

## COVER PAGE

**Title of Proposal: CIVITAS ECCENTRIC:** *Innovative solutions for sustainable mobility of people in suburban city districts and emission free freight logistics in urban centres.*

### List of participants

| Participant No  | Participant organisation name                                 | Country  |
|-----------------|---|----------|
| 1 (coordinator) | <b>Ayuntamiento de Madrid</b>                                 | Spain    |
| 2               | GEA21_Grupo de Estudios y Alternativas 21, S.L.               | Spain    |
| 3               | CRTM_Consorcio Regional de Transportes de Madrid              | Spain    |
| 4               | EMT_Empresa Municipal de Transportes de Madrid S.A.           | Spain    |
| 5               | UPM_Universidad Politécnica de Madrid                         | Spain    |
| 6               | AVIA Ingeniería y Diseño S.L                                  | Spain    |
| 7               | FM>Logistic_Iberia  | Spain    |
| 8               | ICCA_Ingeniería y Consultoría para el Control Automático S.L. | Spain    |
| 9               | <b>Stockholms Stad_MF</b>                                     | Sweden   |
| 10              | KTH_Kungliga Tekniska Högskolan                               | Sweden   |
| 11              | Flexidrive Sverige AB   | Sweden   |
| 12              | UbiGo Innovation AB   | Sweden   |
| 13              | AGA Gas AB  | Sweden   |
| 14              | Taxi 020 AB   | Sweden   |
| 15              | Mobility Motors Sweden AB                                     | Sweden   |
| 16              | Cykelkonsulterna AB   | Sweden   |
| 17              | GoMore ApS  | Denmark  |
| 18              | <b>Landeshauptstadt München</b>                               | Germany  |
| 19              | MVG_Münchner Verkehrsgesellschaft mbH                         | Germany  |
| 20              | Quartiersgenossenschaft DomagkPark eG                         | Germany  |
| 21              | Green City e.V.   | Germany  |
| 22              | Green City Projekt GmbH                                       | Germany  |
| 23              | TUM_Technische Universität Muenchen                           | Germany  |
| 24              | <b>City of Turku</b>  | Finland  |
| 25              | Regional Council of Southwest Finland                         | Finland  |
| 26              | Turku City Traffic Ltd.                                       | Finland  |
| 27              | EERA Ltd.   | Finland  |
| 28              | Turku University of Applied Sciences                          | Finland  |
| 29              | Biovakka Suomi Oy   | Finland  |
| 30              | <b>Municipality of Ruse</b>                                   | Bulgaria |
| 31              | CSDCS_Club "Sustainable Development of Civil Society"         | Bulgaria |
| 32              | UBC_Union of the Baltic Cities_ Sustainable Cities Commission | Finland  |
| 33              | ICLEI - Local Governments for Sustainability                  | Germany  |

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# 1. Excellence

## 1.1 Objectives

In the last decades European cities have made significant steps forward in the delivery of sustainable urban mobility policies, proving that major impacts in terms of less congestion, higher share of active modes and reduced emissions could be achieved through ambitious measures. City centres have been transformed into attractive liveable urban areas where the main remaining key challenges are to find the balance between providing high quality public spaces and meeting the accessibility requirements of freight deliveries and commercial traffic. Suburban districts however have not been addressed adequately so far, with the effects of flagship projects rarely transferred to these areas. Recent or expected urban growth processes are putting additional pressure on these peri-central areas, which face specific challenges:

- Becoming sufficiently appealing to avoid an unnecessary traffic flow towards to the city centre;
- Providing sustainable and high quality mobility options to enable and encourage car independent lifestyles; and
- Planning the urban future according to carbon neutral mobility principles.

The main common challenges are to relieve central areas through clean and efficient urban logistics, as well as to increase the attractiveness and sustainable mobility of suburban districts. To tackle these common challenges, the cities of **Madrid (MAD)**, **Stockholm (STO)**, **Munich (MUC)**, **Turku (TUR)** and **Ruse (RUS)** have formed the CIVITAS ECCENTRIC consortium. The huge uptake and replication potential to other cities has already been shown during the proposal phase when 17 cities have expressed their interest to become an observer city.

The overall objective of the CIVITAS ECCENTRIC project is therefore:

*To demonstrate and test the potential and replicability of integrated and inclusive urban planning and sustainable mobility measures that increase the quality of life of all citizens in urban areas, with a focus on suburban districts and new real estate developments and the clean organisation of urban freight logistics.*

The well-balanced local consortia in the five partner cities of CIVITAS ECCENTRIC will demonstrate the **impact** of a package of innovative integrated sustainable urban mobility measures **on key indicators**:

- Reducing:
  - Energy use, CO<sub>2</sub> emissions and fossil fuel dependency for the transport of people and goods
  - Air pollution (NO<sub>x</sub>, PM<sub>x</sub> and noise generated by road traffic)
  - Road accidents (fatal and heavily injured)
  - Road congestion and time needed for trips.
- Improving:
  - Accessibility for all, deeply rooted in a gender and generation/age balanced approach
  - Social inclusion and equal opportunities for all, particularly vulnerable groups
  - Liveability, reducing the area of public space dedicated to cars and giving priority to active modes
  - Competitiveness and excellence of public transport and multimodal way of travel
  - Efficiency and environmental performance of urban freight distribution
  - Local economy: Reduction in mobility costs, more efficient use of resources, increase in jobs.

The overall objective and impacts of ECCENTRIC are reached during the project lifetime by working on the following **specific objectives**:

1. *To demonstrate and test integrated packages of innovative solutions for sustainable mobility in peri-central 'living laboratory' areas, combining new policies, technologies and soft measures.*
  - Change the planning culture for newly built and rehabilitated districts, giving priority to active and collective modes, reducing legally required parking and adopting tailored parking regulations.
  - Increase the quality of public space and road conditions for safe cycling and walking, through participative approaches and Big Data analysis.
  - Increased participation of citizens and local stakeholders in developing mobility policies, services and traffic safety plans for suburban neighbourhoods, using ICT tools.
  - Change the mobility mind-sets of citizens through direct and dialogue marketing and hands-on trainings, especially focussing on vulnerable groups (older people, school children, disabled).

