CIVITAS 2030

Park4SUMP

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

FINAL BROCHURE

Park4SUMP

© Lane in the center of Paris. France

European Platform on Sustainable Urban Mobility Plans

FINAL BROCHURE

About
This publication has been developed within the framework of the Park4SUMP project, funded under the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement no 769072

Park4SUMP is a project under the CIVITAS Initiative. Read more - **civitas.eu**

Title
Park4SUMP
Final Brochure

Author(s)
Niklas Schmalholz, Tom Rye, Susan Tully, Patrick Auwerx, Ivo Cré

Acknowledgement
This publication was made possible thanks to the contributions made by organisations involved in the Park4SUMP project, all of whom are credited for their respective contributions.

Also special thanks to the European Parking Association (EPA) for honouring best practices in street parking enforcement through the bi-annual EPA on-street parking awards.

Reviewers:
Laurens Vanderkuylen, Glenn Godin

June 2022

TABLE OF CONTENTS

1. The Park4SUMP project

Park4SUMP was a four-year European project funded under the Horizon2020 scheme, as part of the CIVITAS framework. The project ended in August 2022. As one of the few EU-funded projects solely dedicated to the topic of parking policy, Park4SUMP supported sixteen European cities and various municipal representatives in national training events to review their parking policy. On the following pages, the project's main aims, successes and best practices are highlighted.

To learn more about Park4SUMP, the project consortium also invites you to consult its publications concerning parking policy in urban areas, published on the project website: www.park4sump.eu.

City of Rotterdam, Scan Car

1.1 OVERVIEW OF THE PROJECT

Although good parking management has proven to be beneficial in delivering sustainable urban mobility in our cities, it is still one of the most underdeveloped sections within Sustainable Urban Mobility Planning (SUMP) policies. Park4SUMP aimed to bridge this development gap by considering parking management as part of a wider strategy that not only benefits urban mobility but also the overall quality of life of our cities. Good parking management can help to free up public space, support local businesses, reduce search travel, generate revenues, and make cities more attractive.

Thus, the sixteen Park4SUMP cities have reaped the aforementioned benefits. They were divided into leading cities and follower cities. This differentiation sought to promote the exchange of best practices between cities with advanced parking policies (leading cities) and novices (follower cities). The leading cities were Vitoria-Gasteiz (ES), Rotterdam (NL), Freiburg (DE), Krakow (PL) and Trondheim (NO). The follower cities were Sint-Niklaas (BE), Slatina (RO), Sofia (BG), Tallinn (EE), Zadar (HR), Shkodra (AL), Lisbon (PT), Gdansk (PL), La Rochelle (FR), Reggio Emilia (IT) and Umeå (SE).

1.2 AIMS & OBJECTIVES

Park4SUMP aimed to increase the adoption of high-end parking management and to support its integration into SUMPs. This aim was achieved through a widespread roll-out and transfer of best practices in parking management and SUMP integration, involving several cities in testing and implementing parking management measures, as well as in raising awareness about parking management amongst both the public and local and national administrations.

Thanks to Park4SUMP, fourteen national governments were able to expand their knowledge on national- and regional-level parking frameworks. The project also helped partner cities to integrate parking management into their (future) SUMP, to free up an average of 10% of public space currently used for parking by employing participatory planning, and to invest at least 10% of parking revenues into sustainable transport and active modes, such as walking and cycling, to develop more human-centred neighbourhoods.

1.3 WHY IS PARKING POLICY IMPORTANT FOR CITIES?

Parking management is key to managing urban mobility and should be considered the backbone of sustainable urban mobility planning. Even though parking policy mostly regulates stationary traffic, it can redirect traffic flows, reduce the burden of passenger cars in inner cities, generate revenue for urban municipalities, and foster the use of sustainable urban mobility solutions, as the attractiveness of the passenger car is reduced.

