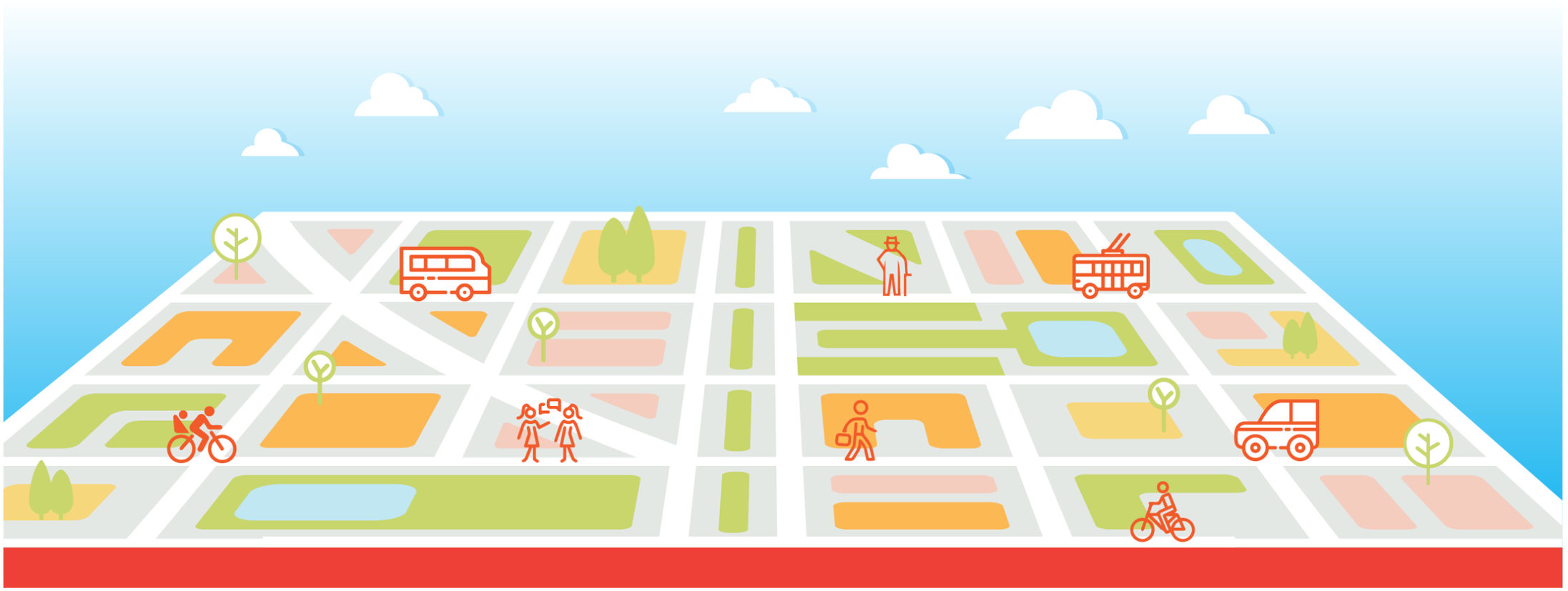
Use & design of space in neighbourhood mobility

SUNRISE
Sustainable Urban Neighbourhoods Research and Implementation Support in Europe

SUNRISE cluster recommendations
Deliverable 3.2



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Use & design of space in neighbourhood mobility
Recommendations from the SUNRISE-cluster „Use & design of space“

Part of deliverable 3.2

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Aim: These cluster recommendations summarise findings and experiences from the SUNRISE-cluster „Use & design of space“. They are aimed at SUNRISE cities but also at other interested cities and neighbourhoods.

The CIVITAS SUNRISE-project is an European project on sustainable mobility on a neighbourhood level. It has a strong focus on stakeholder involvement and explores the possibility to identify, develop and implement mobility measures on a neighbourhood level. The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 72 33 65.