- To apply the “Mobility as a Service” concept, integrating trip planning, real time travel information, ticketing and payment and providing new e-sharing services in proximity to the households.
  - Reorganize public transport in the outskirts towards an efficient and accessible network, including High Quality Public Transport solutions, adaptive PT priority and night services.
  - To test clean and silent buses (fully electric, Hybrid and CNG) in normal operation conditions.
  - Trigger the wide uptake of clean vehicles (electric, hydrogen, liquid biogas) by companies, municipal fleets and households, offering test fleets, new fuelling infrastructure, incentives and information.
2. *To demonstrate and test innovative solutions for cleaner and better urban freight in urban centres, based on a close cooperation with the research and private sectors:*
- Implement regulations to foster clean and efficient urban distribution and reduce conflicts with other modes.
  - Establish consolidation solutions, making use of clean vehicles including cargo-bikes and develop an innovative flexible package system.
  - Demonstrate off-peak delivery with silent vehicles.
  - Develop and test prototypes of clean distribution vehicles: Hybrid heavy-duty truck, ultra low emissions hybrid-biogas distribution vehicle and a light weight electric vehicle.
3. *To contribute to the knowledge base and capacity building on effective mobility solutions and how to overcome the barriers for their implementation, with the goal to replicate solutions in other cities:*
- Implement a robust evaluation of the ECCENTRIC measures as well as a system-based meta-evaluation across sites to identify common challenges, transferable strategies and successful actions.
  - Enhance cross-fertilisation and in-depth exchange of knowledge among project experts on technical solutions, evaluation and communication methods through face-to face meetings, staff exchange, peer reviews, site visits and online communication tools.
  - Develop replication packages on each measure providing information that enables other cities to replicate the experience in its own local context.
  - Produce general guidance notes on enabling topics like: financing and procurement, SUMP policies for peripheral districts, addressing vulnerable groups and gender issues in sustainable mobility.
  - Directly involve a group of observer cities from Europe, China, India and Latin America in the ECCENTRIC cross fertilisation actions.
  - Contribute to capacity building both at the national and European level, e.g. participation in CIVITAS forum, C40, Eurocities, Polis, international scientific conferences and other activities organised by the horizontal action for CIVITAS 2020.
4. *To increase the impact of ECCENTRIC on local, national, European level and beyond, through well coordinated communication and networking, and promoting the successful commercial concepts developed:*
- Implement a comprehensive communication approach in each city, with an emphasis on modern communication technologies and social media, clear target groups and tailored key messages to ensure local uptake of the measures.
  - Ensure good communication of project results and capacity-building activities to practitioners and policy makers from other cities, through the CIVITAS corporate tools (website/newsletter/forum) and project specific materials, in close cooperation with European and international city networks, directly included or closely linked to the consortium.
  - Support ECCENTRIC commercial partners in their business expansion through a thorough evaluation showing the cost-benefits of their concepts. Communicate these results to enable expansion, franchising or coping of the concepts.

## 1.2 Relation to the work programme

### Topic

CIVITAS ECCENTRIC proposes an Innovation Action that relates to the topic *MG.5.5-2015 Demonstrating and testing innovative solutions for cleaner and better urban transport and mobility* within the area of Urban Mobility, also referred to as CIVITAS 2020.

### Challenge:

To meet the targets of the Transport White Paper, the ECCENTRIC partner cities are implementing ambitious Sustainable Urban Mobility Plans. These SUMP have highlighted that in order to reach objectives on air quality, energy use and CO<sub>2</sub> emissions, road casualties, action is needed on a larger geographical scale than the current

flagships projects in the city centres. CIVITAS ECCENTRIC will test and demonstrate innovative policies and emerging technologies to reach sustainable mobility objectives in five living laboratory areas in the outskirts of European cities with high population growth and increasing pressure on the existing transport networks.

Another main challenge is to reach clean and CO<sub>2</sub> free city logistics in major urban centres by 2030. City administrations need to take up a coordinating role and establish partnerships with the private sector to achieve this goal. CIVITAS ECCENTRIC brings together local policy makers, vehicle manufacturers, freight transport companies and providers of alternative fuels to test prototypes of clean (heavy duty) vehicles, implement alternative fuels and drive trains on a large scale, formulate new local regulations and develop consolidation solutions and night time delivery services for the urban centre.

CIVITAS ECCENTRIC, will pay special attention to vulnerable groups of citizens and gender issues. Firstly, through the Mobility as a Service concept the annual costs for mobility of a household will be reduced thus helping to develop a more inclusive mobility offer. Specific training programmes to support older people in using new technologies for trip planning and booking of urban transport tickets will be organised. CIVITAS ECCENTRIC will apply emergent participation methods to guarantee that adequate conditions are provided for the autonomous mobility of older people, children and disabled citizens.

Universities from the partner cities, under the coordination of the Technical University of Munich, will implement a thorough monitoring and evaluation programme, to determine the effectiveness of the solutions and formulate recommendations on how to overcome barriers to implementation. Up scaling guidelines will also be delivered. During the project, each CIVITAS ECCENTRIC city will prepare an action plan to replicate at least one successful measure from one of the other cities. Under the leadership of the city networks ICLEI and Union of the Baltic Cities, CIVITAS ECCENTRIC will develop specific exchange and capacity building actions for a wider group of cities, supported by CSDCS, with a wide experience in dissemination in Eastern European cities. Targeted information for other cities will be provided in CIVITAS ECCENTRIC replication packages.

**Scope**

The CIVITAS ECCENTRIC consortium is led by city administrations with a common interest to increase the impact of their local policies on sustainable urban mobility and is composed of public and private partners from five European cities: Madrid (coordinator), Munich, Ruse, Stockholm and Turku.

**CONSORTIUM COMPOSITION**



Aiming to address the two common challenges identified in their corresponding SUMP, each ECCENTRIC city is following an integrated multimodal approach and will demonstrate a set of complementary and reinforcing mobility solutions in well-defined living laboratory areas. In total **50** measures are planned combining newly-emerging technologies, policy-based and soft measures with a strong replication potential; grouped in 6 demonstration work packages (WP) that cover the CIVITAS thematic categories in an integrated manner.

To establish a meaningful and close cooperation among the consortium partners, effective interactive methods for participation, exchange and cross fertilisation have already started during the proposal preparation phase through connecting with observer cities and will continue throughout the three main demonstration phases: 1) research and measure planning; 2) procurement and implementation; and 3) demonstration, monitoring and validation.

Experienced city partners with a proven track record in the respective field are leading the six thematic demonstration WP and are responsible for the animation of the structured exchange and cross fertilisation mechanisms. The cross-fertilisation will kick off with staff exchanges hosted by the WP-leaders during the research and measure-planning phase; and will continue with peer review methods, thematic webinars and face-to-face workshops throughout the procurement, implementation, demonstration, and monitoring phases. The available time during the face-to-face consortium meetings will be used mainly for targeted exchange and capacity building around selected policy, research, technical, evaluation and communication themes. Project management issues and tracking of progress will be carried out via regular telephone conferences and online project management tools.

| WP1: Inclusive urban planning, new parking policies and mobility management | WP2: Mobility as a service for and by all | WP3: Enabling safe walking and cycling | WP4: Efficient and clean public transport solutions | WP5: Promoting the uptake of clean vehicles | WP6: Towards better and cleaner urban freight logistics |                                     |
|---|---|--|---|---|---|-------------------------------------|
| ★   | ★   |  | ★   |   |   | Collective passenger transport      |
| ★   | ★   | ★                                      | ★   |   |   | Demand management strategies        |
| ★   | ★   | ★                                      |   | ★   |   | Mobility mgnt. and travel awareness |
| ★   |   | ★                                      |   |   | ★   | Safety and security                 |
|   |   | ★                                      |   | ★   | ★   | Urban freight                       |
| ★   | ★   | ★                                      | ★   |   | ★   | IT systems and services             |
| ★   | ★   | ★                                      | ★   | ★   | ★   | Clean fuels and low emission veh.   |
| ★   | ★   | ★                                      |   |   | ★   | Car independent lifestyles          |