By introducing, extending, and making parking management more innovative on a large scale, Park4SUMP lifted the level and quality of parking policy, ensuring its integration in the cities' SUMPs. Park4SUMP also brought new insights into the practical transferability of innovative measures for future-proof carbon-neutral cities. Thus, the project has:

- led cities to think more strategically about parking
- encouraged them to use, test, and target new forms of parking management
- provided cities with innovative funding sources for sustainable transport
- made SUMPs more effective, by freeing up public space, influencing the modal split, bringing down costs, improving access, reducing emissions, and addressing several other issues.

The project consortium encourages you to consult 'Good Reasons and Principles for Parking Management', which is available in various European languages, provides a new strategic way of looking at parking policies and explains their advantages for your city, as well as our topic guide *'The Power of Integrating Parking Policies in Sustainable Urban Mobility Planning',* which will be published in autumn 2022.

2. Key messages

The key messages below are drawn from the Park4SUMP experience of the sixteen partner cities. The messages are divided into two sections. The first section provides advice for urban administrations which do not have a parking management strategy in place. The second section targets cities with existing elaborate policies, which aim to take the 'next step' by investing in new enforcement technology and Park&Ride facilities or which aspire to shift on-street parking to off-street locations. As this project observed significant variety in parking policy development levels across Europe and amongst its partner cities, messages are provided for all stages of parking policy development.

Park4SUMP Consortium at the Final Conference in June 2022
© Niklas Schmalholz

2.1 BEGINNER CITIES

1. Apparent parking shortages and/or a predicted increase in parking demand can better be solved through parking management than through an increase in parking supply. Management strategies can include time limitations, price setting, and improved enforcement.
2. Parking policy should not only focus on providing 'enough' parking spaces but also on freeing up space for other uses. One approach, leveraged by the Covid pandemic, is to temporarily replace on-street parking spaces with other uses, including amongst others pocket parks, restaurant terraces and bicycle parking to highlight the potential of urban space reallocation and to gain public acceptance for permanent change.
3. Effective parking management leads to a better modal choice and to less congestion. Reducing parking availability and earmarking parking revenues to support sustainable urban mobility measures act as incentives for people to use more sustainable transport modes. Communication of these plans is essential to gain public acceptance.
4. Free parking does not exist. If a driver does not have to pay for a parking spot in the city, the residents bear the cost of operation, maintenance, and enforcement.
5. Parking management does not necessarily lead to strong political tensions or election losses, if the management strategies are fair, transparent, and effective in improving the city's parking situation and quality of life.
6. There is no clear link between retail success and the number of (paid) parking spaces. In most cities, car drivers contribute less to the local economy than shoppers who use more sustainable transport modes.

2.2 ADVANCED CITIES

1. In areas with high parking demand, management strategies can be employed to prioritise who gets access to the limited number of parking spots, such as limited duration, pricing or the issuing of permits. First by introducing low-key restrictions, then by tightening them once public acceptance of the restrictions is achieved.
2. Harmonising the price rates of off-street and on-street parking options to guide traffic to the preferred option and location. In general, higher on-street parking fees will direct drivers to off-street parking facilities, reduce parking search times, and make the development of such off-street parking facilities more attractive to private investors and developers.
3. When parked, an electrical vehicle takes up as much public space as a conventional car, or even more when charging stations are installed on the sidewalk. Chargers are better provided on off-street parking spaces.
4. New urban developments should include maximum standards for car parking and minimum standards for bike parking to shift mobility use towards sustainable or active solutions. These standards can be area-oriented and should consider public transport accessibility, as well as evolve according to changing mobility patterns.
5. Park & Ride facilities should substitute for, not add to, city-centre parking. These facilities should be located close to the travellers' origins and not close to their destination, to encourage the use of urban public transportation.
6. Technological innovations, like automated parking sensors, parking guidance systems, and scan cars can support efficient parking space allocation and effective enforcement strategies.

