used city: Managing the curb*. • 14. <https://sharedstreets.io>

POLICY FRAMEWORK FOR FLEX-USE ZONE

The city of Seattle created a policy framework which determines kerb use within the city according to the priorities fixed and the type of area (residential, commercial and mixed-use, industrial).



➤ The flexible kerb

Coding the kerb promotes flexible street management. The flexible or dynamic kerb refers to a kerb that allows cities to programme space, rules and prices to meet changing demands and priorities based on real-time availability detection, and communication. It could be opened or closed automatically to the different users.

With a flexible and dynamic kerb management, the use of the street can change its use and purpose throughout the day, adapting to demand and peak time needs. One way to implement a flexible kerb system is to invest in

technologies such as sensors, digital signs with real time information and dynamic pavements. However, a coherent and clear signage systems with streets mark ups can also be useful for smaller investments. Legal authorities, together with the service providers, will need to be involved for the coding, data management and regulations.

Regulating urban spaces

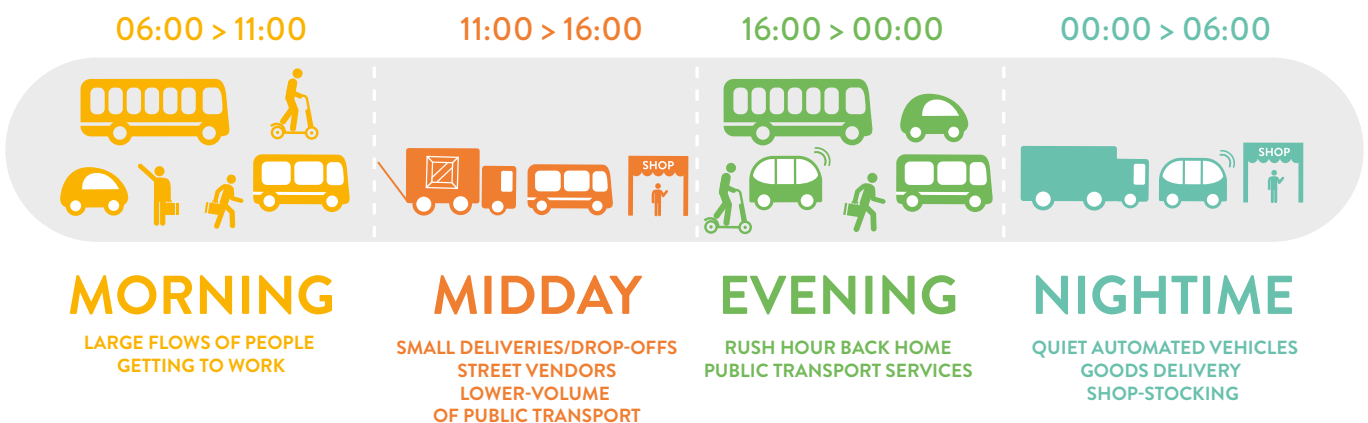
➤ Time and zone management

Studies have shown that around 30% of vehicles circulating on streets are looking for parking places¹⁵. This traffic participates in creating congestion and delays in the public transport services. A flexible time and zone management of on-street parking needs is an opportunity to minimise its impact with measures such as adjusting parking fees around the day, reducing parking spaces, fixing time limits, using real time information to inform users about the congestion, and managing access to restricted areas. Time and zone management is to be applied to all mobility modes with priorities given according to peak and off-peak hours such as prioritising mass public transport when demand is high and ensuring that the most efficient use of space is prioritised.

➤ Space identification and segregation

With the data coming from mobility services and their users, authorities and urban planners have to define the governance structure and regulations for operators to keep control over the deployment of shared mobility services and the streetscape, ensuring they comply with the city's mobility strategy. For instance, reserved lanes for public transport services, dedicated parking places and lanes for shared bikes or e-scooters, pick-up and drop-off zones for ride-hailing systems and delivery services should be created in a flexible and adaptable way so that services can run efficiently according to the demand and their needs.

DYNAMIC USE OF KERB SPACE OVER THE DAY



• 15. Dowling et al., 2017. How much urban traffic is searching for parking?

Source: NACTO

Going from a parking city to a pick-up and drop-off city may mean a loss in parking revenues. With this in mind, cities must assess the revenue impact from this shift, and evaluate the possibility of charging.

Cooperation between private and public sector

In order to adapt the street design to new mobility services, all stakeholders need to collaborate at the institutional level. This implies working across organisational boundaries, as both public and private actors must engage in a dialogue and coordinate to shape the city. City authorities may envisage creating a task force to manage the use of the kerb space in a flexible or dynamic way. In San Francisco, the local authority, SFMTA, created a kerb management team to provide citywide guidelines and solutions for traffic flow and parking challenges. For example, it provides a legal time frame for delivery services and drivers to stop in the district of Inner Sunset.