### *Sustainable Urban Mobility Planning*

The ECCENTRIC cities are all implementing a well-structured process of sustainable mobility planning that will be reinforced by the actions within the CIVITAS project. **Madrid** approved its SUMP in 2014 with a time horizon 2015-2020. An update is planned in 2017. The objectives of ECCENTRIC are in line with the SUMP action plan. Madrid will use the lessons from the first project year for the SUMP update and will use the evaluation results for the new SUMP that will start in 2021. The current Transport Development Plan of the city of **Munich** dates from 2006 and will be updated in 2016. ECCENTRIC will provide the opportunity to support the first new actions of the updated plan. **Stockholm's** Urban Mobility Structure was adopted in 2013 and sets goals for 2030. The ECCENTRIC project provides the possibility to boost the work to reach its objectives on fossil free transport, increased cycling levels and more secure crossings. The SUMP for the **Turku** region was completed in November 2014, with a time horizon for 2035. In addition to the contribution to achieve its goals, within ECCENTRIC Turku will implement a more interactive and participatory planning approach, suitable for the Finnish Transport system planning practice. The city of **Ruse** is currently developing its first SUMP within the EU-funded BUMP project. It is expected to be approved during 2015 and will have a time horizon until 2035. Within ECCENTRIC, Ruse will exchange experience with cities where SUMP-implementation is more advanced and will transfer good planning practices and replicate successful mobility solutions.

### *International cooperation*

The CIVITAS ECCENTRIC project has established cooperation for the research and evaluation of clean vehicles with the Department of Chemical Engineering of the Tsinghua University from Beijing and the Tongji University of Shaigon in China, also interested in the rest of ECCENTRIC issues. The cities of Changchun and Shenzhen (China), New Delhi (India) and São Paulo (Brazil) have expressed their interest in the exchange and replication by signing a letter of intent and will participate in the observer group.

## **1.3 Concept and approach**

### *Advanced cities in sustainable mobility policies*

Like other cities across Europe, the more advanced cities of the CIVITAS ECCENTRIC consortium have proven success in the delivery of sustainable mobility strategies, mostly within city centres. They have well established multimodal public transport networks and have implemented ambitious measures, such as environmental and congestion charging and large scale introduction of clean vehicles in **Stockholm**, the public bike system with 1560 electric bikes and the Low Emission Zone in the centre of **Madrid** and the successful pedestrian policies of **Munich**. However, in order to fully achieve the sustainable mobility objectives at the city level, coordinated action is needed beyond city centres, where the mobility system faces specific challenges. Moreover, achievements in the city centres may be jeopardized by unsustainable mobility trends in the surrounding areas. At the same time, bordering effects from actions in the city centre might negatively impact the peri-central areas.

### *Demonstration focuses on two common challenges*

Firstly, the cities need to extend their success with sustainable mobility measures in the city centre to **city districts in the outskirts and new developments in planning phase**. Since the challenges in these districts, differ from those in the city centre, new and adapted solutions are needed. The city of **Madrid** has experienced fast population growth in the last decades and is now facing specific mobility challenges in consolidated districts and new development areas outside the city centre. The cities of **Stockholm, Turku, Munich and Ruse** are expecting similar growth figures in the next decade and want to act now to prevent major mobility problems in the outskirts with innovative and flexible solutions. Within CIVITAS ECCENTRIC, each partner city has selected a living laboratory area covering a district outside the city centre, where innovative planning and demonstration measures will be implemented. The table below summarizes the main challenges in 5 laboratories:

| Laboratory area   | Main challenges related to mobility  |
|---|--|
| Madrid South-east                                       | The area is home to 20% of the population in the city (630,000 inh.). Despite the lower motorization rate (374 cars/1,000 inh.), the recently approved SUMP has revealed a higher use of car based mobility in the peripheral districts, as well as reduced levels of public transport usage and walking. Poorer cycling conditions have also been acknowledged.   |
| Munich North  | With a population of nearly 250,000 inh. in a relatively small area (79 km <sup>2</sup> ), the northern area of Munich is growing twice as fast as the overall city. With thousands of new inhabitants (e.g. 4,000 only in the Domagkpark quarter) and 15,000 new employees during the next years, the transport system needs an integrative and innovative approach to ensure a functioning, ecologically compatible and socially acceptable mobility supply. A reduction of car usage, accompanied by attractive and affordable alternatives, is needed.   |
| Ruse- Druzhiba  | Druzhiba is a new peripheral district in Ruse, home for more than 15% of the population. It is characterised by very intense car traffic, poor PT offer, lack of pedestrian and cycling infrastructure and lack of parking spots. The public transport connecting Druzhiba to the city center and the industrial zones around the city is slow and unreliable. A large share of the citizens living in Druzhiba use personal cars and taxi services for these trips thus causing congestion, traffic accidents, air pollution and noise. Improving the quality of life by applying mobility and infrastructure measures in this district is urgent.              |
| Stockholm - Årsta                                       | Årsta is adjacent to the city centre, but the structure is more of a small city with scattered 3-storey buildings, almost exclusively residential and some small shops. Most of the area is without any buildings at all. About 90,000 inhabitants live in Årsta today. The area will be densified and developed into a city-like district and the current density (6,500 inh/km <sup>2</sup> ) will increase with 40 % when more than 6,000 new dwellings will be built, together with new office blocks and shops. The current mobility pattern will have to change to an efficient city-like multimodal pattern with a high share of PT, walking and cycling. |
| Turku Kupittaa- Itäharju (Campus-Science Park District) | Kupittaa- Itäharju is a multifunctional district under redevelopment (30,000 inhabitants, 15,000 jobs, 20,000 students), suffering from poor transport and mobility offer and an enormous pressure on parking spaces. The development of the brownfield area is planned, aimed to avoid urban sprawl and reach a more densified city structure. There is a huge potential to turn the laboratory area into a city district that allows for car independent lifestyles by development of its mobility system and services.  |

Both in new housing developments as well as in existing residential areas the negative impacts of fast growth can only be mitigated through the integration of mixed use and residential development, planning of infrastructure and balancing of the mobility offer and demand by means of innovative products, services, awareness raising actions and local regulations. The provision of new centres throughout the city, well served by different kinds of mobility services, is also essential to achieve sustainability goals while preserving the attractiveness and accessibility of the main city centre. The CIVITAS ECCENTRIC measures focusing on mobility habits and mind-sets of citizens in these selected city districts are grouped into five demonstration work packages (WP 1-5).