Reggio Emilia Carfree city centre (C) DVISION

3. Main achievements

The main achievements of the project are a significant output of training materials, the organisation of physical and online training events, as well as the ParkPad framework, which allows cities to audit existing parking policies and to receive feedback and suggestions on these policies. The ParkPad framework will be available to European cities in Europe beyond the lifetime of the project. Another achievement of Park4SUMP is the successful reduction of overall parking spaces in participating cities, two of which are highlighted later in this document.

3.1 EXCHANGE WITH CITIES

Besides promoting integrated parking policy in the partner cities, outreach to municipalities across Europe was a significant project. Best practices were shared through local and national training events organised by the project partners. Overall, 22 trainings events were held in 22 countries, reaching more than 850 individual stakeholders.

The main topics discussed during these trainings were the importance of improving enforcement, proper communication of revenue streams, and the potential earmarking of income derived from parking fees and fines. Park4SUMP results showed that the proper repurposing of parking fees by reinvesting it into active mobility or public transport infrastructure is a very convincing argument for citizens to support the parking management measures. In countries with a tradition of on-street parking management, discussions centred more on the costs of providing off-street parking and related business models. Participants from countries without such a tradition focussed on different solutions to extend existing on-street controlled parking zones.

The main topics discussed during these trainings were the importance of improving enforcement, proper communication of revenue streams, and the potential earmarking of income derived from parking fees and fines.

3.2 INFORMATION & TRAINING MATERIAL

At the time of publication of this final brochure, Park4SUMP has published four main brochures, available in several languages in our digital library on www.park4sump.eu. As previously mentioned, a topic guide will be published in autumn 2022.

City of La Rochelle, Bike Parking
© Martina Hertel

1. Enforcement: Key to a Successful Parking Strategy

This document summarises urban parking enforcement opportunities for different parking enforcement in the city. Enforcement raises awareness amongst citizens and visitors of the high value of parking in central urban areas as it permits private use of public space and can generate stable revenue streams for authorities. Download the brochure here.

2. Parking Standards as a Steering Instrument in Urban and Mobility Planning

Parking standards for new urban development projects are amongst the most important steering instruments within urban and transportation planning. Developers can be incentivised to propose alternative forms of transport by either abolishing the parking standard, lowering the minimum requirement for car parking, or fixing maximum car parking allowances. This potentially enables tactical urbanism and can alter the mobility routines of citizens. The English version is available here.

3. Good Reasons and Principles for Parking Management

Parking management has proven to be highly advantageous compared to other transport policies aimed at managing car use. As most European towns already have an established parking policy, fast realisation is possible. Download the brochure here to discover more arguments for active parking management.

4. Practitioner Briefing on Parking in the Framework of the Sustainable Urban Mobility Planning (SUMP) Guidelines

Even though effective parking management has proven to be beneficial, it remains one of the

most underdeveloped aspects of sustainable urban mobility policies. This English version of the document is available here.

City of Trondheim, RapidCharging
© City of Trondheim

3.3 PARKPAD

Since parking occupies the majority of urban public road space across European cities, Park4SUMP developed a guidance framework to help cities transform urban space and promote people-centred urban planning. This framework, the ParkPAD tool, is an innovative way of checking in, prioritising, and updating urban parking policies. The tool deliberately aims to fill existing gaps by introducing a consensus-building process across stakeholders in a highly contentious policymaking topic like parking management.

The tool was tested by all sixteen Park4SUMP cities, which helped to optimise the tool. In 2022, during the final stage of the ParkPAD development process, ten audits were carried out in external cities in Bosnia & Herzegovina, Germany, and France. These audits provided a case for replicability and scalability of the ParkPAD process beyond the lifespan of Park4SUMP. Consequently, national auditors and institutional partners can still benefit from the ParkPAD framework.

National auditors are mobility professionals who have knowledge of the local context and language, are trained to work with and have access to the ParkPAD platform. This allows them to carry out ParkPAD audits for cities. Additionally, institutional partners are creating the framework conditions for ParkPAD by disseminating national programmes or working on SUMP guidelines. Preparations have been made to assemble a strong consortium of key players both at a European and a national level, able to continue with the tool from September 2022 onwards.

