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Behavioural Change in Civitas

To create sustainable mobility within cities, it is not enough to offer infrastructure and offer public transport in cities. There has also to be a cultural shift to let inhabitants actually use sustainable mobility. Therefore, part of an integrated mobility programme, like Civitas, should be measures on behavioural change.

What is behind “behavioural change”?

People only change their behaviour if they have the ability and motivation to change. This change can be invoked by a trigger, such as a CIVITAS-measure. This is the so-called BJ Foggs model¹.

With this model in mind then, when it comes to mobility the following example illustrates the point. To change from commuting to work by car to going by bike, the office needs to be within a certain radius (opportunity), one needs to be able to ride a bicycle and know the route there (capability) and the person needs to have a reason to make the change, such as shorter journey time, improving health by being more active or reducing impact on the environment (motivation).

Many measures in CIVITAS Plus have been designed as information and promotional campaigns. A good campaign can both influence the capability aspect of behaviour by boosting knowledge and can also serve as a source of motivation for urban citizens. One example is the “Mobility for the Elderly” measure in Zagreb, Croatia. This was a campaign that provided information to the elderly on how to use a bus (capability) and information on why this way of travelling is good for the overall mobility in the city (motivation).

This specific motivation, i.e. *knowing* that the requested behaviour is good” is only part of the cluster of motivational aspects required. Recent research in behavioural economics² shows how new behaviour is derived from the combination of the values one has, earlier experienced behaviour and the expectation of the emotions the new behaviour will provoke. People show behaviour that makes them feel good, and only when this fits with their identity and the behaviour they associate with this identity. A campaign should therefore focus on citizen’s core motivations.

¹ <http://www.behaviormodel.org/>

² Ariely, Dan , “predictably irrational”, 2008 http://en.wikipedia.org/wiki/Predictably_Irrational
Bockarjova, M., & Steg, L. (2014). Can Protection Motivation Theory predict pro-environmental behavior? Explaining the adoption of electric vehicles in the Netherlands. *Global Environmental Change*, 28, 276-288. DOI: 10.1016/j.gloenvcha.2014.06.010.



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1.1 Ingredients for real change

Campaigns, however, have only limited power to convince people. Behavioural change is a long-term process and to really achieve change, more is required than just a one shot intervention, such as a campaign or other incentives.

In the United Kingdom a behavioural insight team was formed by the government for that specific purpose. The Behavioural Insights Team, often called the 'Nudge Unit', applies insights from academic research in behavioural economics and psychology to the activities of British public policy and services.

In addition to working with almost every government department, they work with local authorities, charities, NGOs, private sector partners and foreign governments developing proposals and testing them empirically across the full spectrum of government policy.

They have defined three essential aspects for effective "nudging" of behaviour:

- Understanding behaviour,
- Interventions (influence),
- Results (measuring, evaluating, interpretation).

Understanding means that a measure can only be effective if there is sufficient insight in advance about the current and desired behaviour. This means knowledge of the target group and its properties. These insights help to select potential measures and to remove resistance/lower thresholds. It is the first step in designing the optimal behavioural influence strategy in specific situations (interventions). Monitoring and evaluating help to discover whether the strategy yields the promised results, which lessons are to be learned from the process and which side effects occur.

These aspects have also been used by the Dutch Government to understand more than 100 national behavioural change projects in their report "Grip on Behaviour"³. Their conclusion was that although an extensive toolbox of interventions has been completed over the last years, there is not that much attention given to understanding and monitoring. This may be one of the reasons not all CIVITAS activities on behavioural change are easy transferrable to other cities.

³ : XTNT et.al. (2013) *Grip op gedrag. Inspiratie voor het vervolg van Beter Benutten*
<http://tabularasa.nl/beta/wp-content/uploads/2013/12/Rapport-Grip-op-Gedrag-5-12-2013.pdf>



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1.2 Understanding behaviour

A number of measures in CIVITAS Plus have focused on understanding the behaviour of the citizen. Understanding means trying to determine the reason for the behaviour and not just trying to solve problems by (behavioural) interventions.

In **Zagreb, Croatia**, the discussion on mobility issues was mostly limited to professionals. It did not actively involve the public, which usually reacted only after decisions have been implemented. Change was needed to reduce dissatisfaction and share responsibility and increase the number of citizens taking part in the decision-making process. As a vital part of communication and dialogue with citizens, a series of public events called “**Wednesdays in the Tram**” were held at the Info-Point. The events targeted citizens, especially public transport users, cyclists, car owners and pedestrians interested in improving mobility conditions. Traffic experts and the media were also involved. The topics included cycling, car-pooling, freight delivery, congestion charging, planned intermodal passenger terminal and a new train station, etc. By listening to the citizens, new interventions were developed. By using this model the local authority and public transport operator could profit from the diversity of its citizens and the different meanings each give to places and movements.

