WE DARE TO...

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TABLE OF CONTENTS

Foreword

Aachen, Germany

Bratislava, Slovakia

Helsinki, Finland

Madrid, Spain

Rethymno, Greece

Sarajevo, Bosnia and Herzegovina

Szeged, Hungary
FOREWORD

We have had our fair share of crises in this remarkable decade. Yet we know by now that amid the devastation that they wreak, shards of hope remain, fragments of a shattered mirror that each show us a different perspective. As ever, our cities are the hubs of action. They have had to adapt at unprecedented speed and to shoulder an even greater responsibility, utilizing strained finances strategically to counter the shocks that they have experienced. Urban mobility is an area that has been hit particularly hard. This has not gone unnoticed, and we welcome the promotion of public transport and other sustainable modes in recovery and resilience plans, as well as the decision to earmark a significant portion of the Cohesion Fund for sustainable development. Nevertheless, prompt and practical measures are necessary to address the sustainable financing of public transport to ensure that people continue to use it. Its importance cannot be understated: public transport forms a major component, and arguably the backbone, of sustainable urban mobility systems. What we now have before us is an opportunity to reshape urban mobility for generations to come and put the brakes on the climate emergency. We are re-evaluating how we live, work, and move.

This is our moment to consolidate and accelerate the advances already made towards cleaner and greener mobility. Finding a common path through the uncertainty we face will require a holistic approach and further building on the partnership between the EU and cities. This is already being acted upon by the cities mission for 100 climate-neutral cities by 2030, which will play a key role in advancing this ambition.

We already possess the perfect roadmap to guide us on our journey towards more resilient cities: the European Green Deal. In collaboration with the EU, cities can use this to integrate sustainability into all policy areas and ensure that no person or place is left behind. The EU must continue to play a powerful role in driving resilience in cities. On the one hand, advancing sustainable mobility and a modal shift, and on the other facilitating the exchange of innovative concepts in urban planning and mobility among our cities.

The CIVITAS Initiative’s peer-learning programme, which has developed this great resource, exemplifies the form that such collaboration can take and the many fruits that it bears. Just in the year 2019, the programme has seen Bristol and Cologne swap notes on mobility hubs to reduce car use; Cascais and
Parma sharing expertise on the use of real time mobility services; and Helsinki and Tel Aviv working together on innovation labs to drive smart city ventures with businesses. These are only a few of the success stories arising from the CIVITAS peer-to-peer exchange programme.

I hope that this e-learning tool will inspire your city, and be a valuable stepping stone on your route to a future in which sustainable urban mobility can withstand whatever comes in its way.

Anna Lisa Boni,
Secretary General, Eurocities
AACHEN

SAFE AND COMFORTABLE CYCLING IN COMPACT CITIES

Aachen is a compact city of short distances and dense settlement, while at the same time having unfavourable topographic conditions for cycling.

With the emergence of electric bikes, the potential user group using bicycles or pedelecs as their primary transport mode has grown significantly. As Aachen has suffered from poor air quality, the city has envisaged measures to enhance cycling in its ongoing clean air planning, as well as in the new Mobility Strategy 2030. During the COVID-19 crisis, this trend has gained even more momentum, with more people walking and cycling in the city and significantly improved air quality. Measurements of NO2 between March and June this year have reduced by 20% on average compared to the measurements over the same period of time in 2019. To improve accessibility for cyclists and pedestrians, Aachen has introduced a network of main cycling routes and high-quality footpaths to connect all districts with the city centre. Regional connectivity to the surrounding municipalities is of key importance within the Aachen City Region.
AACHEN, GERMANY

“WE DARE TO CREATE MORE SPACE FOR PEOPLE,”
HIGH-LEVEL STRATEGIES FOR GREEN MOBILITY IN COMPANIES

With the aim of taking corporate mobility management to the next level, Aachen is addressing all large companies in the city with its new mobility management programme.

Together with seven pioneer companies, various strategies to reduce motorised private transport among employees are being tested to further strengthen corporate mobility management in the city.

