MOVING TOGETHER FOR A BETTER MOBILITY

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CIVITAS

Growing urban traffic and its consequences (congestion, accidents and pollution) pose a major challenge for European cities. Therefore, transport and mobility are of highest priority for local authorities. In 2000, the European Commission underlined the need for action and launched the CIVITAS Initiative, designed as a programme “of cities for cities.” The programme aims to support the exchange of ideas and experiences between politicians, professionals, and technicians. Currently 210 cities across 31 countries regularly exchange within the CIVITAS Forum Network knowledge, solutions and results in order to promote and implement sustainable, clean and energy efficient urban transport measures.

CIVITAS PLUS II

CIVITAS Plus II aims to support cities in designing, deploying and evaluating ambitious new policies and technologies for more sustainable urban transport. CIVITAS Plus II continues to advance knowledge of innovative, integrated urban transport systems. It provides networking for cities to assimilate best practice, evaluate impacts and disseminate results. Taking account of the Commission’s Action Plan on Urban Mobility, efforts build on past CIVITAS experience and focus especially on deployment and validation of innovative mobility solutions for both urban passenger and urban freight transport.

CIVITAS 2MOVE2 – Moving together for a better mobility

2MOVE2 is a European mobility project under the current CIVITAS Plus II programme with a total budget of 9.1 million Euros and four city partners, Stuttgart (Germany) – project coordination –, Brno (Czech Republic), Málaga (Spain) and Tel Aviv-Yafo (Israel). The cities are flanked by the transport engineers SSP Consult, the University of Stuttgart, the public transport company of Brno (DPMB) and the Technion - Israel Institute of Technology.
Objectives

2MOVE2’s main objective is to improve urban mobility by advancing or creating sustainable, energy-efficient urban transport systems in the participating cities for the benefit of all citizens respecting the environment and natural resources.

Implementing sustainable mobility

Specific emphasis is given in 2MOVE2 to the measures of e-mobility, freight and ITS-based traffic management. Also the continuous reflection of the proposed projects with the Sustainable Urban Mobility Plans (SUMPs) as well as with urban development plans is stressed. Other important topics which are addressed in the measures are the promotion of non-motorized mobility and public transport, as well as the enhancement of mobility information services for companies and citizens.

Main goal of the participation in 2MOVE2 is to implement new measures which support and enable the setting up of more sustainable transport systems. This requires that the measures demonstrated in the framework of this project are not isolated, but part of a comprehensive system combining measures in all action fields of CIVITAS. In 2MOVE2, the 23 measures will be complemented by major awareness and consensus building efforts among others through training workshops and educational activities.

Sustainable Urban Mobility Plans

A strong focus is laid on Sustainable Urban Mobility Plans (SUMPs). This helps the four cities either to update already existing SUMPs or to move existing transport development plans or similar plans towards a SUMP. The 2MOVE2 Working Group on SUMPs provides strategic and political validation and advice to the project. It is composed of site managers and local representatives as politicians or relevant stakeholders. The working group provides guidance to improve the project’s effectiveness, quality and compliance with policies and will also provide conclusions and recommendations resulting from the project.
Stuttgart is the capital of the state of Baden-Wuerttemberg and forms with about 600,000 inhabitants and 470,000 employees the centre of the “Stuttgart Region” with in total 2.7 million inhabitants and 1 million employees. The export-strongest region of Europe creates its strength in automotive and mechanical engineering. Companies such as Daimler and Porsche have world-wide reputation. Several universities and numerous research institutions form together a diversified research landscape. Stuttgart is well-acquainted with all the problems, which result from high mobility demand of both its citizens and the economy, but also with solutions for urban mobility aiming to increase the quality of life and to reduce the negative impact of traffic on the environment. On the international level, the City of Stuttgart coordinates the global network Cities for Mobility which gathers over 600 partners in 84 countries. Cities for mobility is a platform for the exchange of know-how and practical experiences between cities, regions and stakeholders from economy research and society.

Measures and objectives of 2MOVE2 in Stuttgart

Within the CIVITAS 2MOVE2 project, Stuttgart implements and tests the following activities in order to reduce emissions and protect residents and sensitive urban areas:

➢ The promotion of e-mobility by introducing a comprehensive concept including awareness raising and training campaigns.

➢ The development of a priority network for heavy goods vehicles (HGVs) will guarantee short and efficient routes for urban HGVs and protect sensitive urban areas.