INTEGRATING INTO THE CITY

Switchh Points are physically and digitally integrated multimodal stations where users can easily switch from public transport systems to other mobility options such as bike and car-sharing. Hamburg Hochbahn is managing 17 Switchh Points near metro connections and 28 across the city.



Mobility hubs: a physical MaaS

Mobility as a Service (MaaS) might be a digital gateway to different mobility services, but these services also need to be integrated from a physical point of view to become really attractive. The creation of multimodal interchanges, so called mobility hubs, offering visibility to all mobility options is essential to promote combined mobility. A mobility hub is a dedicated urban space where all transport options are available, from public transport to bike facilities and shared modes, including as well delivery services. They can be implemented near major transport hubs or in smaller cities and lower density areas. This concept is being developed to offer a last mile solution and provide additional flexible transport options to public transport users.

CONCLUSION

The arrival of new mobility actors forces cities to rethink the management of its streetscape, and renew mobility strategies. The current challenges faced by global warming and urban population growth leave no other choice but to improve the way cities shape themselves and move people. Prioritising higher capacity and spatially-efficient modes is imperative. The data produced by mobility services can provide urban planners with the ability to better understand mobility patterns, improve transport offers and adapt infrastructural needs. However, to keep control over the developments and use of public spaces, authorities must find a common working ground with service providers to develop a model that will provide the necessary data to make cities more efficient.

The automated vehicle revolution may speed up dynamic kerb management, but mass public transport is still necessary as other services cannot truly offer a suitable alternative to car ownership. Public transport, with walking and cycling, should remain the backbone of urban mobility.

RECOMMENDATIONS

The below recommendations aim at facilitating collaboration between city planners, transport authorities and mobility providers.

GENERAL MOBILITY PRINCIPLES

In order to progress towards the UN Sustainable Development Goals, planners, authorities and mobility providers should ensure that public transport, walking and cycling form the backbone of the urban transport system¹⁶:

- Encourage new services and technologies which help create a safer, quieter and more pleasant environment
- Invest in public transport, walking and cycling infrastructures, and traffic calming measures
- Coordinate public transport and street management by integrating walking and cycling and public realm improvements with public transport to improve quality of life and reduce car-dependency
- Coordinate mobility with other urban strategies (housing development, economic development, etc.)
- Apply a systematic approach to optimise the overall transport system with all mobility actors
- Make new services accessible to all people. They should not contribute to the creation of social, economic or digital divides
- Ensure the support of sustainable modes and services: New services should achieve the very best emissions standards and be environmentally sustainable
- Set up pilots to better understand the use of streets to investigate possible interaction between passengers flows and freight transport, with specific focus on fast and instant deliveries
- Have reversible projects to avoid investing in high cost infrastructure that would no longer be compatible with the new services.

DEFINE CRITERIA TO REBUILD THE STREETSCAPE

To create safe and appropriate spaces for all users and uses, planners, authorities and mobility providers should:

- Ensure safety for all modes and users
- Assess the purpose of the street (motorised, mixed-used, touristic area, commercial, residential) and differentiate needs between urban/peripheral areas
- Monitor all mobility interactions in the city (public transport, new mobility services, freight services, 24/24 and 7/7) to understand the needs of each mode
- Monitor how each type of new mobility service impacts the urban space when parked and in use
- Use space efficiently: New services must make efficient use of road and kerb space, respond to local needs and support opportunities to re-allocate space for walking, cycling and public transport
- Prioritise modes based on sustainable mobility goals
- Reallocate space according to the priorities
- Define a governance structure, regulations and best practice guidelines for operators to keep control over the deployment of shared mobility services. Ensure they are in line with the city's mobility strategy and do not cause urban sprawl
- Include citizens in the design of infrastructure, urban spaces and services to understand their needs, their use of the infrastructures and to legitimise the urban planning process.



• 16. UITP, 2016. *Public Transport at the heart of the integrated mobility solution*, Policy Brief. Available here: www.uitp.org/public-transport-integrated-mobility

KERB MANAGEMENT AND KERB DATA

To create safe and appropriate spaces for all users and uses, planners, authorities and mobility providers should:

- Ensure safety for all modes and street users
- Assess the revenue impact from shifting from parking to pick-up/drop-off zones
- Manage demand for the space in a flexible way and, when available, using real time information so that it responds to different users and needs
- Recognise that public authorities should oversee the data on kerb usage. This is to keep control over the public space, and to encourage stakeholders to share their data and knowledge

to enable improved monitoring, operating and planning of the transport network

- Create a task force to manage the use of the kerb space in a flexible and dynamic way (real time and automatic)

MOBILITY HUBS

To ensure interchanges work safely, and to optimise the use of shared services and space around public transport hubs, planners, authorities and mobility providers should:

- Build multimodal points at transport stations to extend demand between sustainable modes, provide first/last mile solutions and inform users about their potential.





This is an official Policy Brief of UITP, the International Association of Public Transport. UITP has more than 1,800 member companies in 100 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport worldwide.

This Policy Brief was prepared by the Transport and Urban Life Committee.

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