A special software is used to analyse the potential companies have to convince employees to switch from their own cars to more sustainable transport options (cycling, public transport, shared private transport, car-sharing etc.), and all participants are accompanied by the municipal programme office ‘Aachen Clever Mobil’. Its mobility concepts are specially tailored to the individual and specific needs of companies and employees. The programme offers a variety of measures which may incentivise employees to consider more sustainable transport options, such as test pools of pedelecs or electric cars. Workshops and annual CEO conferences, for instance during European Mobility Week, enable the exchange of experiences and knowledge among the participating companies. In addition, a number of innovative digital tools are being developed, such as a car-sharing module in the city’s central mobility app called ‘movA’ and a planned incentive app for using climate-friendly transport. With this app, users can earn points which can later be redeemed at participating local retailers.

In line with the mobility management programme for private companies, the city administration and the federal state institutions located in Aachen (who together have thousands of employees) will also undergo an optimisation process for enhancing climate-friendly mobility within these organisations.
AACHEN OFFICIALS FLEET AND CLEAN UTILITY VEHICLES

Taking its leadership role seriously, the City of Aachen introduced the compulsory use of electric vehicles for official travel within Aachen and the region from the year 2017. To enhance multimodality, the use of public transport, bike-sharing, car-sharing and e-scooters was included in the pool of transport modes for official journeys.

The use of private cars is no longer allowed without special permission. This consistent and effective approach received attention from many other German cities.

Overall, 60 of 420 vehicles have already been electrified, translating into 14% of the municipal fleet. Not only has the city updated its policy with regards to official mobility of employees, it is also investing in new clean utility vehicles. Among these are customised retrofitted light electric vehicles, as well as cargo bikes for waste disposal in the historical city centre. Two hydrogen-powered waste collection vehicles will be delivered by the end of 2020. Further waste collection vehicles are expected next year. Moreover, an electric street sweeper will be ordered in 2021.
BRATISLAVA

THE VIVID SQUARE PROJECT

The Vivid Square project focuses on the unification of three neighbouring squares near the historic city centre and their revitalisation and transformation into functional and accessible public space.

The project was created in the context of neglected public spaces in Bratislava. In the past, important public spaces were often reduced to transit zones, thus not fulfilling their key public functions, except for mobility. Each of the squares represents a unique space and fulfils a different function: one is a market square, whilst another is a place associated with the most important political events in Bratislava’s modern history, etc. As these squares were neglected for a long time, they began to be used in other ways – unregulated parking (often interfering with the centre of the pedestrian area), illegally placed advertising spaces, and unauthorised buildings emerged. All these negative phenomena have significantly affected the usability of these squares.
“WE DARED TO TURN TRANSIT ZONES INTO SQUARES, WILL YOU DARE?”

Quickly and easily implementable low-cost solutions were designed in order to have the greatest possible impact on the quality of public space in the squares.

The aim was to create interventions that would not create a barrier to later competitions or be a lost investment if the elements introduced were later considered undesirable.

All three squares are crucial areas in the city centre, meaning that pedestrian traffic and easy movement must be prioritised. For this reason, mobility solutions have been proposed that will make walking more attractive and increase the general accessibility of the spaces. Data shows that more than 40,000 people pass through the squares every day, coming mainly on foot or by public transport. Only about 5% of people travel to this area by car.
QUICK WINS

PRIORITISING PEDESTRIANS

RESTRICTING CAR PARKING AND ADDING MOBILE GREENERY

INSTALLATION OF BICYCLE STANDS

HEIGHT COMPENSATION OF PAVED SURFACES
PUBLIC TRANSPORT IN TIMES OF CORONA

The public transport operator in Bratislava (DPB) also had to deal with the specific situation caused by the coronavirus. From the very beginning, it introduced strict preventive measures to slow the spread of the virus that were aimed both at residents who use public transport and employees, especially drivers. These sought to inform citizens and passengers in order to prepare them for the exceptional situation brought about by the spread of COVID-19. Using their websites and social media channels, the City of Bratislava and DPB gave people a package of up-to-date information and recommendations concerning the situation in the city. Through active communication, citizens were encouraged to be disciplined and responsible. Information on planned and existing measures was provided in two languages (Slovak and English), and displayed on public transport vehicles using an eye-catching design. Last but not least, information about the precautionary steps that citizens can take in their everyday lives was shown on screens inside the vehicles. DPB created a communication campaign towards passengers and users of public transport under the motto ‘we have a common goal’, the aim of which was to create a safe environment on public transport and mutual tolerance between passengers.
WHITE BIKES BRATISLAVA: COMMUNITY SHARING AND ACTIVE CIVIC COMMUNITIES