➢ The emission-based traffic management in case of high emission levels is tested on a corridor to optimize traffic flow and to reduce emissions.

➢ The promotion of sustainable urban transport by the Mobility Information and Service Centre encourages and promotes new forms of transport like sharing concepts for cars, bicycles and e-vehicles as mobility management strategies for companies and housing communities. Additional innovative forms to provide mobility-related information on large and long-lasting construction sites will be implemented.
Brno, the second largest city in the Czech Republic, is also the major centre of the Southern Moravia Region. Nearly 400,000 inhabitants live in Brno and another 65,000 people commute to Brno to work, study, use services or seek entertainment. Together with a dense network of middle-sized towns and villages (672 in total), Brno offers a well-balanced composition of infrastructure in the region. Its excellent transport infrastructure provides benefits to the strategic location of Brno and the whole region.

The City of Brno faces the challenge to maintain its relatively high share of public transport and to foster the use of sustainable transport systems. Demographic change is another important issue to be addressed, as a decline of inhabitants and ageing of the population are strong trends, which the city of Brno needs to address in a new land use plan. With regards to land use the city needs to make available the new housing and developing areas in the new land use plan. All of them have to be well served by public transport to ensure that people move in a sustainable way.

Measures and objectives of 2MOVE2 in Brno

The main goals within CIVITAS 2MOVE2 are a more sustainable development and the prosperity of the city of Brno connected with the growing number of inhabitants.

Within the CIVITAS 2MOVE2 project the City of Brno has a focus on:

- Promotion of electric technologies for private and public transport to replace the conventional operation of cars and buses powered by diesel
- Introduction of a new technical solution for clean vehicles which consists of storing the generated energy while braking and using it when accelerating
- Provision of multimodal real-time traffic and travel information to travellers
- Feasibility study of the emission zoning of Brno
- Park-and-ride facilities with connection to public transport that allow commuters and other people travelling to city centres to leave their vehicles and transfer to a bus, rail system or carpool for the remaining part of the journey
- Complete operating system that offers information on technical infrastructure for all possible transport modes in the Brno area on a city wide level
- New opportunities for transporting bicycles in public transportation vehicles.

For further information visit:

BRNO

Trolleybus in Brno
MÁLAGA

Málaga, with nearly 570,000 inhabitants, is the capital of the “Costa del Sol”, a metropolitan area of 1,200,000 people, as well as a worldwide famous tourism destination. The city is characterised by a strong demographic increase in the last 50 years, doubling its population from 1960 to 1980. Currently innovation and cultural tourism are increasing their importance in the city’s local economy. Since the approval of its Sustainable Urban Mobility Plan several actions have been developed, such as pedestrian and traffic calming areas, dynamic parking information and priority lanes for public transport and bicycles. However, they need to be integrated in a broader strategy, aiming at private vehicle use reduction and public and alternative transport improvement.

Measures and objectives of 2MOVE2 in Málaga

Within 2MOVE2 Málaga wants to advance with the implementation of its Sustainable Urban Mobility Plan (SUMP) which should contribute to reach Malaga’s long term objectives. Especially, Málaga aims to achieve the following targets along the four years of the project:

► To increase the modal share of cycling from currently 0.4% to 2%, through the implementation of a public bicycle scheme, improving at the same time intermodality between bus and bicycle

► To limit and regulate the presence of Heavy Goods Vehicles (HGV) within the city, through the design and implementation of a HGV priority network

► To encourage the use of more efficient and sustainable means of transport, breaking the “car culture” tradition, through the implementation of an awareness campaign on electric mobility and safe routes to school, focussing on university and primary school students

► To improve traffic flow and reduce congestions, through the implementation of an intelligent traffic control system which aims at reducing stop & go traffic as well as greenhouse gas emissions due to transport

► To provide new decision support tools for future policies linked to sustainable mobility, thanks to the installation of mobile pollutant sensors within the public bus fleet, which will provide detailed air quality information on different areas of the city.

For further information visit:
Today, Tel Aviv-Yafo is a city of about 400,000 residents, spread over an area of 50 square km, and offers employment for over 360,000 persons (14% of Israel’s employed people). The Greater Tel Aviv Metropolis has a radius of 60 km, which includes 3.2 million people. More than 50% of all the jobs in banking and finance in Israel are concentrated in the city, which has become one of the top ten high-tech centres in the world. Tel Aviv-Yafo is also a centre of art and culture, housing the three major museums of Israel and its four leading theatres. As a major transportation hub, the city is served by a comprehensive public transport network, with many of the major national transportation network routes running through the city.