3.4 THE AUDIT PROCESSES

A trained and experienced national auditor guides a city administration throughout the audit process. The auditor provides access to the ParkPAD tool, allowing city representatives to partake in a first self-assessment survey. The answers provided support the national auditor in assessing the current state of play of parking management policies and practices in the respective city. Additionally, the auditor carries out a parallel in-depth analysis of the current state of play in the city's parking policies.

The entire audit process takes place within the framework of two half-day consensus-building sessions moderated by the auditor. In the first session, a physical round table assessment process is held with key parking stakeholders on parking. This assessment determines the status of parking policy in the respective city. In the second session, the ParkPAD auditor facilitates consensus-building, between a group of selected stakeholders, on the current and the desired ambitions in terms of parking policy and the levels of parking management. Based on the results of these two sessions, an action plan with key policy goals is drafted.

In case ParkPad sparked your interest, or if you want to become a national auditor, please consult our ParkPAD website on www.parkpad.eu.

3.5 REDUCTION OF PARKING SPACE IN REGGIO EMILIA AND OTHER CITIES

As public space in inner cities is limited, cities must make the most out of this scarce resource while bearing in mind that space allocated to parking comes with an opportunity cost. If sufficient alternative sustainable or active modes of transport are provided, reducing parking space has significant impact, as seen in the example of Reggio Emilia and other Park4SUMP cities.

Reggio Emilia

In 2017, a citizen committee in Reggio Emilia (IT) managed a project in cooperation with the municipality how a public square, which was used as a car park, could be transformed into an area dedicated to people. Based on a two-day display, and with further citizen collaboration after the Covid pandemic, all car parking spaces were removed from the square. More parking spaces were removed in neighbouring streets and replaced with flower boxes, protected cycle paths, and terraces. These changes served as traffic calming measures and provided more space for bar and restaurant owners.

Other Park4SUMP cities

Overall, more than half of the sixteen Park4SUMP cities removed car parking spaces in favour of public transport routes, bike lanes, bike parking, space for gastronomy, and the creation of "play streets":

- The city of Sint-Niklaas (BE) removed 68 on-street parking spots through a street redesign scheme and "replaced" them through a shared parking scheme in cooperation with a local supermarket.
- Gdansk (PL) also restructured its paid parking zone, as 40 spaces were abolished to ensure sufficient space per on-street parking spot.
- Trondheim (NO) turned 85 parking spaces into bike lanes and eliminated another 200 spaces between 2017 and 2022.
- Even higher numbers were achieved in Vitoria-Gasteiz (ES), as it removed no less than 1200 on-street parking spaces in 2021. Furthermore, the city improved streets by adding bicycle parking and increasing visibility at intersections with pedestrian crossings.

3.6 EXCHANGE WITH EUROPEAN EXPERTS

Besides various communication and dissemination activities organised by project partners on a local, national, and international level, Park4SUMP also aimed to engage European parking policy experts. In the final months of the project, two events focused on parking standards and EV charging, as well as open discussions about the potential

City of Trondheim, Paid Parking
© City of Trondheim

impact of European legislative proposals on parking management.

High-level workshop on parking standards

An online high-level workshop was held to discuss parking standards for cars and bicycles, as well as their relation to European building regulations. Experts highlighted during the workshop that:

- New commercial and residential developments should have maximum parking standards.
- Cities aiming to reduce the total number of parking spaces are often bound by regional or national regulations that limit the scope of potential change.
- Bicycle parking can provide a starting point for broader discussions about 'in-building' allocation of space for last-mile logistics, shared mobility and other schemes.
- A modal shift in building norms, such as moving away from car parking to bicycle parking, can be seen as a cost reduction. Especially if bicycle parking is incorporated into new developments early in the design process.