Urban freight is an area that has usually received less attention in city planning and the coordination has mainly been left to the stakeholders self to organise. The freight companies have however slightly different priorities and may be stuck in a Nash equilibrium where they are blocked from changing their delivery patterns unless the city changes the prerequisites. As city centres have developed into more liveable areas, the competition of public space needed for delivery increasingly conflicts with space for cycling, walking and city-life. The tolerance for noise and

pollutions are also diminishing among modern citizens. The CIVITAS ECCENTRIC cities will dedicate a work package to tackle the specific challenges of urban freight in the city centre (WP 6).

### *A project structure focused on the effectiveness of the measures and a meaningful cooperation*

To ensure the effectiveness of measures, demonstration activities will be conducted according to three main phases: research and measure planning; procurement and implementation; and demonstration and monitoring. The ECCENTRIC measures have been grouped into six demonstration work packages with comparable measures to create a basis structure for the cross-fertilisation among partner cities.

The table below shows this distribution and an estimated rating on their innovation potential according to the EU **Technology Readiness Levels (TRL)**. The CIVITAS ECCENTRIC project is positioned on the TRL levels 6 to 9. There will be prototype development for new clean vehicles for urban freight logistics (TRL6/7) and the development of the integrated concept of Mobility as a Service (TRL8). The majority of resources are dedicated to implementing innovative solutions in the urban laboratory areas (TRL9). The closeness to the market means that the project will have a high potential for replication of the solutions in other cities. Innovation dealing with new regulations and policy tools (P), soft measures and services (S) and target groups (T) is also indicated in the table.

| City   | Measure   | Innov. level |
|--|---|--------------|
| <b>WP1: Inclusive urban planning, new parking policies and mobility management</b> |   |              |
| MUC  | Citizen participation via local community portal                                      | T            |
| TUR  | Citizen and stakeholder involvement in mobility planning and new mobility services    | T            |
| TUR  | City District / Urban Corridor Cases as Pilots for Sustainable Urban Mobility         | P            |
| MAD  | Adaptive parking management based on energy efficiency and occupancy                  | P            |
| STO  | Dynamic occupancy based parking fees  | 8→9/P        |
| STO  | Green parking standards in Årsta city development                                     | P            |
| RUS  | Park & Ride in the peripheral district  | P            |
| MAD  | Mobility management strategies for vulnerable groups and gender issues                | S/T          |
| MUC  | Neighbourhood oriented marketing of sustainable multimodal mobility services          | S/T          |
| MUC  | Transfer, exchanging ICT for everyday mobility between generations                    | S/T          |
| RUS  | Information, training and awareness raising   | S/T          |
| <b>WP2: Mobility as a service for and by all</b>                                   |   |              |
| TUR  | Smart Multimodal Mobility Services: applying Mobility as a Service concept            | 7→9          |
| TUR  | Integrated Ticketing and Information System for Mobility                              | 8→9          |
| MAD  | Open platform for multimodal mobility information and services                        | 9→M          |
| MUC  | Intermodality at a glance: Mobility as a Service App                                  | 9→M          |
| STO  | New and old mobility options by a single app  | 9→M/S        |
| RUS  | Mobile app and internet portal for PT   | 8→9          |
| MUC  | (E-)Mobility stations at development area Domagkpark and center periphery integration | 9P/S/T       |
| TUR  | Bike-sharing and Car-sharing schemes  | 7→8          |
| MUC  | CityLifta: lift/ride share application  | 7→9/S        |
| <b>WP3: Enabling safe walking and cycling</b>                                      |   |              |
| MAD  | Innovative and participative approach to traffic safety on neighbourhood level        | 7→9/T        |
| MUC  | Software-controlled safety management of the road network                             | 7→8/P        |
| MAD  | Pedestrian friendly public space outside the city centre                              | P/T          |
| RUS  | Providing Secure Pedestrian Crosswalks  | P            |
| MAD  | Enabling cycling outside the city centre  | P            |
| RUS  | Safe Sidewalks with cycling facilities in the peripheral district                     | P            |
| TUR  | Easy, Safe and Comfortable Cycling and Walking Round the Year                         | P            |
| STO  | Policy for re-routing cyclist during construction works                               | P            |
| STO  | Offering test-fleet with e-bikes and e-freight bikes                                  | 9→M          |

| WP4: Efficient and clean public transport solutions |   |       |
|---|---|-------|
| MAD   | High level PT service corridors in peripheral districts           | 8→9/P |
| STO   | Speed up core bus routes  | 8→9/P |
| RUS   | Analysis of PT demand and reorganization of PT network in Druzhba | P     |
| RUS   | Introduction of a night line to Druzhba with GNC buses            | 9→M   |
| TUR   | Introduction of Electric Public Transport                         | 7→9   |
| MAD   | Electric and hybrid buses for public transport                    | 8→9   |
| MUC   | Replication of Smart E-Mobility concepts                          | 7→9   |

| WP5: Promoting the uptake of clean vehicles |  |       |
|---|--|-------|
| STO   | Offering EV-test fleets to selected target groups                                | 9→M   |
| MAD   | Test fleets, policy incentives and campaigns for the uptake of electric vehicles | 9→M/P |
| STO   | Master plan for developing EV-charging in Stockholm                              | 8→9   |
| STO   | Promote installation of EV-charging facilities in multifamily houses             | 9→M   |
| MUC   | Electric light weight vehicles for car sharing and logistics                     | 6→8   |
| TUR   | Electrification of Municipal Fleet & Promotion of Electro-mobility               | 9→M   |
| STO   | Hydrogen taxis   | 8→9   |

| WP6: Towards better and cleaner urban freight logistics |   |       |
|---|---|-------|
| MAD   | Consolidation centre with EVs and local regulations for clean urban freight logistics | P     |
| STO   | Consolidating Stockholm municipal freights  | P     |
| MUC   | Combining E-Cargo-Bike- Delivery with a flexible package system                       | 7→9/M |
| STO   | Night delivery with clean and silent vehicles   | 7→9/P |
| MUC   | Neighbourhood oriented concierge system at the development area Domagkpark            | S     |
| MAD   | Prototype for an ultra-low emission cargo vehicle                                     | 6→8   |
| TUR   | Introduce liquid biogas for heavy duty freight vehicles                               | 7→9   |

**Rating of TRL/innovation level 1-9=** Technology Readiness Level (“→” indicates the expected progress in TRL prompted by the project). **M=** market uptake; **P=** new policies/policy tools; **S=** soft measures/new service; **T=** target groups/mindsets

### *Integrating results from international and national research and innovation actions*

The ECCENTRIC partners are frequent participants of innovative projects on sustainable mobility and will integrate conclusions from previous projects as well as cooperate with running projects. First hand experience from **previous CIVITAS rounds** on technical issues, evaluation and dissemination can be brought in via former partners of TRENDSETTER, ARCHIMEDES, VANGUARD, CATALIST and DYN@MO.