More information about the SUNRISE and further resources: www.civitas-sunrise.eu

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1: Introduction

In urban neighbourhoods, the overall quality of life, the level of accessibility for all and perceived safety is strongly influenced by traffic. Depending on the speed and intensity of traffic, neighbourhood streets can either be perceived as dangerous barriers, dividing a neighbourhood, or as attractive, multifunctional spaces that provide access with a multitude of modes but also allow for human interactions, commerce and play. Multiple studies have shown that the level of car traffic on a street strongly influences social interactions across but also along it (e.g. Appleyard 1981). Besides moving traffic, car parking can also strongly define the character of a neighbourhood.

Urban and neighbourhood streets can to an extent be seen as battlefields of colliding interests – smooth accessibility for passing car travelers, the residents' need for safety, quiet and good air quality, parking possibilities for both visitors and locals, the commercial interests of neighbourhood businesses, the needs of pedestrians, cyclists, children, the elderly and so on.

In many cities, car traffic has long been prioritized, also at a neighbourhood level. This has led to streets that are unattractive, full of parked cars, can be dangerous to cross and provide little space for cyclists or pedestrians.

Conscious design and use of space, mainly street and parking space, can be used to revert this development. It is both a means to an end – to change mobility patterns and to increase the use of sustainable modes – as well as a goal in itself, e.g. by providing more space for pedestrians, cycle lanes, parks and playgrounds.

At the neighbourhood level, even small design changes and micro-interventions can often lead to tangible improvements. Key areas are improving safety by controlling speed, safe crossing opportunities and the allocation and management of parking space. At the same time, these questions are often sensitive and controversial. Communication with the inhabitants and the involvement of local stakeholders can be crucial for acceptance and long-term success of mobility measures at the neighbourhood level.

This document summarises examples, experiences and findings from the work with the SUNRISE neighbourhoods. Its purpose is to provide inspiration and key recommendations rather than being a comprehensive guide or design manual. It is aimed at SUNRISE cities but also at other interested cities, neighbourhoods and stakeholders interested in improving the mobility situation on a neighbourhood level.

The following, partly interconnecting themes are covered:

- Speed, space and design
- Car parking
- Alternative use of street space

For more technical details, we refer to the large existing body of technical manuals on street design and -use as well as on parking and tactical urbanism. Further, many interesting example projects are well documented, e.g. by CIVITAS.

People-centred use and design of space are both means and goals for achieving sustainable mobility in neighbourhoods.

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2: Speed, space and design

Vehicle speed is the single most important indicator of the safety of a street. Speed management reduces the likelihood and severity of accidents. Lowering speeds creates safer conditions for pedestrians and cyclists, making these modes more attractive. Further, low and consistent traffic speed reduces noise and air pollution. If a neighbourhood suffers from extensive through traffic, it can be reduced by speed management, making local streets less attractive as a thoroughfare.

If actual vehicle speed can be reduced to 30 km/h or less, fatalities are drastically reduced. A collision between a pedestrian and a car at 30 km/h can be compared to falling from the first-floor window of a building, with a very high chance of survival. A collision between a pedestrian and a car at 50 km/h is comparable to falling from the third-floor window of a building. A speeds of 30 km/h or lower, cycling in mixed traffic becomes both far safer and acceptable since cars and bicycles move at similar speeds. Also crossing the street becomes safer and easier for pedestrians if vehicle speeds are low. Ideally, the speed at pedestrian crossings should be as low as 10 km/h. For streets with many pedestrians and little vehicle traffic, e.g. access streets with only residential traffic, speeds of 10 km/h or less can greatly improve the livability and multimodality of the street.

Speed management is therefore a key tool to improve neighbourhood mobility, to increase the potential for walking and cycling and to make neighbourhoods more livable.

In many urban neighbourhoods there are streets, street segments or crossings that are perceived as unsafe. Local inhabitants are the best source of information to identify these spots. In SUNRISE, many different techniques to gather information have been used – from public hearings to on-street stands and interviews to on-line mapping tools. See the SUNRISE webpage for tools and examples. Important is to gather the information of many groups - children and their parents, the elderly or visually impaired might be more aware of danger spots than young adults or regular car users. Use this local knowledge to identify hot spots and streets that need speed management.

Stakeholder consultation in Budapest to identify problem areas in the neighbourhood

- Consult residents and local stakeholders to identify streets, sections or crossings that are considered unsafe.
- Examine if reducing vehicle speed would improve the situation.
- 30 km/h is recommended as default speed on residential streets and facilitates mixed traffic.
- 10 km/h or lower is recommended at crossings and streets where pedestrians and motor vehicles mix.