High-level meeting on EV charging

A high-level meeting on EV charging was held to discuss key challenges faced by cities and shared opportunities to overcome them. Interesting insights from this meeting include:

- Currently, too many charging and payment systems run in parallel. Standards should be established to allow all EV users, regardless of vehicle and battery size, to access charging infrastructure while parking in inner cities.
- Standards should also be established in terms of minimal charging speeds and the occupancy of parking sports equipped with EV chargers.
- The significant challenges of investing in charging infrastructure should not be underestimated.

Overall, the meeting also underlined that the EV and parking sector can create synergies. EV charging providers can attract EV users to car parks equipped with charging infrastructure. Charging companies can simultaneously benefit from the existing client base and infrastructure of parking providers.

City of Rotterdam, New parking-faciltiy
© FGM / Harry Schiffer.

4. Park4SUMP topic areas and best practices

Over the course of the project, multiple best practices emerged that highlight local successes in altering inner city parking policy. Here, these best practises are categorised in line with the seven main topic areas of Park4SUMP, defined at the start of the project. All topic areas were selected due to their fundamental importance to parking management as an effective tool for sustainable urban mobility planning:

1. Extend general parking management
2. Use of revenues to finance sustainable urban mobility measures
3. Standards: minimum requirements and maximum allowances
4. Enhancing enforcement
5. Integration into SUMP
6. Technological innovation
7. Accompanying measures

This brochure limits the number of best practices to a maximum of two examples per category. More examples are available in the topic guide, to be published in autumn 2022.

4.1 EXTEND GENERAL PARKING MANAGEMENT

In Park4SUMP, this topic area refers to more elaborate on- or off-street parking management and includes measures generally aimed at managing demand by targeting supply.

Rotterdam (NL): Park&Ride

Park&Ride facilities are often introduced to support a range of policy goals like lowering congestion levels, overcoming pollution levels, and eliminating parking pressure. The city of Rotterdam is increasing its liveability and attractiveness by restricting car traffic throughout the inner city. This results in more public space, increased multimodal accessibility, improved traffic safety for vulnerable road users, and better air quality. In recent years, the municipality has removed some 3,000 on-street parking spots in the inner city. To overcome additional parking pressure in municipal and commercial garages in the city centre, Park&Ride facilities on the outskirts of the inner city and close to high-quality public transport connections are being expanded to provide additional space for cars as well as facilities for shared mobility. Besides a reduction in on-street parking, a new pricing policy has significantly increased the cost and lowered the maximum duration of on-street parking, incentivising the use of off-street parking facilities. Finally, the Dutch city also converted on-street parking spaces into pop-up terraces in front of cafés and restaurants.

Shkodra (AL): Parking regulation & control on the main corridor

Shkodra is one of the top biking cities in Albania and has been strongly promoting active mobility for decades. Yet, due to increased living standards, car trips in Shkodra have increased in recent years. This negative evolution in the modal shift led the municipality to initiate a “Study-

Information on the Green Parking Zone in Sofia, Bulgaria
© Elvanov, Shutterstock

Plan for Traffic and Mobility" in 2018. During the process, it was observed that Shkodra's main corridor, previously used as a shared space for bicycles and cars, was being misused as second-row parking spots.

The upcoming SUMP, which is currently under development, aims to address this issue by implementing protected cycle lanes on both sides of the corridor and by limiting the number of parking spots. The plan will enhance the overall level of safety for users of active mobility. Investment strategies were developed for the busiest axis of the city, while other studies and legal frameworks are being launched to introduce paid parking in three different zones with alternating price policies.

Sofia (BG): Extension of parking zones

Sofia recently extended its parking zone, resulting in a significant growth of paid parking spots, as well as price increases for several areas in the Bulgarian capital.

The city administration categorises paid parking into a more extensive 'blue zone', which costs 2BGN (1€) per hour and covers most of the city centre, as well as a 'green zone' with more affordable parking (1BGN or 0.5€/h). In December 2021 it expanded the blue zone from 5,000 to 13,000 spaces, with a further 21,000 in the peripheral green zone, active from Monday to Saturday.