White Bikes, a project for creating community bike sharing systems, has been running in Bratislava for more than six years now. During that time, it has managed to gain more than 850 users, who can ride on more than 130 white bicycles. From the beginning, the project was set up to make the system replicable by anyone, anywhere.

It is not only low-cost, but also freely available on the internet. This means that any organisation or individual can create a new system of shared bicycles in their own city, university or company. Indeed, many other cities across Europe have taken advantage of this to create their own versions of the system. Financial and technical support for the White Bikes project comes primarily from the civic association Cyklokoalicia, with volunteers also contributing hundreds of hours of work. Thanks to their contributions, the system is almost self-sustaining.
HELSINKI

CALLBOATS – AN ELECTRIC ON-DEMAND FERRY SERVICE TO ADDRESS CITIZEN WISHES

Helsinki is surrounded by a mosaic of islands in three directions and has 130 kilometres of public coastal routes. The maritime aspect and the archipelago are, therefore, clearly important, special characteristics of the city.

The regional public transport system, for example, includes a ferry in addition to the usual trams, buses, metro and trains. It is an attraction factor for both tourists and Helsinkians looking to enjoy the nature as well as a natural part of the city structure itself with districts on connected islands.

One citizen engagement instrument the city uses is participatory budgeting, where citizens themselves suggest whatever types of improvement ideas they have for the city. Easier access to/from and travel between coastal points and islands is one of the things that was proposed by the citizens in the process. The combination of the participatory budgeting and the city’s testbed activities ended up finding a match between the locals’ needs and a company looking for a place to test and demonstrate its new ferry solution. Thus, an electric on-demand ferry service experiment, Callboats, ran in the summer of 2020 in the Helsinki archipelago. The city helped in putting up the needed infrastructure (pier, electricity) while a company developing the electric ferry and a mobile application for it provided the service.

READ MORE
Travel to Helsinki
“WE DARE TO DO AGILE TESTING OF NEW IDEAS IN PRACTICE,"
Helsinki has a long tradition in promoting and using open data and application programming interfaces (APIs – technology that gives different people different ways of accessing data) as well as public-private-research collaborations. Approaches such as these have helped Helsinki become known as a forerunner in smart mobility, ranging from new mobility services to solutions for automated driving. Enabling and supporting innovation activities is prominent in the city’s strategy which states that the city is a testbed for developing and testing new innovations to foster growth of new business as well as getting better services to the residents.

**The lab provides those with ideas a channel for finding the right people in the city organisation to discuss the possibilities of deploying new pilots and using the city as a testbed.**

In the field of smart mobility, this approach is put in practice through the Jätkäsaari Mobility Lab, which provides a city district as a testbed for companies, developers and researchers who need to pilot their new technologies or services in a real-world setting. A lot of the city’s smart mobility research, development and pilot projects are focused in the same area, creating a basis for further developments and synergies through smart infrastructure and new data (e.g. on the traffic situation or air quality) that can be used by other parties and projects.
SHARED CARGO BIKES

In the past couple years, several cargo bike services have been piloted in Jätkäsaari, Helsinki’s main district for smart mobility pilots. These have utilised different service models and addressed different target groups. Some have had local companies as the main customers, providing a useful vehicle for delivering small and medium-sized parcels, whilst others have focused on shared use by local residents for daily tasks like bringing shopping home or taking their children to nursery. The latter service in particular received plenty of positive feedback last year and had more than a hundred users, which is considerable for a district with less than 10,000 residents.

The pilots have made residents more familiar with active travel. The participatory approach and practical piloting with the residents has helped refine and better shape the service to improve the discoverability and availability of the bikes, for instance through better planning of their operation and parking areas.

