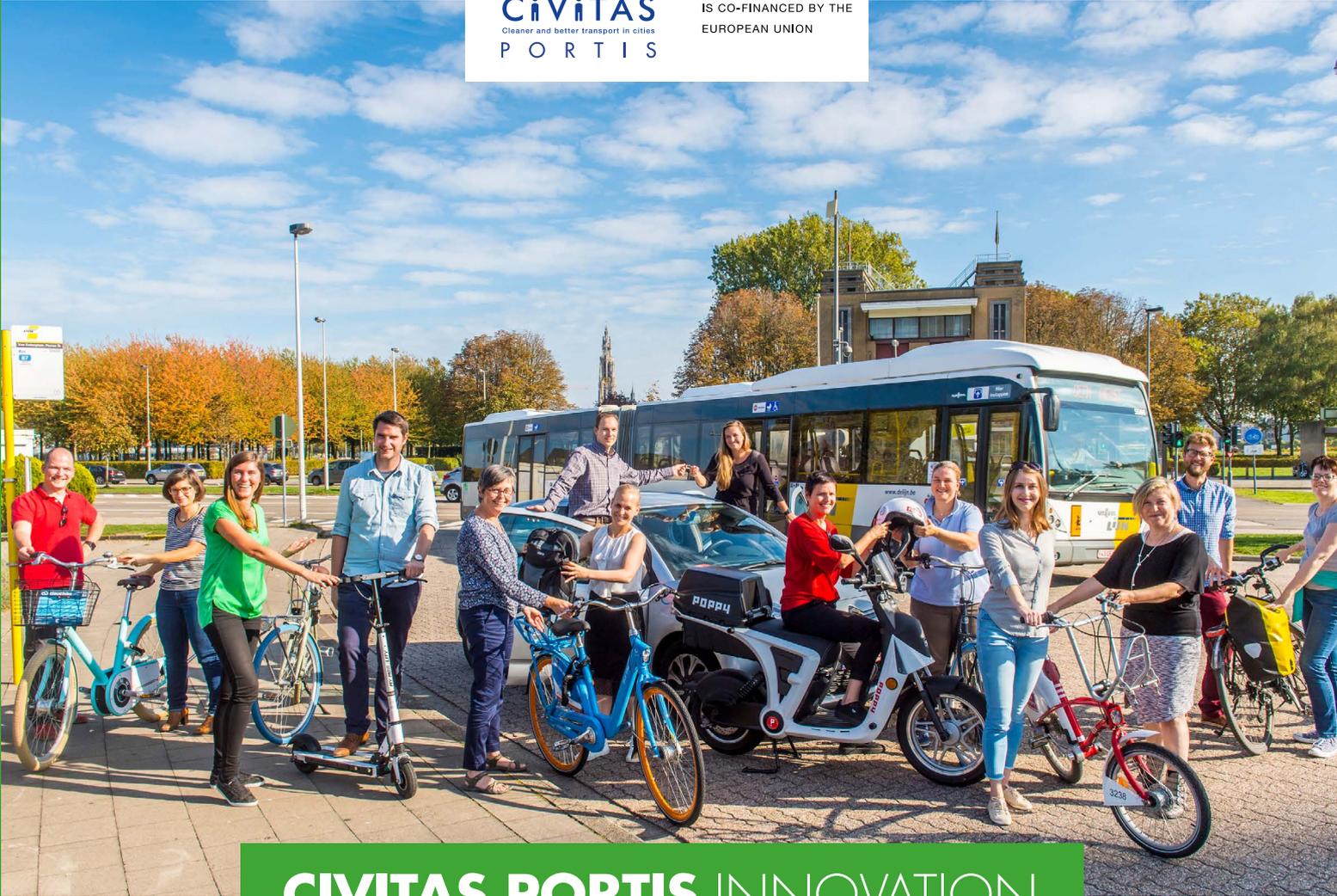


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## CIVITAS PORTIS INNOVATION

# SUSTAINABLE URBAN MOBILITY SOLUTIONS ROUND-UP OF THE PORTIS INNOVATION PROCESS

CIVITAS PORTIS Innovation E-Brochure No. 4 | November 2020

EDITORIAL  
INNOVATION

Dear Reader!