Businesses can purchase a permit which allows them to use up to five parking spaces at one address. This guarantees car users accessibility to their premises. Even though this increases the amount of free parking space in the city, it should be noted that businesses were able to reserve parking spaces for free prior to this rule change. Concerning residential parking, inhabitants can apply for a parking permit, which costs 50€ per year in the green zone and 75€ in the blue zone. When the parking zones were first introduced in 2010, it was associated with a significant drop in traffic levels in the city centre, including parking search traffic.

City of Krakow, Restructured street space with bicycle parking.
© City of Krakow

4.2 THE (EARMARKED) USE OF REVENUES TO FINANCE SUSTAINABLE URBAN (MOBILITY) MEASURES

By introducing paid parking, increasing fees, or increasing expanding the percentage of managed parking spaces, income from parking rises. This income can, at least partly, be earmarked and used for improving, promoting, and guiding drivers towards more sustainable modes of transport, Bike&Ride facilities, or Park&Ride facilities.

Amsterdam (NL): A dedicated mobility fund

Even though the Dutch capital is not a Park4SUMP city, it still provides excellent parking management measures, as one of the world leaders in certain aspects of urban mobility and cycling. Through the Amsterdam Mobility Fund, which enables infrastructure investments in sustainable urban mobility, the city has set an even stronger focus on on-street parking management.

In 2012, parking fees applied to nearly two thirds of Amsterdam's 250,000 parking spots. 38% of parking fee revenues has traditionally been spent on parking management and enforcement. Around 25% of the revenues are funnelled into the Amsterdam Mobility Fund, which invests in bicycle projects, improvement of the public transport network, and road safety. Overall, car parking fees, reduced on-street parking, better networks for public transport and bicycles, car-limiting circulation, and more P&R facilities have led to a 30% reduction in car use in the city centre over the last 20 years. Bike traffic has mostly replaced car traffic, with positive effects on road safety. In just seven years, the gross revenue of parking fees doubled from €160 million (2012) to €321 million (2019).

Krakow (PL): Earmarking parking revenues for sustainable transport

A recent Polish law obliges cities with more than 100.000 inhabitants to reinvest at least 65% of the income from parking fees and 100% of

parking fines in sustainable transport projects and the conservation and extension of green spaces in urban centres. Considering the ambitious plans to decarbonise the city centre and invest in sustainable urban mobility, Krakow embraced the new legislation. Despite a reduction in parking revenue due to the Covid pandemic, the city plans to invest about €15.5 million in sustainable transport measures, which are cross funded through parking revenue. Additional revenues of €9.3 million are earmarked for investments in public transport and an additional €5.5 million for environmental protection, bike-sharing solutions, and travel awareness campaigns.

4.3 ENHANCING ENFORCEMENT

Parking fees are often perceived as a rip-off strategy and enforcers as its symbol. Although paid parking systems have extremely limited impacts without effective enforcement, city administrations are often cautious with their enforcement strategies to avoid confrontation and public outcry. Therefore, Park4SUMP actively focussed on studying and promoting enforcement solutions.

Shkodra (AL): Enforcement of illegal parking

The Albanian city of Shkodra re-designed two key areas in the city: the busiest traffic corridor in the city centre and the popular lakeside. This re-design offered an opportunity to phase-out existing issues with illegal parking in both areas.

In the city centre, the re-design included narrower traffic lanes and cycle lanes protected by low barriers to prevent illegal parking. By the lakeside, physical barriers were introduced to prevent illegal car access to and illegal parking in the area's pedestrian zones. Along with the physical re-design, the city cooperated closely with police to improve enforcement and increase monitoring.

Additionally, 'booked parking', a prepaid parking programme which allows users to pay for a parking spot for an entire year, also played a key role in reducing illegal parking. This long-term parking spot reservation policy is mostly used by employees, employers and businesses located in the city. While a trial period of lenient enforcement was put into practice at the beginning of the programme, stricter enforcement started in recent months.

Skhodra (AL)

All in all, these various measures have led to the near-complete disappearance of illegal parking in the city, thereby improving its image.