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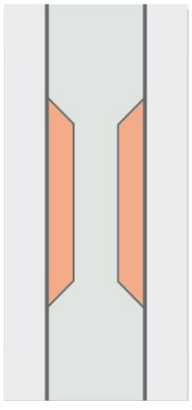
Traffic enforcement can help to manage speeds but is not always available. Instead, speed management should ideally be achieved by designing the street and its surrounding so that the desired speed occurs naturally. The width of the carriageway and the length of the unobstructed line of sight are key design factors that communicate to the driver what speed is adequate. There are many possibilities to manage speed by street design, e.g. narrowing the lane, chicanes, using speed humps, raised pedestrian crossings, pedestrian refuge island, curb extensions, narrow gateways when entering the street and more. The design should clearly signal to the driver that they are entering a zone with lower speed. Click here for a collection of traffic calming strategies. Public hearings or other forms of stakeholder consultations where pros and cons of different solutions are discussed are recommended before choosing a final design.

Many countries also have specific street types and signs for different low-speed zone in their traffic code. Examples are the so called “living streets” or “home zones” where cars are allowed but only at very low speeds and “bicycle streets” where bicycles have priority but cars are allowed at bicycle speed. These street types can be used to re-classify and redesign neighbourhood streets where appropriate.



Locally narrowing the street is one of many possibilities for speed management and to increase pedestrian safety. Source: globaldesignincities.org

Swedish traffic sign signaling a “living street” where cars are allowed to drive but only at low speed and apprehensive of pedestrians.

SUNRISE examples: Budapest, Hungary

Within the SUNRISE-neighbourhoods, problem areas have been identified through citizen involvement and stakeholder-consultation. In many cases, this has led to the development of design measures to improve the situation. An example is Tábornok street in Budapest, a residential street where several intersections where considered unsafe for cyclists and pedestrians. To improve the situation, a combination of additional pedestrian crossings, improved signposting and other physical measures were developed.

Tabornok street in Budapest where new pedestrian crossings, speed reduction and other safety measures will be implemented as a result of SUNRISE.

- Identify suitable speed management measures and if a change in street type is appropriate.
- Changes in street design are often more effective than signposting or traffic lights.
- Consult with local stakeholders when choosing speed management measures.

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3: Parking

Car parking is a challenging topic in many neighbourhoods. On-street parking is common and where parking pressure is high, residents can find it difficult to find available spots. Especially in areas where parking is free, residential city streets are often also used for parking by commuters, attracting additional traffic and blocking space. Car parking is space-demanding and competes with alternative uses of space such as dedicated cycle lanes, wide sidewalks or green areas. Where parking pressure is high, illegal parking occurs and it is common that sidewalks are partially blocked by parked cars or bicycles, reducing accessibility for pedestrians. Especially for people with walking aids or wheelchairs, the blind or parents with prams, blocked sidewalks can cause real problems. In extreme cases in narrow streets, parked cars can even restrict access for emergency vehicles or fire fighters.

At the same time, parking is a sensitive topic and emotions can run high when measures such as restrictions, pricing or alternative uses of parking are discussed. This makes the topic well suited for stakeholder involvement, but care has to been taken that different views are properly balanced and less vocal groups also are heard. A starting point is to understand and share the problem definition and needs of different groups – car owners in the neighbourhood but also the police, cyclists, the elderly, children, municipal services etc.

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Depending on the local challenges, a variety of measures to manage parking are available. Where neighbourhood streets are blocked by cars of external commuters or visitors, parking time restrictions combined with residential parking permits can improve the situation. Pricing and parking controls are additional tools that can be used.

Ideally, on-street parking should come at a cost, both for visitors and residents. This reduces the risk of crowding and that valuable city space is used for storage of cars that are rarely used. Management of on-street parking makes parking garages more attractive and increases the competitiveness of alternative travel options such as public transport, bicycles, car sharing or other mobility offers. This in turn further reduces the need for on-street parking.