As one unique aspect of the PORTIS project, the cities of Aberdeen, Antwerp, Constanta, Klaipeda and Trieste accepted the challenge of applying an innovation process to the design and implementation of selected measures. The overall objective was to enhance these measures with respect to four main types of innovation: organisational; planning and implementation; business model and marketing; and the product or service itself.

The PORTIS Innovation Process commenced with idea generation workshops, to identify a series of possible ‘Innovation Activities’ that would add value to the measure development approach. As illustrated in this brochure, an innovation canvas diagram was used to promote thinking about the multiple types of innovation. It was not a requirement that all of these activities should be taken forward, but rather that an open process of gathering suggestions would be followed by prioritisation, and then seeking to pursue the most promising activities.

In this issue of the Innovation E-brochure we provide a summary report on the types of Innovation Activities that were identified (large and small), including examples of those that were successfully taken forward, and those that have not yet been completed or were discounted following further investigation (shown in orange in the diagrams). These cases cover a range of the mobility measures implemented in PORTIS, from commuter travel planning, through to traffic and parking management and the provision of cycle infrastructure. We conclude with some reflections on the PORTIS Innovation Process and how this might be taken forward in the future.

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**CIVITAS PORTIS has tested innovative and sustainable urban mobility solutions in five European port cities, and has also exchanged knowledge and experience with follower city Ningbo, China. For an overview of the project, as well as further news and resources, please visit <http://civitas.eu/portis>**

SUSTAINABLE COMMUTES  
WORKING WITH EMPLOYERS IN ABERDEEN & ANTWERP

**Nestrans (the Transport Partnership for Aberdeen City and Shire) and the City of Antwerp have been developing their approaches to engaging businesses in commuter travel planning over a long time period. For Nestrans and Aberdeen City Council, PORTIS provided an opportunity to launch campaigns in a central area benefitting from good bus and train links, as well as an edge of city location with higher proportions of car use. In the case of Antwerp, activities within PORTIS benefited from experience gained in the PTP-Cycle and Switch projects, and the city built upon this adding several new elements. Impacts achieved include a substantial 19% modal shift away from car use amongst participating companies in Antwerp and the development of a 3 year promotional programme for Aberdeen based on feedback gathered.**

Examples of innovation activities pursued by the city partners, as displayed on the innovation canvas diagram, are summarised here:

**1. Umbrella branding**

Packaging engagement with employers alongside other initiatives under the existing GetAbout and Smart Ways to Antwerp brands helps to guarantee recognisable, reliable messaging.

**2. Business Breakfasts and Living Experience Blog**

Business breakfasts proved a successful way to tempt commuters to engage with the schemes in Aberdeen and a Living Experience Blog helped raise awareness of the ‘feel good factor of sustainable commuting.

**3. Mobility Scans**

Engaging with companies in Antwerp begins with a ‘Mobility Scan’. This process is based on a survey of current travel behaviour and commuting distances. The potential for smart travel is then calculated applying assumptions, such as trips of 7.5 to 15km could be made by e-bike, and that travelling by public transport is justified providing



it does not take more than 1.5 times longer than travelling by car.

**4. Infrastructure audits around company premises**

Understanding if there are relatively minor barriers preventing shifts to sustainable modes has been an aspect of the approach in Aberdeen. For example, checking for safe pavements and lighting from public transport stops, and providing feedback to companies on provision of changing amenities for cyclists.

**5. Logistics scans and optimisation**

Following on from the success of ‘Mobility Scans’, the idea of Logistics Scans was explored by the City of Antwerp. During engagement with companies it emerged that procurement and delivery flows to a company building are complex, and that engagement with logistics companies would be more beneficial.