With the positive feedback from earlier pilots and further wishes for such services expressed through citizen engagement and participatory development processes, the added value and potential to replace private car trips for some residents seemed to be there. In the spring of 2020, Helsinki City Transport launched an open call looking for new bike solutions, and selected a refined version of the shared cargo bike service piloted the previous year to be implemented again.

The cargo bikes are a good example of simple services that can help reduce the need for owning – or at least unnecessarily using – a private car in an urban area, particularly for things such as transporting items or shopping in a local neighbourhood.
Madrid is a city for walking. Its progressive street design, which prioritises pedestrians, has played a major role in 80% of trips in the city centre being made either on foot, by cycling, or with public transport.

In CIVITAS ECCENTRIC, this sustainable trend has been studied, taking into account the limited walkability in peripheral neighbourhoods.

In Madrid, 31% of trips in the metropolitan area are made by active modes. Trips made on foot amount to 40% of all trips in the city centre and 32% of those in peripheral areas. Cycling, the other primary mode of active transportation in Madrid, has grown in popularity in recent years. Bicimad, a good e-bike sharing system and COVID-19 have contributed to the increase in the numbers of people cycling. However, challenges remain concerning the safety of cyclists throughout the city.

CHECK OUT SOME OF THE MEASURES TESTED IN CIVITAS ECCENTRIC:
MADRID, SPAIN

“WE DARED TO BE A VIBRANT WALKING AND CYCLING CITY,”
The City of Madrid has procured more than 300 electric vehicles (EVs) for its municipal fleet, while expanding its network of public fast-charging infrastructure within the CIVITAS ECCENTRIC project.

Madrid has worked on the development of electric mobility at three levels:

- The renewal of the municipal fleet and introduction of performance testing. More than one third of the fleet now consists of EVs.
- The improvement of public charging infrastructure. This includes increasing the number of fast-charging stations, paying special attention to the quality of the service, and utilising new models of public-private collaboration for its development.
- Effective promotion of the use of EVs in private fleets through new regulations and strategies relating to air quality, climate change and sustainable mobility. Approved examples of this during the CIVITAS ECCENTRIC project include the ‘Madrid Central’ Ultra Low-Emission Zone and the new Urban Sustainable Ordinance.
EFFICIENT AND CLEAN PUBLIC TRANSPORT SOLUTIONS

Public transport is one of Madrid’s main assets. The metropolitan mobility system is fully integrated through its public transport network. On average, 24% of trips in the city (2018) are made by public transport, with a greater use in central areas. Madrid Region has an integrated and smart transport system that combines buses with underground rail, as well as other complementary services, such as e-bike sharing and a light rail and regional rail-commuting networks. Since 1985, public transport has been managed through the Madrid Regional Transport Consortium (CRTM), a partner in the CIVITAS ECCENTRIC project. EMT, another CIVITAS ECCENTRIC partner, manages buses and shared electric bikes.

The interconnected system includes 13 large transport interchange hubs and 11 intermodal areas in the main city centres, which combine the use of various transport modes and provide easy access to the city and the surrounding area. There is a single contactless ticket for most of the services.

CIVITAS ECCENTRIC has addressed three key issues linked to public transport in the Spanish capital:

- ZERO EMISSIONS
- IMPROVING SERVICE
- IMPROVING INFORMATION
Rethymno is developing smart systems for urban planners to allow for real-time monitoring and analysis of traffic, mobility and environmental data, which will in turn support decision-making in the monitoring, assessment, and improvement of the SUMP action plan.

The absence of reliable spatio-temporal traffic and environmental data was a crucial challenge for transport planning and the monitoring of the SUMP of Rethymno. To this end, thermal cameras and environmental monitoring stations were installed in select city locations in the Municipality of Rethymno and the Renewable and Sustainable Energy Systems Lab of the Technical University of Crete. Correlations between critical traffic and environmental indicators highlight the impact of tourist flows on the city’s transportation and identify the points requiring intervention.

The launch of a Smart Car Parking Management System contributes to the efficient management of the city’s traffic and reduces congestion, both things that improve transportation and living conditions.