**Measures and objectives of 2MOVE2 in Tel Aviv-Yafo**

In order to preserve its predominant role as a major city, Tel Aviv-Yafo strives to improve the quality of all transportation modes and to reduce congestion and the negative environmental impacts of traffic.

In realizing the main objectives within the CIVITAS project at the local level, Tel Aviv–Yafo focuses on:

- Gradual transition to new automotive technologies and foremost among them e-vehicles for reducing pollution and greenhouse emissions
- Development of organisational and technical frameworks for implementation of goods logistics strategies to achieve a better logistical management of freight and goods
- Improvement of traffic flow in the city and reduction of negative environmental impacts of traffic, such as congestion, air pollution and noise
- Reduction in the travel times of road users as a result of the greater availability of traffic information
- Improvement of the cooperation of municipal and private initiatives to make high-density employment areas more accessible by implementing the use of collective transport modes
- Raise of the public awareness of green arteries leading to a greater utilisation of the green arteries and encouraging the use of non-motorised transportation in the city.

**For further information visit:**
2MOVE2 and clean fuels and vehicles

Clean fuels and clean vehicles will help as integrated strategies to reduce air pollution and the release of greenhouse gases. By doing so, finally they improve the quality of life for the citizens. In the long run, the implementation of biodiesel or biogas vehicles can improve independence from fossil fuels and stabilize oil prices.

Measures

Bringing e-mobility into the daily life of people in Stuttgart

The promotion of the use of e-mobility is a key element of the city’s strategy towards a more sustainable mobility. This measure raises awareness for e-mobility in the city. Through a decentralized approach at city district level, citizens, but also important target groups, are informed about the new technology e.g. becoming a user, charging, sharing and parking. The measure focuses also on the integration of e-mobility in the urban planning processes of the city.

Reduction of energy intensity of public transport in Brno

The DPMB (public transport company of Brno) will introduce a new technical solution for clean vehicles which consists of storing the generated energy while braking and using it when accelerating. In other words, the measure will reduce the peaks in energy consumption. The other benefit of this measure is that the trolleybus can be driven over a small distance without overhead wires in case of an accident or road works.

Driving classes and test of e-vehicles at the University of Málaga

Open days on e-mobility will be organized in several venues of the University of Málaga (UMA). They will consist in: driving lessons focusing on the main features of e-vehicles, efficient and safe driving, and the coexistence and respect towards other sustainable modes of transport (pedestrians, public transport, and conventional bicycles). Practical tests of light (pedelecs) and heavy (cars) e-vehicles will be carried out on the University Campus. Open days will be held in collaboration with local driving schools.

Charging stations study and e-motorcycles pilot in Tel Aviv-Yafo

The aim of this measure is to facilitate the use of e-vehicles. A feasibility study examined the deployment of charging stations for e-vehicles. Tests on the applicability and implications of replacing the municipality’s fleet of motorcycles with electro motorcycles will be carried out.
2MOVE2 and collective passenger transport

To strengthen collective passenger transport, the quality of service has to be improved by introducing clean and energy-efficient vehicles, non-conventional public transport systems and innovative organisational, financing and management schemes. Security and safety as well as the integration with walking, cycling and other modes are additional elements of a future orientated public transport. The transport network must be accessible to all population groups. The provision of a fast, comfortable, and safe service is an important incentive for using public transport as an alternative to the private car.

Measures

Development of e-mobility and introduction of electric mini-buses within Brno city centre
This measure covers the purchase of three electric vehicles, the implementation of charging stations and the introduction of a new line in the historic city centre. A suitable technical solution taking into account the length of the route and the operation mode are being developed.

Extension of bicycle transport service in cycle buses in Brno
This measure offers the new opportunity to transport bicycles in public transportation vehicles, broadening bicycle transport services on selected routes within the Brno area and its surroundings.

Innovative transport solutions for high density employment areas in Tel Aviv-Yafo
The measure is intends to improve the cooperation of municipal and private initiatives to make high-density employment areas more accessible by implementing the use of collective transport modes.