**6. ‘Mobilotheek’ – test offer**

The City of Antwerp teamed up with partners to offer a free four week trial period for commuters of alternative mobility options, including: E-bikes, speed pedelecs, cargo bikes, bus, tram, train, waterbus etc. Long-term monitoring showed that 28.7% of people ended up purchasing the bike or public transport tickets they had tested.

7. Marketplace for Mobility

Challenging the private sector to propose solutions for mobility issues through the publication of regular calls provides a way for the City of Antwerp to generate new ideas and pilot new schemes in simple partnerships. Recently approved trials include the AllRide gamification and rewards app, a car-pooling trial with Cambio, and collective transport to difficult to reach locations with Huur een Stuur.

8. Apply the 7E Behavioural Change Approach

During a workshop at a project meeting in Constanta, representatives from Aberdeen, Antwerp and Klaipeda

participated in a learning and idea generation workshop, to understand how cities could apply the 7E model and formulate specific activities.

9. Event for Company CEOs

The City of Antwerp began its campaign focussing on large companies to achieve scale and impact. Inviting company CEOs to a highly publicised ‘signing ceremony’ helped to generate commitment to the initiative at leadership level, and broad publicity of the efforts of companies and the city authority to reducing congestion.



MANAGING THE HIGHWAY NETWORK TO ENABLE SUSTAINABLE MOBILITY

Optimising the highway network to enable sustainable mobility and efficient logistics flows is at the core of the PORTIS project concept. In Klaipeda, smaller pilot measures intended to test traffic management systems at two junctions, to enable prioritisation of port traffic and creation of a ‘green corridor’ for public transport, have been integrated and developed to become the basis for a 3.5million Euro investment programme covering 11 junctions and 10kms of strategic routes through the city.

For the city of Constanta, unmanaged on-street car parking dominates the streetscape in some areas, creates a barrier to pedestrians and cyclists, and removes incentives for people to consider alternative modes of travel. Within the framework of PORTIS the city authority and partners have developed a car parking strategy, engaged with stakeholders on this topical issue, and undertaken pilots of parking management technologies.

Examples of Innovation Activities of the two cities are summarised here.

ORGANISATIONAL INNOVATION

Klaipeda: City & Port Cooperation Platform – Formulating and agreeing plans for the traffic management system

has been a fruitful area of collaboration between the state-owned Port Authority and city authority. Creation of cooperation platforms of this type has been a foundation of the work in all PORTIS cities.

Constanta: Pre-procurement dialogue – In order to test the market prior to procuring a specific parking system, the City of Constanta has engaged in discussions and pilots with parking management and technology providers to assess the most appropriate solution.

PLANNING & IMPLEMENTATION

Klaipeda: Avoiding vendor ‘lock-in’ – During an Innovation Meeting with partner TML (Transport & Mobility Leuven) the possibility of ‘lock-in’ was raised. This is a situation where a pilot traffic management system at one junction is not compatible with other systems that may later be added. In order to avoid this, additional clauses were added to procurement documentation.

Constanta: demonstration events, ‘street gardens’ – The potential to undertake ‘tactical urbanism’ to illustrate the changed environment that could be achieved through parking measures was raised during meetings, but not applied specifically in relation to this measure. However, as part of its wider programme of boulevard refurbishment, Constanta did hold car-free events in parts of the city (see Innovation E-Brochure Issue 3).





amongst local partners, and so that a fair and price sensitive charging approach could be implemented across the city.

**Constanta: 'Ring-fencing' of parking charges** – In order that parking management could contribute to funding of sustainable mobility initiatives, the potential of a parking charges 'ringfence' was raised during innovation meetings and is being discussed with the city authority.

**PRODUCT / SERVICE**

**Klaipeda: Emergency vehicle prioritisation** – Modelling of traffic flows represented a basic element of measure planning and it was agreed that additional work should be undertaken to understand implications for emergency vehicles, including actions to enable priority. As a result, emergency vehicle prioritisation being included in the system procurement specification.