Eleven thermal cameras compliant to the European General Data Protection Regulation (GDPR) were installed in select locations in the city centre, near entrances to the city, and in other critical spots. They are connected to a web-based platform which collects data in real-time and analyses numerous data sets for traffic load.

A dual-level environmental monitoring system with five sensors provides valuable data that, taken together, forms a comprehensive, continuously monitored overview of the city’s air quality levels.
Travel to Rethymno
“WE DARED TO PUSH FOR INNOVATIVE AND SUSTAINABLE MOBILITY, 
RETHYMNO, GREECE
INTRODUCING ELECTROMOBILITY IN RETHYMNO

Rethymno has introduced a new generation of CO2-neutral e-vehicles in Crete. Indeed, it is the first city in Greece to integrate e-vehicles into municipal and public transport fleets. These zero-emission, quiet and efficient vehicles circulate the city, contributing to Rethymno’s reputation as an environmentally-conscious city.
SHAPING A ROAD SAFETY AND SUSTAINABLE MOBILITY CULTURE FOR THE NEXT GENERATION

Rethymno is combining new infrastructure and strategic plans for schools and its local university, while promoting the engagement of public stakeholders and conducting behavioural change activities to increase safety and the use of sustainable transport within the school community. Mobility plans have been developed for 11 primary and secondary schools in Rethymno (which has 18 school districts in total), and the university. They are a key component of the upgraded Sustainable Urban Mobility Plan (SUMP) of Rethymno.

A two-year integrated action plan was designed and implemented that included experiential road safety and behavioural change activities for schools. All in all, the activities had pupils, teachers and parents from thirty schools participating and reached more than 4,500 pupils.

Step-by-step planning together with key stakeholders helped establish a working group that supported the implementation of the action plan. Continuous and close cooperation with school communities (teachers, pupils and parents) resulted in mutual support and wide participation. The Directorates of Primary and Secondary Education and the Municipal Department of Education and Lifelong Learning were the two authorities that provided robust support, a key factor for the success of the measure.
SARAJEVO

VILSONOVO ŠETALIŠTE - A PROMENADE FOR PEOPLE

The most popular promenade in the city of Sarajevo is Vilsonovo Šetalište, which stretches along the Miljacka River from the Suada and Olga Bridge to the building of Elektroprivreda BiH.

On both sides of the promenade, dense rows of linden trees were planted at the beginning of the 20th century, which make this promenade a green oasis in the middle of Sarajevo. Motor vehicles are prohibited from driving along the promenade every working day after 17.00, and all day on weekends and holidays. Exercise equipment has been set up in several places along Vilsonovo Šetalište and a fenced playground is available for children.

Along the promenade, there are several restaurants, whose gardens are popular places to go out in Sarajevo during the summer months. The Ministry of Traffic intends to turn the road surface in Vilsonovo Šetalište into a pedestrian-recreational zone with a separate pedestrian and bicycle area.
Travel to Sarajevo
SARAJEVO, BOSNIA AND HERZEGOVINA

O CHANGE CYCLE LANES IAN AREAS,
The project of building a bicycle path in the city of Sarajevo is one of the most important transport infrastructure projects in the Canton. The popularisation of cycling in the city is currently reflected in the growing number of cyclists who use this means of transport not only for recreational, but also for transport purposes. Due to the lack of adequate cycling paths, cyclists were forced to use areas intended for pedestrians, thus violating the law and endangering pedestrians, or they were forced to ride on roads, which is extremely dangerous given the level of traffic and the culture of car driving. For this reason, the city constructed the bicycle path Nedžarici – Skenderija, which is approximately 14km long. This section is a continuation of the already designed bicycle path Ilidža - Nedžarici. As a basis for the route of this path, the ‘Study of the network of bicycle paths in the area of Sarajevo Canton’ was used.

The construction of bicycle paths was carried out in accordance with European standards, with vertical and horizontal traffic signals, ample dimensions and high-quality materials. Adequate rest areas for cyclists have also been built along the trail.