4.4 STANDARDS: MINIMUM REQUIREMENTS AND MAXIMUM ALLOWANCES

Parking standards for new developments regulate how many parking spots are dedicated to newly erected buildings. Instead of asking developers to respect minimum parking space requirements, or even permit them to build more parking spaces, modifying parking standards and introducing maximum allowances can help reduce the cost of new developments and create urban areas that are not dominated by cars.

Umeå (SE): Parking standards in new developments

In the Swedish city of Umeå parking management is the responsibility of a limited city-owned

City of Umea, Centralised parking
© City of Umea

company. Their parking strategy is integrated into the wider urban mobility plans for the city and aims to improve accessibility by providing spaces for visitors in central parking areas whilst moving workplace parking, commuter parking, and long-term parking out of the city centre.

To ensure parking facilities in Umeå are strategically positioned, the company employs a "parking pay-off" approach. Developers are freed from the responsibility for providing parking in their developments, instead paying a fee to the city-owned parking company. The fee is connected to the number of parking spots that the business, company, or new development would otherwise be required to provide in the framework of existing parking regulations.

This pooling and restructuring of parking spaces from several on-street parking spots per entity to larger and more efficient off-street solutions reduces the burden of passenger cars on the inner city. Thus, developers can also reduce the number of spaces they are required to provide or "pay-off" if they provide sustainable travel alternatives.

4.5 INTEGRATION INTO SUMP

Integrating parking management into sustainable urban mobility planning means lifting parking management from a merely operational or reactive level to a more strategic one. This approach quickly leads to success and has the potential to steer the mobility of a whole city, fostering its transformation.

City of Vitoria Gasteiz, Parking inner-city
© Martina Hertel

Vitoria-Gasteiz (ES): Parking as leverage factor for SUMP

The Basque capital in northern Spain significantly altered its entire public transport system over the last decade. This revamp also affected the parking management strategy of the city, moving towards a holistic approach of SUMP that includes a smart combination of investing in public transport infrastructure and discouraging private car use. This approach has helped shift the modal split towards public transport and active mobility modes.

The reduction of parking spaces and investments in public transport went hand in hand, as 2000 parking spots were abolished for the construction of a new tramline. Furthermore, the city significantly expanded its regulated parking area, increased the prices for residents' parking permits, and earmarked these revenues for reinvestment in public transport. Additionally, new Park&Ride solutions were developed at the outskirts of the city, which were signposted and advertised to commuters, thereby helping to reduce the burden of passenger car traffic arriving from outside the city proper.

To be noted is that all these changes were achieved by focusing on a continuous exchange with citizens. Insights and explanations concerning the long-term plans were provided

through poster campaigns, press releases and a citizens' forum, which fostered communication. Thanks to the bold plans and strong emphasis on communication, public transport use doubled from 2008 to 2018. Private car used dropped from 36% (2006) to only 24% (2014).

Slatina (RO): Parking as part of SUMP

The Romanian mid-sized city of Slatina adopted its first SUMP in 2017. This had some significant impacts for the around 80.000 inhabitants. Whereas parking management played a minor role in the beginning, Park4SUMP elevated the topic. By implementing the ParkPAD methodology, the Romanian city identified three priority areas for improving parking management and policy as well as for integrating new policies into an updated SUMP. Firstly, a regulatory framework was created to pinpoint the overall number of parking spaces and define the amount of on- and off-street space dedicated to parking. Secondly, the city decided to focus more on proper enforcement of parking in the city centre. In this regard, exceptions were defined to ensure accessibility by physically impaired car users. Last, but not least, parking standards were established, including a set of conditions for new developments based on existing legislation and a maximum number of parking spaces per individual house/building.

Thanks to the knowledge exchange and cooperation with Park4SUMP project partners, Slatina was able to leapfrog its implementation of a holistic parking policy.

4.6 TECHNOLOGICAL INNOVATION

Parking management is, of course, subject to technological innovation. Such innovations not only address current issues and concerns, but will undoubtedly also help alleviate future issues, in ways that are now unforeseen.