**Klaipeda: Smart air quality management** – Additional to the principal traffic management and public transport priority objectives of the measure, the City of Klaipeda is pursuing the integration of a 'Smart Green Tool' for air quality management that enables traffic flows to be coordinated to reduce incidents of high pollution levels.

**Constanta: Private sector parking** – So that policy was developed based on a complete picture of parking provision, project partners MedGreen undertook additional surveys of privately operated car parks.

**BUSINESS MODEL & MARKETING**

**Constanta: Differentiated parking charges** – Studies of best practice parking management approaches across Europe were undertaken in order to build capacity and understanding



**THE VALUE OF ENGAGEMENT AND EXCHANGE IN THE DELIVERY OF CYCLE INFRASTRUCTURE**

**At the outset of CIVITAS PORTIS, the City of Antwerp had the ambition to harmonise cycling wayfinding across the city, as a confusing array of signage installed by different authorities had built up over the years. During the first innovation meeting on cycle signage, it proved difficult to generate ideas for new, value-adding activities and product ideas. The decision to engage bicycle user groups in a stakeholder workshop resulted in new perspectives and insights that were of tremendous value.**

**The city of Klaipeda has favourable conditions for development of a cycling culture, being a compact city located on a flat coastal plain. Efforts to realize this potential have included the construction of over 105kms of bicycle paths. Nevertheless, the provision of bicycle parking and storage remained an important missing link, particularly for families living in apartment blocks where there are no lifts or convenient and safe places to keep bicycles overnight.**

For both the cities, involving citizens in the measure development process were valuable Innovation Activities, resulting in new ideas and approval for the infrastructure implemented.

**ORGANISATIONAL INNOVATION**

**Klaipeda: Collaboration with education authority and public health bureau** – Discussions with a school forum were undertaken once a month in order to discuss promotional activities for cycling to school and the provision of parking facilities at school premises. Liaison with the public health authority also commenced, in relation to ideas such as cycling for health prescriptions.

**PLANNING & IMPLEMENTATION**

**Klaipeda: Engaging citizens on cycle storage design** – Over 670 responses were received to a survey asking about preferred types and aesthetic designs of cycle parking and storage. This feedback resulted in the installation of facilities with the preferred individual bike stores for apartments, as well as collective bicycle parking at schools.

**Antwerp: Engaging bicycle user groups** – Ideas raised during discussions with cyclists included overview maps of recommended routes at key junctions, colour-coded routes, provision of emergency numbers and vending machines for lights, bike tubes and rain ponchos. Additionally, concepts such as the dynamic parking guidance were raised – see below.

**Antwerp: Crowdsourcing with sensors to improve cyclist routes** – As part of the EU co-funded project Synchronicity, 400 track and trace sensors have been fitted to the VELO



bike-sharing system. The data from these sensors can be used to create a heat map of the cycle network.

**BUSINESS MODEL & MARKETING**

**Klaipeda:** Politicians ‘Leading by example’ – As an output from PORTIS workshops, an Innovation Activity to engage the city’s politicians in promoting cycling was identified, involving publicity of their own cycling in the city, but this idea has yet to be taken forward as part of an integrated campaign.

**Antwerp:** Sustainable materials – Measure development involved exploration of alternative materials for signage, such as recycled plastic, but this was later discounted due to the need to ensure durability and make use of existing signage post fittings and street furniture around the city.

**PRODUCT / SERVICE**

**Klaipeda:** installation of supervised bike store in city – Taking inspiration from initiatives such as the Bikestations (Radstations) in Germany, the possibility of founding a supervised bike storage facility in the city was raised.

Established as social enterprises, the Bikestations also offer bike repair services. Unfortunately this proposal fell outside the existing scope of what could be achieved, but remains under consideration for the future.