Gradually reducing the available on-street parking spots creates opportunities to free space for other uses and is a proven strategy in many cities. If parking is removed, it is important to immediately implement alternative uses for the space, e.g. a bicycle lanes, wider pavements or seating areas so that improvements in the local environment become tangible. Offering safe and secure bicycle parking facilities at strategic locations can make cycling more attractive and at the same free space from sidewalks and other less suitable areas.

Key steps for developing successful parking measures that are well accepted within the neighbourhood are to create a common understanding of the challenges that should be resolved, to discuss and visualise what improvements for the neighbourhood could be achieved and to devise a carefully designed implementation and communication strategy.

SUNRISE example: Bremen, Germany

In the Hulsberg neighbourhood in Bremen, parking has developed into a major headache. The narrow local streets are jammed with parked cars of residents and visitors alike and parking on the sidewalk has become common, even if it is illegal. Accessibility for pedestrians is jeopardized since many sidewalks are partially blocked by parked cars or bicycles. The problem is especially severe for the elderly, blind or anyone with walking aids and parents with prams. Parked cars also restrict the accessibility for firefighters, waste-collection and ambulances, with potentially serious consequences.

On-street parking in Hulsberg has been free of charge and parking rules have not been strictly enforced. Introducing fees and strict enforcement has long been considered as too controversial. Within the SUNRISE-project, the parking challenge has been thoroughly discussed with the local population and stakeholders, with several public hearings, presentation of international experience and examples, guided walks and through other channels.

As a result, parking in the neighbourhood will become more regulated to improve the situation. Parking fees and time restrictions will be introduced for visitors, while residents can apply for residential parking permits for an annual fee. At the same time, parking rules will be more strictly enforced. Additional cycle parking facilities are planned to avoid that parked bikes block sidewalks.

A key goal is to reduce the number of external cars parking in the neighbourhood, improve parking discipline and to improve availability of parking for residents. To provide alternatives to owning a car and to free parking space, the city also supports alternatives like car-sharing, cargo-bike sharing and other mobility measures in the neighbourhood.

Pictures: City of Bremen

- Parking can be a sensitive topic with many diverging opinions.
- Communicate extensively, prepare for conflicting views.
- Engage with wide groups of local stakeholders and ensure that the opinions and needs of many groups are heard, not only car-owners.
- Try to find a common ground on what problems should be solved.
- Use national and international experience and examples to show a variety of possible parking management options.
- In dialogue with local stakeholders, develop suitable and acceptable parking management measures.
- Clearly communicate the benefits for the neighbourhod that can be achieved by parking management when parking measures are introduced.
- Don’t forget to also provide safe bicycle parking in public spaces.

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4: Alternative use of street space

There are many possibilities to transform street space and car-parking spaces for alternative use. By reducing street width or removing on-street parking, dedicated cycle lanes can be created or pedestrian sidewalks widened. Other options are creating cycle parking, greening the neighbourhood with plantations, mini-parks, play-areas or space for outdoor markets or seating for restaurants. These measures can all contribute to improved conditions for walking or cycling and to to create a more attractive and inviting streetscape.

Transformations can be large-scale, where whole streets and parking areas are transformed to pedestrian areas. But also small projects such as the transformation of individual parking spots can lead to amazing improvements. Transformations can be permanent as well as temporary in the sense of tactical urbanism.

To identify where transformations are possible and, especially, what alternative uses are desirable, stakeholder involvement, neighbourhood based co-creation processes and public participation are very well suited. Cheap, temporary solutions can be used test ideas and to demonstrate and evaluate their impact before moving to more permanent changes. Stakeholder involvement is highly recommended also for evaluation and further development of measures, e.g. whether temporary solutions should become permanent.

- Have an open view on what space can be used for – streets and parking are only some of many options.
- Consider what functions are most desirable, consult with stakeholders.
- Use temporary, reversible measures to test and evaluate.

London – microparks and benches instead of parking.

Two parking spaces on Tooley Street in central London were transformed into a micropark that extends public space from the sidewalk into the street. The parklet provides a touch of green and offers the possibility to rest and interact, changing the character of the street by allocating more space to people rather than cars.