In another example, by looking at and understanding the behaviour of tourists, the municipality of **Funchal, Portugal**, could support its **new Green Line bus service**, which sought to raise the quality and environmental standard of public transport. As an ambitious marketing approach, a specially-developed Tourist Kit helped to make public transport more attractive to tourists. Started as a support activity for the Green Line, the Tourist Kit turned out to be a success in its own right.

Tourists were given a folder containing a brochure with information on the most exciting spots to visit by public transport, as well as a public transport ticket. A sticker on the ticket showed an iconic image of the hotel, making it an instant souvenir of the hotel. The final cornerstone of the strategy was to convince hotel receptionists to persuade tourists to take the bus towards the city centre instead of complementary shuttles, which were adding to congestion. This goal was accomplished by giving the receptionists a small commission on the total number of tickets sold so that they too could benefit from their efforts and act as an ambassador. People tend to return a favour, thus the pervasiveness of free samples in marketing. In Funchal, people get a free ticket sample of public transport from hotels. This sample is an essential part of the Tourist Kit. Robert Cialdini calls this the principle of reciprocity in his work on the principles of persuasion. Furthermore, the kit creates a “feel good” experience for those staying at the hotel. As a result, public transport and the hospitality industry both win in this scenario.

In **Bologna, Italy**, the municipality saw the necessity to integrate a set of instruments for **traffic planning, control and monitoring**. The solution was an integrated platform in a distributed environment called the Cisium traffic control centre. This platform connects and integrates the municipality's ITS systems. It controls the majority of the traffic lights in the city and influences traffic communications in the whole metropolitan area in order to achieve optimal real-time traffic management. A vital and important step was to include the citizen in the decision-making process. The municipality had to consider cultural and social acceptance of the proposed mobility policies and

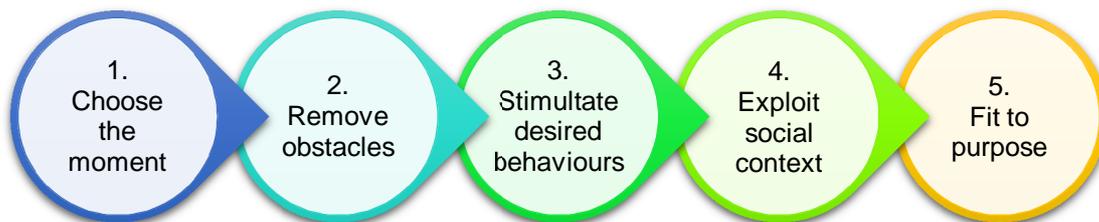
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ITS. Essentially, a dialogue among different views present needed to be created to ensure maximum effect. This work, also involving political support, is decisive for the success of the measures. Ensuring participation in a measure's design and implementation process is a good way to ensure behaviour is understood, so that the right triggers for change can be activated.

1.3 Designing successful interventions

Successfully implemented interventions follow five key stages, which slot into the theoretical framework mentioned above



Source: Adapted for this publication from XTNT e.a. (2013) *Grip op gedrag. Inspiratie voor het vervolg van Beter Benutten*.

When looking at the CIVITAS Plus measures, there are some which certainly stand out. Upon analysis, all have followed these steps when developing interventions to tackle a particular behaviour. Campaigns are often successful when they link in with other changes taking place.

Looking once more at Zagreb, there was a focus on **increasing accessibility** to public transport for the elderly by removing obstacles, thus picking up on step two of the approach above. A trend observed in many European cities, the city of Zagreb has begun to see a steep growth in its ageing population. In 2001, 14.9 percent of the population was older than 65, whilst census data from 2011 show that their share has increased to 17 percent⁴. Hence, it was clear that greater attention should be paid to

⁴ Safer Public Transport for Elderly People, Civitas Vanguard /Elan, 2012



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this group and to their safety, particularly in traffic, as they are one of the most vulnerable groups of public transport users in the city.

A group of elderly citizens were given the opportunity to talk to bus and tram drivers of the local public transport operator, ZET. Traffic police representatives also participated, warning seniors about traffic risks, particularly when crossing streets at junctions. Many proposals, objections and recommendations were collected, and then referred to the relevant authorities. Four workshops were held on safety for senior citizens, drawing bus and tram drivers' attention to senior citizens' needs in public transport. More than 160 drivers participated in the discussions.

Another example of removing obstacles was the **"Public Transport Information"** project in **Porto, Portugal**. Porto aimed at developing a decision-making tool for public transport to help people plan their trips. This would be based on the real time information provided by a host of different operators. Such a tool and information is now available through smartphones and other geo-referenced mobile equipment, allowing the user to select the best combination of transportation from the place of departure. The information is also available on LCD displays placed inside institutions such as hospitals and university faculties, as well as public transport stations. This removes part of the insecurity associated with routes and timing that had been listed as one of the main barriers to public transport use.