**Antwerp:** Temporary route signage – As Antwerp will have major highway works over an extended period, indicating safe and convenient diversion routes for cyclist could be of great benefit. This idea came from the stakeholder workshop, but unfortunately it was not pursued in the end as the practicalities of maintaining and updating diversions that can change daily would prove too resource intensive.

**Antwerp:** Guidance for bike parking – Where large bicycle parking facilities are provided, such as the underground facility at Opera Square in Antwerp, it is desirable to provide real-time information on the number of spaces available. In cooperation with other Belgian cities and an open data platform provider, the City of Antwerp continues to pursue this service idea, which would enable parking recommendations to be included in the Smart Ways to Antwerp journey planner.



**PROMOTING E-MOBILITY IN TRIESTE:  
AN E-CAR RALLY AND FUEL SWITCH BY THE CITY AUTHORITY**

In 2018 the registration rate of electric cars in Italy was only 2.6%, but as the range of vehicles on the market increases, the City of Trieste has been keen to take a leading role in promoting and facilitating a fuel switch. The specific measure selected for the innovation process involved the procurement of an electric car for the municipal fleet, so was relatively limited in scope (a second car, a Nissan Leaf, was also purchased in 2019 with the assistance of PORTIS). In this context, innovation ideas clustered in particular around how the vehicles could be utilised as a tool for awareness raising.



**ORGANISATIONAL INNOVATION**

Public authority vehicle sharing – Ensuring that electric vehicles are shared makes good environmental and economic sense. The idea of making the new car available for car-sharing with citizens was raised as an Innovation Activity, but discounted. Nevertheless, the City of Trieste has committed to engage with other public bodies, health authorities and cities in the wider Friuli Venezia Giulia region, in order to participate in a vehicle sharing platform for public sector fleets. The ambitious plans being developed now within the H2020 NOEMIX project, managed by Area Science Park, involve the joint procurement of 574 electric fleet vehicles and around 660 recharging stations, as well as the procurement of a 900kW Photovoltaic array.

**PLANNING & IMPLEMENTATION**

Fleet replacement appraisal - As electric vehicles are best suited to certain types of use, the City of Trieste decided to undertake a supplementary analysis of fleet vehicles, identifying those conventionally-fuelled vehicles that should be prioritised for replacement. In the first instance, the municipality plans to replace 24 old cars belonging to different departments with the same number of e-vehicles.

**PRODUCT / SERVICE**

Vehicle2Grid – In recent years the local energy provider for Trieste has been installing different publicly accessible recharging points, in order to facilitate a transition in vehicle fuelling. As part of the PORTIS Innovation Process it was questioned whether smart grid technologies might be tested. V2G technologies offer the potential for the battery capacity of electric vehicles to perform a grid-balancing function, with cars and other vehicles being charged when renewable energy sources are plentiful and with energy being drawn-down on occasions when there is a peak in demand for other uses. The potential for the municipal vehicle to be connected as a public V2G demonstrator was discussed, but unfortunately Italian regulations do not yet allow for the deployment of this technology.



**BUSINESS MODEL & MARKETING**

Electric car rally around Trieste – During the European Mobility Week 2018 (16-22 September) an e-car rally, named “CIVITAS PORTIS e-car race” was organised by Area Science Park with the City, to engage local owners of EVs in a non-competitive driving experience around the city. The driver’s performance was measured on her/his eco-driving technique, since they were asked to consume as little “fuel” (electricity) as possible for their tour. The selected route started from the Old Port and passed through the city centre and suburban areas to give visibility to the event and, according to the project objectives, underline the integration of the old port with the rest of the city. A short video about the e-car reliability race was produced.