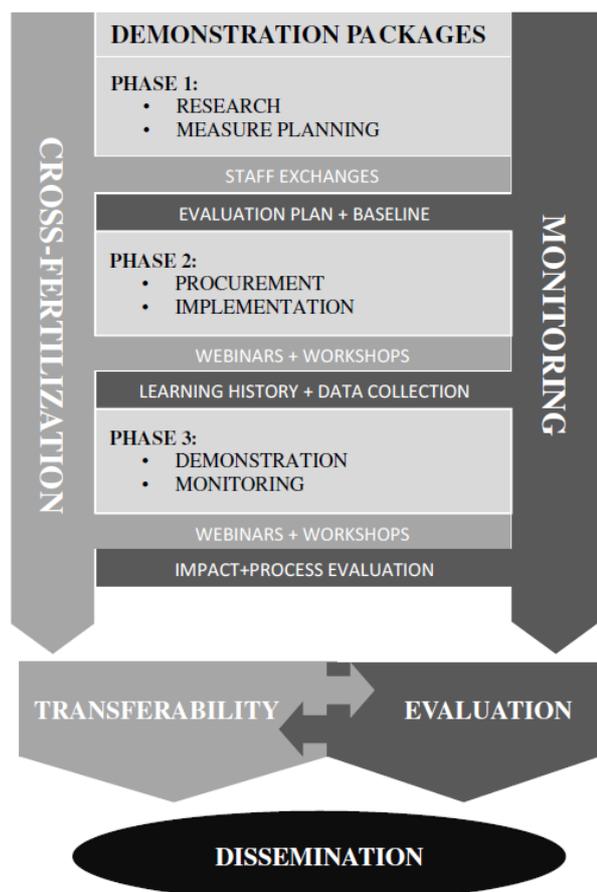
Madrid and Stockholm cooperated on **urban freight** and **clean vehicles** within the projects EVUE and FREVUE and in the BEST project. Madrid takes part in SMARTFUSION freight solutions. The ECOSTARS Guide and recent transferability report will help all the advanced cities to define their strategy. BESTFACT is a source for analysing best practice cases in this field. Stockholm has a long record of working with **Clean vehicles** and sustainable mobility in e.g. CleanTrucks, BiogasMax E-facts, GrowSmarter, Niches and Plume, and was appointed as the first European Green Capital ever. ICLEI co-ordinates the Clean Fleets project, and plays a main role within the Trailblazer project on increasing energy efficiency in urban freight. It has editorial responsibility for the ELTIS website, and is a member of the coordination secretariat for the Do The Right Mix Campaign.

The work on **Mobility as a Service** will take up conclusions from Smart Cities projects, including the ones where ECCENTRIC partner are directly engaged: SECUR-ED, COSMOS, SIMON, MORECO and especially OPTICITIES. The Finish national programme on MaaS integrating 38 mobility providers will serve as a good practice example for setting up the necessary cooperation framework.

ECCENTRIC partners are directly involved and will act as bridge to running projects on guidelines and implementations of **SUMPs**, including the ENDURANCE, CH4LLENGE, PolySUMP and BUMP projects.

ECOCITY (FP5) gives a clear framework and a evaluation method in the planning stage useful to define the **urban patterns in peri-central areas**. AENEAS, BAMBINI, CONNECT and STARS offer consolidated **mobility management approaches** for older and younger citizens.

## Links between main project activities and list of work packages:



### Demonstration work packages

- WP1: Inclusive urban planning and mobility management (*led by City of Munich*)  
 WP2: Mobility as a Service for and by all (*led by City of Turku*)  
 WP3: Enabling safe walking and cycling (*led by City of Stockholm*)  
 WP4: Efficient and clean public transport solutions (*led by CRTM\_Madrid Regional Transport Authority*)  
 WP5: Promoting the uptake of clean vehicles (*led by City of Stockholm*)  
 WP6: Towards better and cleaner urban freight logistics (*led by City of Madrid*)

### Horizontal work packages

- WP7: Evaluation of impacts and processes on measure and living laboratory level (*led by Technical University of Munich*)  
 WP8: Dissemination, networking and cross fertilisation (*led by Union of Baltic Cities*)  
 WP9: Replication of innovative solutions, (*led by ICLEI*)  
 WP10: Project management and technical coordination (*led by City of Madrid*)

## An ambitious programme for mutual learning and replication

It is of highest importance that the experiences and knowledge gained in the ECCENTRIC living laboratories can be shared and thus contribute to a common learning within and beyond the consortium, across European cities and in other continents. This is why a thorough **evaluation** procedure is installed from the beginning of the project. Using qualitative and quantitative information on the results of the solutions implemented, its ambition is twofold:

- a) a robust impact and process evaluation of each measure within the ECCENTRIC project built upon existing local studies and *ad hoc* local evaluation procedures, and based upon the criteria and indicators developed in the CIVITAS evaluation guidelines<sup>1</sup>. Common objectives, comparable criteria across work packages and cities, and a robust set of common indicators will be derived and agreed by the cities and their local evaluation partners. Those will form a common framework and facilitate to retrieve local information in a comparable way to generate useful evaluation results within the ECCENTRIC project.
- b) a system-based meta-evaluation across the different sites and various measures enabling to identify common challenges, transferable strategies and successful actions, by investigating, exploring and explaining the underlying generic interrelationships of specific decision-making processes, realised measures and observed impacts<sup>2</sup>. The system-based meta-evaluation is built upon a common understanding of key variables in a complex, dynamic, non-linear system of decision-making processes, realisation of measures and their respective effects. This explorative system will allow for the understanding of the interrelationships among the multiple aspects of urban mobility in a holistic way, helping to identify the effectiveness and efficiency of policies on a more generic level – taking in account the system behaviour over time.

<sup>1</sup> Van Rooijen, Tariq & Nina Nesterova (2013): Applied framework for evaluation in CIVITAS PLUS II, CIVITAS WIKI

<sup>2</sup> based on System Thinking methods such as Vester, Frederic, (2012): The art of interconnected thinking, MCB Verlag, Munich

Combined, these analyses will clearly show the conditions of success and failure, the general strategies generated from the practice experiences and will result in recommendations to overcome implementation barriers.

Evaluation results will be at the core of CIVITAS ECCENTRIC **communication and dissemination** strategy, whose emphasis will be put, besides promoting the CIVITAS initiative and sustainable mobility, on communicating the project achievements focusing on the concrete measure results and lessons learned. For that purpose, a three-fold approach will be followed. Firstly, the aim is to ensure good communication of project results and cooperation with European target groups using already established CIVITAS communication tools and targeted, project specific promotional material (quick-facts on selected measures, thematic brochures). Close cooperation with already existing networks and initiatives on urban mobility and the other CIVITAS demonstration projects and horizontal actions is foreseen to reach a larger group of European cities.

Secondly, proper communication of the results and active involvement of different stakeholders is key to achieve wider acceptance towards the measures and actions implemented within ECCENTRIC. Cities will have a comprehensive communication approach defining the tools used with an emphasis on modern communication technologies (social media), target groups and tailored key messages. ECCENTRIC activities and results will be promoted via variety of local networking activities including participation in local, regional and national events and cooperation with regional CIVINETs and other relevant networks and organisations.