Picture: WBM Studio

Gothenburg, Sweden – car parking to bicycle parking

Through installations of bike racks, Gothenburg and many other cities have started to transform inner city car parking into bicycle parking, providing parking possibilities for more visitors than before and thus supporting local businesses.

Picture: M.Koucky

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SUNRISE example: Southend-on-Sea, U.K.

As in many other UK cities, the usage of Southend-on-Sea's central High Street, London Road, has declined over the years. The area has lost in attractiveness for both visitors and residents and many local shops and restaurants are struggling. Within SUNRISE, a process of reallocating space from carriageway to pedestrianized space was initiated, with considerable involvement of local stakeholders and inhabitants.

As part of the pedestrianized space, restaurants will be allowed to have outside eating and green spaces will be created with plantings and trees. Deliveries to local business will be allowed between 7pm and 7am only and taxi parking will be moved. Vehicle traffic will therefore be significantly reduced, with less noise and improved air quality and an attractive and safe environment for pedestrians. With the shift to a pedestrianized space, the area will be used for outdoor events to encourage people back to the High Street. Input from both local business and residents has been instrumental for developing the proposed solution.

Being the top end of the High Street and a central point of the neighbourhood, there has been resistance from people who used the space for purposes such as taxi, loading and parking. This highlights the importance of balancing the views of different interest groups and of securing support from property owners, residents and local businesses. It is also important to develop a clear vision as well as allow adequate time for discussions and the entire process, from collection ideas and opinions to implementation of the transformation.

SUNRISE example: Malmö, Sweden

The SUNRISE city Malmö started in 2017 to introduce the concept of "summer streets", where some neighbourhood streets are temporarily restricted for motor vehicles from April until October. During this period, movable street furniture, benches, plants and bicycle racks as well as outdoor seating of restaurants are used to transform the streets into places for pedestrians, cyclists and urban life. Residents are allowed to drive their cars and delivery vehicles are allowed as well, but at pedestrian speed. At first, the concept was tested on one street only, and it proved to be successful and highly popular. Since then, residents and businesses from several other streets have taken initiative to transform their streets. Currently, Malmö has four summer streets. A continuous dialogue is an important part of the concept and local businesses, property owners and residents are invited to engage in the design of the street. Annual meetings between the city and local stakeholders to evaluate and discuss the traffic situation and desired changes are institutionalised. Being temporary by nature, summer streets are time limited and the decision whether to continue or not is taken every other year after an evaluation, making the measure more acceptable also for opponents.

Pictures: City of Malmö

- Involve local residents, property owners and business in the development process.
- Visualise the proposed changes and communicate extensively.

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6: Summary of recommendations

People-centred use and design of space are both means and goals for achieving sustainable mobility in neighbourhoods. Stakeholder-based processes are well suited to identify problem areas and to develop possible measures.

Speed: On neighbourhood streets, speed is a key parameter regarding how a street is perceived and how safe it is.

- Consult residents and local stakeholders to identify streets, sections or crossings that are considered unsafe.
- Examine whether reducing vehicle speed would improve the situation.
- 30 km/h is recommended as default speed on residential streets and facilitates mixed traffic.
- Identify suitable speed management measures and if a change in street type is appropriate.
- Changes in street design are often more effective than signposting or traffic lights.
- Consult with local stakeholders when choosing speed management measures.

Parking: Parking can be a sensitive area with many diverging opinions but often offers opportunities for improvement.

- Communicate extensively, prepare for conflicting views.
- Engage with wide groups of local stakeholders and ensure that the opinions and needs of many groups are heard, not only car-owners.
- Try to find a common ground on what problems should be solved before focusing on what measures to use.
- Use national and international experience and examples to show a variety of possible parking management options.
- Clearly communicate the benefits for the neighbourhod that can be achieved by parking management when parking measures are introduced.
- Don’t forget to also provide safe bicycle parking on public spaces.

Alternative use of street space: Have an open view on what space can be used for – streets and parking are only some of many options.

- Consider what uses could be possible and desirable if street space or parking became available - consult with stakeholders.
- Dare to experiment - use temporary, reversible measures to test and evaluate.
- Involve local residents, property owners and business in the development process.
- Visualise the proposed changes and communicate extensively.

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