2MOVE2 and demand management strategies

Demand management strategies within CIVITAS are based upon access restrictions or pricing to enter the inner city areas and other sensitive zones. Such measures include introducing access restrictions which permit access to only clean and energy efficient vehicles and to cycling and walking. It also includes the strategic management of parking to dissuade some car users from driving to highly congested places or during peak times and to encourage the use of more sustainable modes.

Measures

Concept and implementation of city parking system in Brno
The measure foresees the introduction of a new P&R car park in Brno in the frame of the existing city parking system. In this measure the City of Brno will build up P&R with connection to system of payment favouring parking on this P&R with subsequent use of public transport.

Toll emission zoning in Brno
This measure aims at increasing the income for construction and repairs of the traffic infrastructure, improvements in the mass transportation and reducing emissions, noise and other negative effects caused by the traffic. In addition to that, it pursues the improvement of the road transportation accessibility, the reduction in congestions in certain parts of the city with the goal of creating a sample toll system through a pilot project.
2MOVE2 and mobility management

Mobility management is a concept to promote sustainable transport and to reduce car use by changing travellers’ attitudes and behaviour. At the core of mobility management are “soft” measures such as information, communication, and organisation of services and coordination activities of different partners. Such measures most often enhance the effectiveness of “hard” measures within urban transport (e.g. new tram lines and new bike lanes). In comparison to “hard” measures, mobility management measures do not necessarily require large financial investments and may have a high benefit-cost ratio.

Measures

Mobility Information and Service Centre Stuttgart

The Mobility Information and Service Centre Stuttgart offers mobility management, new models of vehicle sharing and mobility information for companies and for huge construction sites. It deals as a central facilitator for local companies and housing communities. While company mobility plans are common, mobility plans for housing communities mark a new field of mobility management. Nevertheless it is a remarkable approach that local companies and housing communities will have the possibility to get mobility plans as a service from the Mobility Information and Service Centre Stuttgart.

Part of the mobility consultancy for local companies and housing communities will be the promotion of “sharing”. This includes the traditional car sharing but also offers to share conventional bicycles, electric bicycles (pedelecs) and small electric cars. Huge and long lasting construction sites usually have several severe impacts on mobility and traffic in the respective areas. The regular offers in public transport might be reduced or detoured, stops could be closed, shifted or re-named, bike lockers could be removed, pedestrian walkways closed or detoured and finally also the road network might be affected, e.g. by a reduced capacity due to less lanes. All these impacts might change several times along the time span of the construction site. The Mobility Information and Service Centre Stuttgart will provide tailored information for such construction sites.

Safe routes to school programme in Málaga

This measure designs and implements safe routes from home to school for the students of ten primary schools in Málaga. After giving some previous theoretical classes to students, introducing sustainable mobility basic principles, the safe routes itineraries will be designed by involving the whole educational community (students, parents and teachers). Safe routes from home to school will be carried out by walking, cycling and public transport.
2MOVE2 and car-independent lifestyles

This thematic field deals with more innovative and sustainable usage of the car shifting travellers to public transport making more sustainable use of the car and non-motorized means of transport. Carpooling, car sharing, bicycling and other initiatives supported by modern information technology can foster a car-independent life-style.

Measures

Public bicycle scheme in Málaga
The introduction of a public bicycle scheme in Málaga will strengthen the current infrastructure already implemented by the municipality for cycling, promoting bicycle as a competitive means of transport, and increasing the whole number of bicycle users in the city. This measure offers to citizens an alternative to private motorized vehicles, especially in their short and mid distance daily trips. Public bike users will access the system using the same card as for public transport service. The system will be open for both long term (e.g. residents) and short term users (e.g. tourists).

Raising the awareness to green arteries and promotion of non-motorised transport modes in Tel Aviv-Yafo
This measure is about raising public awareness to green arteries leading to a greater utilisation of these and to an improved quality of life in the public sphere. This way, the city will be able to create places for public activities that encourage walking and cycling, reducing congestion and pollution in the city.
2MOVE2 and urban freight logistics

The delivery of goods to residents, factories, shops, offices, hotels, etc. generates a significant amount of traffic in our cities. Thus, urban freight logistics should be managed to minimise the negative impacts on people’s lives.