Thirdly, the project will formulate a structured approach to enhance cross-fertilization and in-depth exchange on technical solutions, evaluation and communication methods between ECCENTRIC cities to support cooperation between measure leaders and experts in the cities to increase genuine joint development of solutions. Face-to-face workshops, staff exchange, peer review as well as modern communication tools like webinars will be used.

The CIVITAS ECCENTRIC project will also put in place a series of activities specifically designed to promote the direct **replication of the measures** implemented and validated within the demonstration cities. Three complementary activities will be established:

**Observer City Group** – A group of 17 cities has been recruited to closely follow the activities of, and engage with, the demonstration cities with the aim of replicating the implemented measures. The goal is to develop their own detailed replication plans within the project timeframe. Exchange and know-how transfer will be supported through study visits, webinars, and capacity building workshops, as well as the direct support of consortium members. The ECCENTRIC coordinator has received signed letters of interest from: Alcobendas, Burgos and Leganes (ES), Berlin (DE), Gabrovo, Pleven and Montana (BG); Liepaja (LV), Örebro, Enköping and Uppsala (SE), Oulu and Lahti (FI), Changchun and Shenzhen (China), New Delhi (India) and São Paulo (Brazil).

**Information and guidance** – Replication packages for each measure including technical implementation details, process descriptions, results achieved, economic assessment, as well as an overall assessment of replication potential. These packages will be accompanied by guidance drawn from the demonstration cities on topics such as financing and procurement, SUMP policies for peripheral districts, sustainable mobility for vulnerable groups, gender issues in sustainable mobility. Training material will also be developed.

**Capacity building** - National seminars will be organised to spread the results of cities to their national peers. In addition the work on Competence Centres on SUMP established within CIVITAS DYN@MO will be supported, including the Baltic Sea Region Competence Centre on SUMP & South Eastern Europe Competence Centre on SUMP, with the establishment of further centres to be explored.

### *ECCENTRIC addresses specific gender issues on mobility and accessibility in cities.*

- Gender research<sup>3</sup> shows that women are especially involved in more complex activity programs and trip chains, beyond work-related. CIVITAS ECCENTRIC will address these non-work related trips for home provision, children and elderly care and leisure activities.
- The creation of safe, liveable and accessible public spaces, allows families to let their children to be autonomous earlier and allows older people (mainly women) to remain self-sufficient. This is highly relevant for the majority of women who are in charge of these vulnerable groups on a day-to-day basis.
- The consortium team in charge of the projects' tasks is gender-balanced.
- The innovative 'Mobility as a Service' concept is based on wide data collection about the needs and demands of different user groups, including gender and sex biases. New knowledge and information on gender issues will be used by the cities to improve their SUMPs.

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<sup>3</sup> Sánchez de Madariaga, I., & Roberts, M. (Eds.), *Fair Shared Cities*. Ashgate: London. 2013.

## 1.4 Ambition

CIVITAS ECCENTRIC is highly ambitious and will move beyond the state-of-the-art of current sustainable urban mobility policies and solutions by addressing **two new challenges** that have received less attention in existing sustainable urban mobility policies: suburban areas and urban freight.

*ECCENTRIC will implement **innovative regulations and policy tools** to increase the impact of local policies:*

- New regulations for the number of legally required on-street parking spaces for new housing development:
  - Shift from minimum parking standards to the provision of mobility services instead
  - Reduction from 1 to 0.7 and 0.5 parking spaces per household.
- Introduce a holistic concept for sustainable mobility and urban planning in newly planned city districts.
- Involving new types of stakeholders including project developers, housing companies or retailers, Implement real time demand responsive on-street parking policies based on emission and occupancy levels, using new technologies for dynamic pricing and enforcement.
- Mainstream cycling and walking infrastructure to suburban areas: increase the quality of public space and road conditions, explore the potential of e-bikes for longer distance trips, creating safe routes for active modes, also in special conditions (severe climate conditions and during construction works)
- Use the assessment of economic impacts of cycling and walking as basis for political decision-making.
- Use Big Data analysis for detection and prevention of black spots for traffic safety.
- Introduce positive discriminations to clean vehicles and regulations to increase the efficiency of urban logistics.
- Priority for public transport in road space and at crossings.

*ECCENTRIC will implement new methods and address **new target groups for awareness raising and changing the mindsets of citizens in city districts:***

- Address vulnerable citizens (older people, children, disabled) and gender issues as important target groups for mobility services and mobility management actions.
  - Include information about accessibility of infrastructures and services in the new mobility apps
  - Targeting schools based mobility
- Supporting a car free lifestyle by communicating all mobility related service information and exchanging ideas for continuous improvements with the inhabitants and institutions in the development area.
- Develop more targeted, participatory, transparent and interactive planning approaches by engaging at the district level with citizens and key stakeholders to address challenges related to mobility and traffic safety.
- Providing innovative participation tools, such as on-line platforms, new technologies and social networks to complement the existing channels.
- Implement innovative direct individualized marketing campaigns and dialogue marketing campaigns for households in development areas
- Undertake public transport oriented analysis of the user needs of employees of companies and the development of special offers and solutions for distinctive companies.
- Students aged between 14 and 18 teach senior citizens the use ICT mobility tools.

*ECCENTRIC will demonstrate a viable path towards realising the innovative concept of **Mobility as a Service (MaaS)** making use of state-of-the-art ICT and involving private companies that are able to build a **business case** around existing and new mobility services within the local framework, according to the **Smart Cities** concepts:*

- MaaS integrates the different modes of transport into one comprehensive user-friendly service. MaaS stands for buying mobility services based on consumer needs instead of buying the means of mobility.
- Development of new flexible services such as peer-to-peer car-sharing and ride sharing to be integrated with 'traditional' mobility options into single mobile applications.
- Integration of multimodal mobility information, trip planning, booking and payment systems for different operators (including public transport, taxi operators, sharing schemes, parking).
- Gathering and providing integrated information from all transport modes, as well as complementary information on issues such as costs, emissions, health, accessibility, etc. into one single platform.
- Use Open Data approaches to encourage developers and third parties to further exploit the available information and provide new innovative services.
- Set up 'Mobility stations' as a new bundled supply of all modes of transport for all mobility needs.
- Extended sharing services, introducing electric cars and new bicycles (e-bikes, cargo bikes and bike trailers.)

*Within ECCENTRIC, universities, vehicle manufactures and cities will cooperate to develop **prototypes of clean vehicles** that meet the specific needs of the urban environment:*

- KTH will in close cooperation with SCANIA, provide a full-size (16 tonnes) prototype plug-in hybrid electric truck, which will be tested for functionality (handling, availability, standstills, load capacity), operational economy and energy usage in ordinary city delivery, by a delivery company in Stockholm.
- In Madrid, a vehicle engineering and design firm (AVIA) will cooperate with the city in order to develop and test an ultra low emission hybrid-biogas distribution vehicle.
- In Munich, a pilot business model will be demonstrated by introducing four emission-free light-weight electric vehicles (450 kg each) for freight, taxi and sharing services.