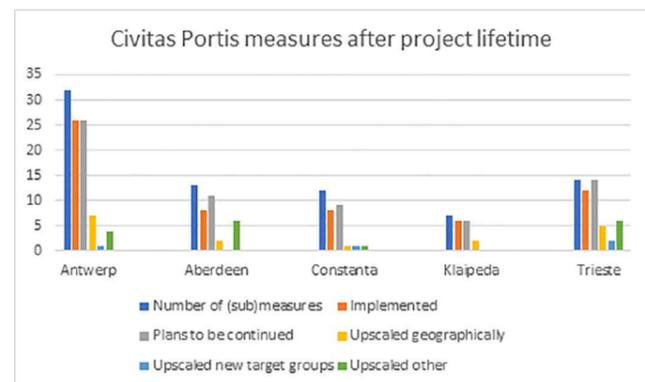
**SUSTAINING AND BUILDING UPON THE CIVITAS PORTIS DEMONSTRATION MEASURES**

Alongside introducing an Innovation Process, the PORTIS innovation workstream was concerned with facilitating exchange amongst the project cities and promoting the exploitation of the pilot actions undertaken. In order to understand which of the 60 measures and sub-measures successfully implemented through the PORTIS project will be sustained and upscaled in some way, each city contributed to the preparation of Exploitation Plans.

Undertaken as a complementary exercise to the project evaluation, the preparation of these revealed that more than 80% of the measures and sub-measures will be continued after the project. 17 of the measures will be upscaled geographically within the city-regions, four of the measures will be upscaled and adapted for new target groups, and a further 17 will be exploited in some beneficial way following the conclusion of the project.

Measure exploitation highlights reported by the cities cover the full range of the project. For example, for Trieste, the establishment of the multi-governance office has prompted a new era of multidisciplinary working amongst stakeholders. The back office data management systems set up for the Smart Ways to Antwerp journey planner has provided the foundation for the city to

become a MaaS pioneer, developing services ever-more customised to specific users. For Aberdeen, the project has enabled the city to implement a number of ‘quick wins’ with respect to walking and cycling infrastructure, creating the ambition and momentum for the provision of Active Travel Hubs in the future. Similarly for Klaipeda, the bike parking and storage solutions introduced were immediately very popular, helping to generate further demand. In the case of Constanta, the work to re-plan and re-prioritise major boulevards will support the reinvention of city space and mobility, creating a long-lasting legacy (see Issue No. 3 of the Innovation E-brochure for a full article).



**REFLECTIONS ON THE CIVITAS PORTIS INNOVATION PROCESS**

As the CIVITAS PORTIS project reaches its conclusion, it is time to reflect on the value added by the Innovation Process and supporting activities undertaken. In this respect we present our four main observations and lessons learnt from this workstream:

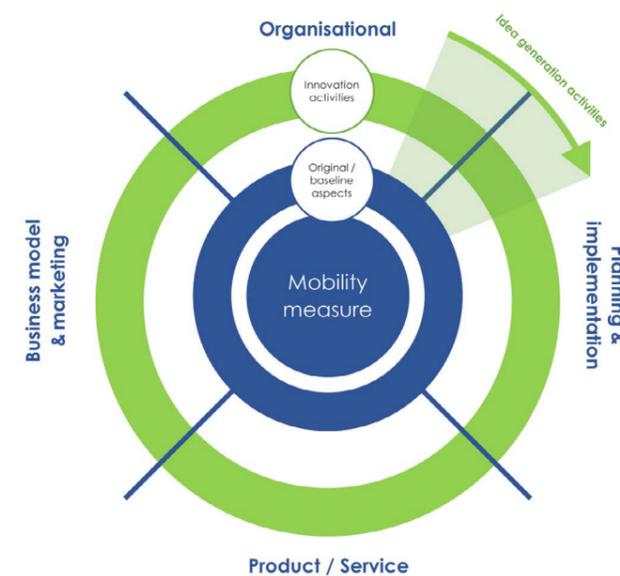
**Novel – addressing multiple forms of Innovation**

Taking the four main types of Innovation described in the OECD and Eurostat Oslo Manual: Guidelines for collecting and interpreting innovation data (3rd Edition, 2005) as its inspiration, PORTIS added further relevant sub-divisions in order to present a simple canvas to assist mobility measure planning. The inherent strength was to encourage thinking beyond only the final product/service, or the technological aspects with which the term ‘innovation’ is often associated. Teams responsible for measure planning are encouraged to think about multiple aspect of the measure: organisational, planning and implementation, the business model, marketing and promotion, and the end product or service.