This project saw an immediate increase in cycling, and since then has encouraged a steady rise in the number of people doing so. Indeed, cycling is increasingly perceived in Sarajevo as normal and safe, and is encouraged by all city municipalities.
THE BACKBONE OF URBAN MOBILITY

Tram traffic in Sarajevo represents the largest volume of public passenger transport. The total length of the tram network is 23km. Before the XIV Winter Olympic Games, which were held in 1984, trolleybuses were introduced into the public city transport system in Sarajevo. The goal of introducing them was to reduce the use of buses and resulting air pollution. The Trebevicka cable car and the Ciglane inclined lift currently support vertical transport in the city. The Trebevic cable car is used entirely for touristic purposes, but with the expansion of the lower part of its route, it could be used as a form of transport for the inhabitants of Sarajevo. In 1987, an inclined lift was built in the Ciglane settlement. The sloping lift at Ciglane has proven to be efficient and popular.

Under the Sustainable Urban Mobility Plan (SUMP) for Sarajevo, investment in public urban passenger transport has been identified as the most important part of a strategy to improve overall urban mobility.
CRITICAL PT INVESTMENTS SINCE 2018

€20 million
Reconstruction of the tram-line

€10 million
Reconstruction of the trolleybus network for Vogošća

€20 million
Construction of a new tram line on the section Ilidža - Hrasnica
SZEGED
FREEING UP THE TISZA QUAY FOR SUSTAINABLE URBAN LIFE

The city of Szeged decided to close the Tisza river quay for all motorised vehicles on weekends in July and August 2020. This opened up the quay for active modes of transport and leisure activities, along with cultural and sporting events.

Since the quay became a major thoroughfare for car drivers going through the city, it became impossible for residents to spend free time on the parts of the river quay near the city centre. This temporary measure was an experiment to see how many people would choose to spend a summer evening jogging and cycling, or enjoying cultural activities such as concerts and films on the river bank.

The functional change of the quay is a conscious decision that allows and encourages people to profit from the outstanding natural environment and possibilities that the river provides. By giving this space to people, it is hoped that they will spend more time close to nature and appreciate their natural surroundings more. In order to emphasise the importance of environmental protection, all single-use plastics are prohibited during events. In addition, cashless payment is highly encouraged, which is less resource-intensive and can help stop the spread of viruses.
“WE DARED TO OPEN UP SPACE FOR PEOPLE,
WILL YOU DARE?”
SMART ALLIANCE FOR SUSTAINABLE MOBILITY (SASMOB)

This is a cross-sectoral alliance between the municipality and private companies with workplaces in Szeged. The majority of trips taken in the city are work-related, namely employees going to work and then returning home. The aim of the Alliance for Sustainable Mobility is to make work-related commuting more sustainable and to decrease air pollution and congestion in the city, especially during peak hours. This innovative concept was adopted from the US town of Austin and gained funding through the Urban Innovative Actions (UIA) initiative. The measures are designed to help employees and citizens in their everyday commute. They include: providing quality options for bicycle storage, establishing company-based bicycle fleets, providing free-of-change self-service points or organising bicycle service days, installing ticket machines at employers’ sites, and conducting sustainable mobility campaigns with games and prizes. With the help of the initiative, people can be educated on the environmental impacts of their travel choices.

Local employers have started to realise how important it is to provide their employees with adequate commuting options.

The alliance was established in 2019 with seven local companies. Within one year, the network has already extended to nearly twenty companies. Thanks to UIA, Szeged has the resources to raise awareness about sustainable urban mobility. It was very important to reach out to employers to have a bigger impact on the employee community.
NEURON NETWORK IN TRAFFIC MONITORING

The other big pillar of Szeged’s UIA-funded SASMob project is a system of smart sensors in the city that collects and monitors commuting-related data. This is used to shape a co-designed policy process based on human-vehicle infrastructure communication. The sensor itself is unique in Europe: it analyses camera images of passing vehicles, bicycles and pedestrians, and also analyses Wi-Fi signals from smartphones, unlike any other similar traffic flow monitoring solution. Connecting these two types of data will help to draw a full picture of mobility in the city.

This solution can become a powerful tool for mobility planning in the future as the system can be built from ready-made parts, which results in a far lower price compared to similar devices available on the market. Therefore, Szeged will be able to deploy a large number of sensors in places where there is a need for analysing traffic flows.