*The CIVITAS ECCENTRIC cities will create favourable conditions for the **wide uptake of clean vehicles** by different target groups in European cities:*

- Demonstrations of clean municipal fleets, including electric buses and awareness campaigns.
- 6-8 electric 12 to 15 m buses implemented in the first fully electric bus line in Turku as an example for future electrification of main bus lines.
- 6 electric/hybrid buses in operation in Madrid PT network
- First 2 Compressed Natural Gas (CNG) buses in Ruse
- 10 electric vehicles and 4 smart charging station in municipal fleet Turku
- Introduction of 12 electric vehicles in the municipal fleet of Madrid.
- Demonstrate the use of fuel cell electric vehicles fuelled with green hydrogen within key agents, such as the taxi sector. Green hydrogen produced from renewable energy will be provided at fuelling stations.
- Extending alternative fuelling infrastructures, by increasing the number of fast charging stations for EV and introducing new Liquid Biogas (for Heavy Duty Trucks) and Hydrogen stations.
- Offering test fleets of clean vehicles for local operators (including cargo bikes).
- Promote the uptake of electric vehicles by households through the promotion of charging infrastructures in multifamily dwellings, and making e-vehicles available to citizens through shared schemes.

*City administration, transport operators, vehicle manufacturers, retailers and real estate developers will cooperate to reach **better and cleaner urban freight logistics**:*

- Develop economically viable freight consolidation solutions for urban goods delivery.
- Promote the use of clean vehicles for the last mile delivery (including EV, LBG, e-cargo bikes).
- Promote new business models, like flexible package systems that could be easily handed over from cars to e-cargo bikes and vice versa at flexible Collection Stations requiring less space.
- Implement off-peak delivery, including night delivery with silent lorries.

## 2. Impact

### 2.1 Expected impacts

CIVITAS ECCENTRIC is expected to have impacts at different levels:

- **Local level:** linked to the effectiveness of the measures implemented in each of the ECCENTRIC cities, in line with the two first specific objectives listed in section 1.1 and the targets of the Transport White Paper. There is a potential additional impact associated to the up scaling of measures within each city.
- **Contribution to the knowledge base** on sustainable urban mobility, in line with the specific objectives 3 and 4, listed in section 1.1 and the Work Programme objectives.
- **Market uptake:** exploitation of new mobility products and services by the companies involved as partners and subcontractors in the CIVITAS ECCENTRIC project.

*Impacts at the local level (related to the 2 main challenges)*

#### CHALLENGE 1 – Increased attractiveness and conditions for sustainable mobility in suburban districts

IMPACT 1: Increased quality of public space with less cars, either driving or parked, after the integrated package of measures (parking management, priority to active and collective modes and citizens involvement)

- 6% reduction of car travel in Madrid, mainly driven by the new parking management scheme

- 7.6 million car- km/year in the northern part of Munich resulting from an integrated approach combining soft and hard measures.
- 6.7 million car-km year saved in Stockholm due to new parking provision standards.
- 13% reduction of private car km driven annually in Turku
- 20% decreased use of private cars in Ruse
- 10-25% reduction in car ownership in Stockholm new areas after the new parking standards.
- 20% citizens approving the change: Awareness and satisfaction surveys.

#### IMPACT 2: More comfortable and safer conditions for cycling and walking

- Achieve a modal share of 2% for bicycle trips in Madrid peri-central area
- Increasing the modal share for walking by 6% in Madrid outskirts or peri-central area
- 10% - 30% decrease of average speed in living lab after safety plans implementation
- 50% of reduction in accidents with injuries in Madrid
- Re-routing policy during construction works in Stockholm to prevent 5% of the cyclists from leaving their bikes and travel by car or public transport.
- 20 unconventional bicycles (e-bikes, cargo bikes and bike trailers) for sharing in Turku.
- 15% growth of active modes in Ruse, enhancing the walkability and cyclability of the demonstration district.

#### IMPACT 3: Improved operation of cleaner PT services and increased efficiency of its fleet

- 10% increase in commercial speed and 9% increase in regularity levels in the new high level of service PT corridor in Madrid living laboratory.
- 30% reduced energy consumption and emissions via 6 electric/hybrid buses in Madrid.
- Noise reduction in High Quality Bus corridor with hybrid vehicles in Madrid.
- 5-10% increase in commercial speed from buses in Stockholm after the priority scheme.
- 10% reduction of PT travel times in Stockholm.
- 250,000 -336,000 l of Diesel saved annually in the fully electric bus line in Turku (6-8 buses).
- 2 CNG buses operating in Ruse.
- 20% increase in PT usage and 15% increased reliability of PT services in Ruse.
- Satisfaction surveys in all the enhanced lines of PT.

#### IMPACT 4: Improved mobility options, including new integrated and shared services and enhanced information

- Open Data platforms providing integrated information necessary for intermodality.
- 50 mobility services and apps developed based on Open Data.
- 200 subscribers to the mobile app integrating peer-to-peer car-pooling, urban ride-sharing and other mobility options in Stockholm.
- 1,500 users of 2 mobility stations providing multimodal mobility services (PT, car and bike sharing) in Munich
- Integration of all mobility services into one single app in Munich.
- 2,000 subscribers to the ride-sharing app developed in Munich.
- Mobility as a Service concept implemented in Turku at least, including the on-line and mobile service interfaces
- Web portal and a mobile app integrating all PT information in Ruse

#### IMPACT 5: Increased participation of citizens and local stakeholders

- 3 participated pedestrian interventions and 3 neighbourhood level traffic safety plans in Madrid.
- 100,000 visits/y to the on-line neighbourhood platform for communication and participation in North Munich.
- Development of a participation platform using ICT and social networks (mobile apps, social media) in Turku.

#### IMPACT 6: Changed mobility behaviours through direct and personalised marketing and targeted training

- 8% decrease in the number of children being driven by car to the school in Madrid laboratory area.
- 2,000 household receiving personalised information, guidance and motivation in Munich resulting in 5% less car use, 870,000 car-kilometres and 180 tons CO<sub>2</sub> saved per year.
- 16 transfer workshops on sustainable transport related issues between elder and young people in Munich in order to reduce up to 70,000 car-km and 14 tons CO<sub>2</sub> per year.
- 8 transfer workshops and 8 citizens and NGOs information seminars in Ruse

#### IMPACT 7: Trigger the wide uptake of clean vehicles

- 12 electric vehicles introduced in Madrid's municipal fleet
- 20 e-bicycles as a test fleet in Stockholm, aimed at promoting 300 e-bikes to be sold due to the measure
- At least 2 fuel cell electric taxis operating in Stockholm
- At least 2 filling stations for hydrogen in the Stockholm area
- Provision of e-mobility services in one mobility station in Munich
- 6-10 electric vehicles acquired and tested in different city departments in Turku

#### CHALLENGE 2 – Relieve central areas through clean and efficient urban logistics

#### IMPACT 8: Promoting the use of clean vehicles among key agents

- 50 tested e-vehicles: Use of a test fleet to commit at least 5 companies to incorporate 10 e-vehicles to its fleet in Madrid, and analyse their performance in urban distribution.
- Engage with 20 companies to test e-vans in Stockholm: At least 10 companies will purchase up to in total 30 mini-vans before the end of the project.
- 350,000 l Diesel replaced by Biogas in 10 freight vehicles in Turku
- Implementation of a LBG filling station with a potential of 7 million l/year (fuel need by 200 HD freight vehicles or 5,000 private cars) in Turku.