**Positive – reinforcing SUMP principles at a measure planning scale**

The SUMP Guidelines promote involvement of citizens and stakeholders and this founding principle is echoed in the Innovation Process, at the scale of measure planning. The innovation stage of idea generation, and the PORTIS template, motivates engagement of other staff, departments, interest groups and citizens. Participatory activities can be as part of longer-term fora or in the form on single events – as reflected in the evolution of the Innovation canvas presented below. Benefits stemming from these activities became clear in the cycle signage and parking measures presented in this brochure, as well initiatives like the co-design of Aberdeen’s journey planner (as presented in the box on page 12).



**PORTIS INNOVATION CANVAS INCORPORATING ‘IDEA GENERATION’ SEGMENT THAT DRIVES THE INNOVATION PROCESS, ENCOURAGING IDENTIFICATION OF LONG-TERM ORGANISATIONAL FORA FOR STAKEHOLDER AND CITIZEN INVOLVEMENT, AS WELL AS POSSIBLE INDIVIDUAL ENGAGEMENT ACTIVITIES LINKED WITH MEASURE PLANNING.**



**Critical – greater potential to engage all project partners in idea generation**

Arranging opportunities for exchange amongst PORTIS cities, as well as with representatives from other related EU research projects, was an integral component of the innovation workstream. Nevertheless, enabling more project partners to be involved in the Idea Generation workshops and discussions when the innovation process commenced, and at the early stage of measure planning, could have been beneficial.

**Future application – a mechanism for exchange**

As the innovation canvas addresses various aspects of a mobility measure, from organisational arrangements, through to data collection, promotion and the desired end product, it provides a graphic tool to compare the key components of similar measures in different cities. In this way the potential to map differences and new ideas for transfer is strengthened. This approach is illustrated in this Innovation E-brochure in the overlay of commuter travel planning approaches.

**Co-designing Aberdeen’s GoAbz journey planning app**

In October 2020 a new journey planning app, GoAbz, was launched for use by citizens of Aberdeen. This free mobile application is designed to encourage more sustainable methods of travel.

Ensuring that a co-design approach was adopted, working with user groups, became a key feature in the procurement and specification of Aberdeen’s new journey planning tool. Collaborative design activities included the organisation of four ‘User Engagement Research Workshops’ engaging different target groups for the final product: drivers, students, older citizens (aged 60+) and cyclists. These workshops were a precursor to two sets of collaborative design sprints. Sprint 1 focussed on gaining user impressions of a Beta #1 version of the journey planning tool, and prioritisation of the possible features suggested during the earlier user group workshops. Sprint 2 was successful in gaining feedback on a Beta #2 tool from a very wide range of potential users and led to the prioritisation of features within the emerging context of COV19 travel. These activities have supported PORTIS Aberdeen partners’ goal to develop a fully accessible and inclusive journey planner that addresses citizens most important needs.

<https://goabz.co.uk/planner>

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# CIVITAS PORTIS

## INNOVATIVE AND SUSTAINABLE URBAN MOBILITY SOLUTIONS IN FIVE EUROPEAN PORT CITIES

CIVITAS PORTIS involves 33 partners from five European port cities, a Chinese follower city, Ningbo, and six partners responsible for research activities, working together on sustainable mobility in terms of commuter traffic as well as transport and logistics. With European support, these cities will work together on good, innovative and sustainable solutions to improve access to their cities and ports.

### IMPRINT

CIVITAS PORTIS is funded through the EC's Horizon 2020 programme under grant agreement 690713.

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Copywriting: ISINNOVA [www.isinnova.org](http://www.isinnova.org) // Design & Layout: FGM/COMMUNICAT [www.communicat.at](http://www.communicat.at)