In **Gdansk, Poland**, the municipality managed to stimulate desired behaviour and exploit the social context to the fullest. Before CIVITAS, Gdansk's public transport stops were commonly used by the city's inhabitants to display different types of small leaflets and adverts. The overall effect was an untidy mess, spoiling the visual look of shelters and attracting further acts of vandalism. This had a very negative impact on people's perception of safety and security in public transport generally.

During CIVITAS, at the heart of Gdansk's approach was the firm belief that the solution to such problems lie in a shift of consciousness. Following a group evaluation by the different institutions responsible for public transport (shelter maintenance teams, municipal guards, police and operators), a social campaign "Clean PT Stops" was launched to **improve the perception of safety and security** among service users. The ambitious campaign, launched in September 2011, was expanded in 2012. Initially, 72 special advertisement boards were installed at bus and tramway stops in the city centre of Gdansk. Then, a broad media campaign encouraged citizens to feel ownership and responsibility for the stops.

Other activities included an art competition for new "Stop Vandalism" signage. The innovative approach of this anti-vandalism strategy was a direct result of a new, positive and preventive, rather than repressive, approach to the problem. The advertisement boards allowed the city to combat the illegal practices in a constructive way by providing a legal alternative and citizen led approach. This new concept included a broad media information and promotion. People will do things that they see



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other people are doing. This social proof is also one of the key principles of persuasion according to Cialdini⁵.

However, it is important to remember that achieving behavioural change is not about simply providing tools and information for citizens. It is necessary to provide a good balance between the “carrot” and the “stick”. To find such a balance, **Sustainable Urban Mobility Plans (SUMPs)** provide an integrated basis for many new CIVITAS programs. Sustainable Urban Mobility Plans define a set of interrelated measures designed to satisfy the mobility needs of people and businesses. They are the result of an integrated planning approach and address all modes and forms of transport in cities and their surrounding area⁶. In these plans there should be a balance between improved services, restrictions, an integrated vision and behavioural measures.

1.4 Measuring the Results

Behavioural change is difficult to measure, but since CIVITAS is a living laboratory, it's very important to see which measures worked and why. This is the only way behavioural measures can be upscaled and transferred to other cities. Furthermore, the results on which behaviour actually changed help one to adapt and improve the measure in the future.

In **Ghent, Belgium**, the municipality managed to combine results from measures in an internet-based tool. This decision support system was built to manage all mobility information and to organise holistic event management. The tool not only consisted of questions related to mobility, but questions and advice related to environmental issues were also provided. Local event organisers were persuaded through direct marketing to join the system. In a well-thought out move, very much fit to purpose, the evaluation of the campaigns for sustainable mobility to go to events and the tools to organise them were combined. The tool was assessed positively by many of the participating cultural organisations.

Extensive infrastructural adaptations in and around **Utrecht, the Netherlands**, dropped road capacity temporarily on some of the city's most important entry and exit routes. Due to these road works, the local authority and the national highways authority, Rijkswaterstaat, anticipated traffic delays and a decrease in the accessibility in Utrecht.

In order to keep the city accessible and limit economic damage, it was estimated that 2,000 to 4,000 cars would need to avoid rush hours. Utrecht, therefore, put together a variety of measures to achieve this. Private businesses acknowledged this situation and saw the necessity to act. With a moment clearly there for the choosing, an intervention called “**Rush Hour Avoidance**” was created.

⁵The official site of Robert Cialdini and the principles are on <http://www.influenceatwork.com/>

⁶ <http://www.mobilityplans.eu/index.php?ID1=5&id=5>



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During this pilot, motorists were rewarded to avoid the rush hours in early morning. The measure targeted daily users of the A2 highway by means of license plate recognition. From the 15,555 people that were invited to participate, 4,026 car owners eventually did (26 percent of the invited people). The project shows that these participants earned an average of EUR 55 by not travelling at rush hour. By following up on this pilot and seeing how the incentives provided long term behavioural change, this measure has grown into one of the pillars of the Dutch “Better Utilisation” programme.

1.5 Final thoughts on change

Behavioural change is a difficult and a long term process. This makes it complex to implement in a pilot situation. Nevertheless, due to developments in technology and methodology and it's relatively low costs compare to infrastructural measures or public transport services, behavioural change will be an important aspect of policy in the domain of sustainable mobility.

The measures implemented during CIVITAS Plus show that a well thought through behavioural change strategy can be effective, and can provide tools that are transferable to other contexts. By understanding behaviour, selecting the best interventions, measuring the results, and continually refining the approach, cities can indeed make a difference for their citizens.