#### IMPACT 9: Increased efficiency through new regulations and consolidations solutions

- 30% reduction of km-goods, thanks to the implementation of a consolidation centre linked to the use of electric vehicles in Madrid.
- 30% reduction of km-goods, thanks to the new Consolidation centre in Stockholm.
- Increase in the number of delivered goods per km (ton/km driven, package delivery/km driven) in Madrid.
- Perception surveys on the perceived "quality of the service" (customers, drivers, brands..).

#### IMPACT 10: Test adapted prototypes of clean distribution vehicles:

- At least two of the vehicles will be ready to be sold on the market by the end of the project.
- Ultra low emission hybrid-biogas distribution vehicle developed and tested in Madrid.
- Full-size (16 tonnes) prototype plug-in hybrid electric truck tested in Stockholm.
- In Munich, a pilot business model will be demonstrated by introducing four emission-free light-weight electric vehicles (450 kg each) for freight, taxi and sharing services.

All in all, the complementary and reinforcing package of measures implemented in each ECCENTRIC city will have a significant impact on the overall transport system of the demonstration area, which can be summarized using CO<sub>2</sub> as a key indicator. Results vary depending on the actual character and size of the living laboratories, as well as its upscaling potential. Some examples of this are:

- In Madrid, ECCENTRIC will drive the CO<sub>2</sub> reduction foreseen in the Air Quality Plan, targeting 51,100 tonnes/year in the laboratory area, with an upscaling potential of 134,500 tonnes in the whole suburban area
- In Stockholm, the car traffic shifted to more sustainable modes of transport will lead to a yearly reduction of 90 tCO<sub>2-eq</sub> in the pilot area during the project, with an upscaling potential of 15,000 tCO<sub>2-eq</sub> if measures were extended to all Årsta residents (250,000 tCO<sub>2-eq</sub> if extended to all peri-central areas)
- In Munich, ECCENTRIC is expected to achieve a reduction in CO<sub>2-eq</sub> emissions of 1,647 tonnes per year, reaching 120,000 tonnes per year if upscaled to the whole suburban areas.

Nevertheless, the innovative approach followed by ECCENTRIC, either by applying new concepts and emerging technologies or by addressing new challenges, means that the quantification of impacts is a challenging task at this stage, often lacking references to be used in this regard. ECCENTRIC, with its academic partners at the lead, is committed to undertake a thorough evaluation of the project in order to provide solid inputs on the actual impacts of the measures implemented and its upscaling potential in each particular city.

#### *Impacts on the European knowledge base*

CIVITAS ECCENTRIC will contribute to the knowledge base and capacity building on the effectiveness of sustainable mobility solutions and ways to overcome barriers. The main types of public deliverables from ECCENTRIC will be made available on the CIVITAS corporate website:

- At least, 30 good practice descriptions to raise the interest for the more detailed information:
- Detailed 50 measure level evaluation reports that discuss both impacts and lessons from the process.
- 20 replication packages for measure types and general enabling themes (procurement, SUMP +)
- Targeted dissemination material focusing on the highlights of measure results, technical solutions and new innovations, challenges and benefits complementing the replication packages.
- 15 detailed studies and research reports from the planning phase of the measures.

Practitioners from the five partner cities and 17 observer cities will participate directly in the projects activities for mutual learning (staff exchange, peer reviews, site visits, CIVITAS forums and workshops).

During the project lifetime, each partner city will develop at least one replication plan to transfer a successful measure from another city. At least 5 further replication plans will be developed by cities from the observer group. Over 150 cities will participate in the project competence building activities (webinars and seminars).

A much wider group of cities will be reached through the involvement of ECCENTRIC partners in networks such as Union of the Baltic Cities (100 members), ICLEI (200 European members, and over 1000 globally), POLIS (around 60 full members), EUROCITIES (around 180 members), CIVITAS Forum, CIVINET (Spain/Portugal and German Speaking), SUMP competence centres for Baltic and South East Europe and further existing cooperation with other initiatives.

#### ***Market uptake of successful innovative mobility solutions:***

The ECCENTRIC consortium contains energy and mobility service providers as well as vehicle manufacturers that, by the end of project, will be able to spread successful new solutions to wider national and international markets.

#### ***Filling infrastructure for alternative fuels:***

- A wider implementation of LBG Filling stations throughout Turku region and Finland by project partner Biovakka Suomi.
- AGA Gas AB is member of the multinational The Linde Group that will be able to transfer good experiences with Hydrogen filling stations in Stockholm to its global distribution network.

#### ***ECCENTRIC project will help develop the market for clean vehicles through direct involvement of the vehicle-designers, vehicle-manufacturers, vehicle-dealers and large fleet operators in the project:***

- Project partner Mobility motors Sweden AB, the largest authorised Nissan dealer in Sweden, will offer test fleets of electric vehicles to local companies aiming to increase demand for the CVs.
- Project partner Taxi 020, one of Stockholm's largest taxi companies with 1200 cars, will test hydrogen taxi's. A positive experience during the project will have a large uptake potential.
- Project partner KTH will cooperate with Scania to test an electric truck for silent night delivery.
- Project partner GreenCity project will develop and test the adaptive City Mobility a new light-weight vehicle with an innovative manual battery exchange system.
- AVIA, a vehicle design Co. will cooperate with Madrid to develop a low emission vehicle for urban freight.

#### ***Upscaling of "Mobility as a Service" concepts to national level and with a potential of transfer to other countries***

- Project partners Eera Oy and Ubigo Innovation AB are central actors in supporting the implementation of the MaaS concept in respectively Finland and Sweden. A successful application in the laboratory area is an important step in the further national roll out in the two countries.
- The project partner Flexidrive markets a peer-to-peer car sharing where individual car owners from Stockholm share their vehicles with others through an online platform. By the end of the project the company will have gone beyond the scale of the early adopters.

#### ***Logistics companies involved in the new consolidation schemes will be able to replicate solutions in other cities:***

- FM>Logistic Iberia, project partner in the consolidation centre of Madrid and will be able to transfer experiences from ECCENTRIC project to its multinational distribution network in Europe, Asia and Brazil.