Gdansk (PL): Improved enforcement with scan cars

The city on the Polish seaside has 6129 controlled parking spaces and 329 parking meters. In the summer of 2020, it began investigating the possibility to use a scan car to improve the efficiency of enforcement of its controlled parking zone.

Turns out, it can! In 2021, a scan car went into operation. To avoid fining car drivers still in the process of buying a parking ticket, the scan car performs a double scan of each car in each street. Photos of cars found to be in breach of parking regulations are checked and verified manually. The capacity of the scan car sits at around 500 cars per hour, of which less than 5% are fined. All in all, the scan car significantly increased Gdansk's parking enforcement efficiency.

Sofia (BG): Parking guidance systems

The Bulgarian capital of Sofia is an agglomeration of over 1.3 million inhabitants. The city is affected by road issues and high volumes of traffic searching for parking spaces.

Since 2018, the city has repeatedly expanded short-term paid parking zones to reduce traffic volumes and the number of parked cars. One of the measures developed in the context of Park4SUMP saw the extension of paid on-street parking areas by 5,000 spaces, followed by several implementations aimed at promoting sustainable transport and the use of electric vehicles. Parking management measures were integrated into the city's new SUMP, which includes a stronger focus on parking issues than previous policy documents.

The extension of paid parking zones and increase of parking fees, combined with promoting the use of electric vehicles, would undoubtedly discourage people from travelling with pollutant vehicles, while also changing individuals' habits towards the use of sustainable means of transport.

4.7 ACCOMPANYING MEASURES

Although parking challenges have mostly been associated with the growth in car traffic, urban population growth and the rise in urban cycling have led to increased demand for bicycle parking facilities. For cyclists, keeping their bike safe, secure, and in good condition is imperative.

Vitoria-Gasteiz (ES): Bike parking

The Basque city of Vitoria-Gasteiz has a long history of sustainable urban planning. Over the years, the city created 'superblocks' where public space is re-organised resulting in a network of priority roads and 'islands' of traffic calming. This planning approach led to a significant reduction in private car use in favour of more sustainable modes of transportation, doubling bicycle use in less than 15 years.

To manage this positive trend, the city changed its parking standards regulations. These changes increased the minimum of bicycle parking spaces that new residential developments are required to provide. To further encourage cycling, this requirement was extended to other types of developments as well. In addition, Vitoria-Gasteiz complimented these new parking standards with the installation of a municipality-owned network of smart and secure bike parking facilities. Launched in 2018, the network has now expanded to 10 locations with a total of 557 parking spaces. Most of the facilities consist of detachable modules with a capacity of 50 parking spaces and are in public spaces, but there are also bike parking facilities inside buildings and in car parks. Some of these facilities are even adapted for cargo bikes and equipped with charging points for electric bikes.

Tallinn (EE): Parking for socialist-era high-rises

In the post-Soviet era, residents of Tallinn witnessed the transformation of high-rise residential buildings formerly owned by the state into private condominiums managed by flat-owners associations (FOA). Simultaneously, private passenger car ownership tripled in less than three decades. These profound post-Soviet changes brought about new mobility challenges and encouraged the Estonian capital to find innovative solutions.

A two-pronged approach was implemented. First, FOA courtyards were refurbished. Since the launch of this refurbishment scheme in 2006, there have been around 70 specific projects annually, ranging from the construction of bicycle storages to playgrounds and parking spaces. Secondly, the city provided municipal land to individual FOAs to address parking space shortages. In practice, FOAs signed 15-year land rental agreements with the city for the utilisation, including maintenance and renovation, of parking spaces.

www.Park4SUMP.eu

European Platform on Sustainable Urban Mobility Plans

@civitas_P4S

Civitas Park4SUMP

Park4SUMP

CIVITAS 2030 Park4SUMP

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

Park4SUMP is a project under the CIVITAS Initiative.
Read more - civitas.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769072.