Measures

Priority networks and dynamic guidance for heavy goods vehicles in Stuttgart

This measure aims at bundling urban Heavy Goods Vehicles (HGV) in a defined network reducing noise and emissions in residential areas. The approach for identifying a recommended network for HGV combines the aspects of urban development, transport planning and environmental protection. Especially the integration of transport management and urban planning is a new and innovative aspect.

Optimizing goods logistics in the city centre in Brno

This measure implies the application of the principles of logistics on the movement of deliveries in large cities. By reloading and combining the shipments, selection of the most appropriate vehicles and optimization of deliveries one can reduce the number of necessary vehicles, increase their usage, increase the efficiency and reduce the environmental impacts.

Priority network for Heavy Goods Vehicles in Málaga

The measure develops specific rules for Heavy Goods Vehicles (HGV) and a technological tool for monitoring their transit through various access points. The network will integrate technologies and infrastructures to control HGV movements, allowing to access the inner part of the city only those vehicles going to the harbour through a specific HGV compulsory itinerary. This new corridor for HGV will be located along the Málaga west coast area, due to intense commercial activities, and its connection to the harbour.

Development of organizational and technical frameworks for goods logistics strategies in Tel Aviv-Yafo

Tel Aviv-Yafo aims to establish appropriate organisational structures that will best promote the cooperation between the large number and variety of stakeholders involved in the logistical movement of freight in an optimal manner – one that keeps congestion to a minimum, thereby reducing the disruption to residents and environmental impacts of traffic.
2MOVE2 and transport telematics

Transport telematics systems offer opportunities to help passengers make informed choices and make urban transport faster and more efficient.

Measures

Emission-based traffic control by dynamic speed limits in Stuttgart
This measure aims at reaching a continuity of traffic on a lower speed level, especially to avoid stop-and-go traffic without creating at the same time any negative effects on pedestrians, public transport and bicycle traffic. The City of Stuttgart develops exemplary a traffic control model for the inner urban area and tests and verifies the model in a field trial. In case of being successful, such model could be transferred exemplary to other urban districts in Stuttgart and could be complemented by an air pollution-dependent regulation.

Central Traffic Management Centre in Brno
Primary goal of this measure is to supplement current central traffic management and monitoring with a database concerning infrastructure of rail transportation and municipal bus operation. Further objectives are the construction of the complex integrated traffic management in the city of Brno and the creation of the conditions for improvement of a wide spectrum of important traffic criteria. Finally the measure foresees a redistribution of the traffic stress of the communication network and a reduction in the negative impacts of traffic on the city environment.

Intelligent traffic control and software development for the Mobility Management Centre (MOVIMA) in Málaga
This measure develops tools helping the Mobility Management Centre’s staff to identify and manage daily incidents more rapidly, reducing the stop-and-go traffic. On the other side, new software solutions will be studied to integrate and harmonize the communications arriving to the Traffic Management Centre from different departments (local police, fire brigade, urban planning, etc.) and through different formats (fax, phone calls, e-mails, etc.), in order to process them uniformly and to improve the effectiveness of the Mobility Centre. The new software will also allow processing a set of sustainable mobility indicators, which will be used to monitor and follow up traffic and mobility trends in the city.

Dynamic air quality measurement through mobile sensors installed on top of public transport buses in Málaga
Reliable data can be obtained on air quality evolution in several zones of the city, through mobile air quality sensors installed on top of four buses of the Málaga public transport fleet. This allows measuring the air quality levels in a dynamic way and complementing the information provided by the only three stable air quality stations currently existing in Málaga. This measure presents an innovative approach as, normally, air quality in cities is measured just through fixed monitoring stations.

ITS based transportation information provision in Tel Aviv-Yafo
This measure is based on incorporating data regarding events that may affect mobility to create a unified view from several sources to provide a decision support system for both the individual traveller and the traffic operator. This will lead to a reduction in the travel times of road users as a result of the greater availability of traffic information.

Public Transport (PT) priority along main arteries in Tel Aviv-Yafo
This measure deals with the implementation of an innovative traffic management strategy that aims to limit the adverse effects of transport by decreasing the variance of PT travel time and thus improving the reliability of PT services. The measure also aims at achieving a better balance between PT vehicles and pedestrians. The measure will improve traffic flow in the city and reduce the negative environmental impacts of traffic, such as air pollution and noise.

Integrated Traffic Control Centre of Málaga (MOVIMA)
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Moving together for a better mobility

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