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CONDUITS

Practical information

Date	Wednesday, November 23th, 2014 (CIVITAS Forum)
Venue	City Hall, Madrid
Time	11:00 – 15:00
Speakers	Niv Eden (Technion) Pierre Schmitz (formerly Brussels Mobility) Antonios Tsakarestos (TUM) Ioannis Kaparias (City University London) Gisa Gaietto (Stuttgart city Council) Haggai Yaron (Tel Aviv municipality)
Moderators	Suzanne Hoadley (Polis) Willem Buijs (DTV Consultants)
Subscribed	35 people (20 participated)

1. Introduction

Willem Buijs, DTV Consultants

This training is part of the training programme from the CIVITAS Learning Centre. Participants will receive a training certificate.

The introduction to the topic was given by Suzanne Hoadley from Polis. Suzanne Hoadley explained that ITS often is not tangible, which makes it difficult to sell to decision makers. Additionally, evaluation culture is lacking and each city has their own indicators, which makes it rather impossible to compare results. Therefor within the CONDUITS project a performance assessment post deployment framework (CONDUITS Key Performance Indicators or KPIs) was developed to assist local authorities in making decisions on ITS investments. The further development of the framework was sponsored by Kapsch, and resulted in a tool to support pre-deployment decision marking (CONDUITS Decision Support Tool or DST). The CONDUITS approach is now further deployed within the framework of CIVITAS 2MOVE2, with Tel Aviv and Stuttgart cases.

2. Overview of the CONDUITS framework

Iaonnis Kaparias, city University London

The framework was developed in close cooperation with cities who explained very clearly their requirements before the development phase. The framework needed to be simple, make use of historic data, clear for decision-makers and general public, and adaptable to cities' individuality and needs.

Different application case studies were explained:

- Paris: assessment of traffic efficiency
- Rome: general network-wide assessment of traffic efficiency
- Tel Aviv: traffic efficiency of new signal strategies
- Munich: traffic safety assessment of speed feedback signs

- Ingolstadt: traffic safety assessment of adaptive signal control

The conclusion was that KPIs help to reveal and reflect on major phenomena, but that the real data were not always available. Therefor the DST Framework was developed.

3. Conduits DST Framework

Niv Eden, Technion

Technion started with two main elements namely traffic efficiency (via routes generation) and pollution (via Aire-model). To measure impact you have to give policy importance to different parts e.g. casualties of pedestrians weights higher than casualties of car drivers, pollution in the city centre weights higher than in the outskirts. Based on the data the Pollution KPI and traffic efficiency KPI is being determined. The added value of the DST is that it enables cities to control the weights based on your local policy.

4. Case study Brussels Capital Region

Pierre Schmitz (formerly Brussels Mobility), Antonios Tsakarestos (TUM, München) and Niv Eden (Technion)

The Brussels region needed a tool to monitor the expected results of the ITS implementation for bus priority. Short-term; medium-term and long-term goals were being expressed. Pierre stressed the importance of weighting possibilities e.g. fatality of cyclists has 3 times more importance than a car driver. One bus line (line 49) with many intersections was chosen for the test study.

Antonios explained the different steps for the calculations and analysis in Brussels. The calculations showed an increase of the global pollution. At the same time they measured what the car reduction should be to neutralize this increase. The KPI can be scaled down to smaller parts of the network so you can identify critical spots or times windows. This can also give you an insight to solve your KPI problem.

Niv gave more information about the weighting factors based on the Brussels case studies, but of course they can be adapted to a specific city situation/policy. Weights can be determined on the basis of the relative quantities of pollutants and on the basis of limit values of policy.

Pierre concluded that Brussels was very positive about the KPIs and DST and gave an overview of the benefits: same methodology for all the indicators, calculation running with all kinds of the data, easy weight of the parameters, automatic calculation, sharing with other cities.

However there were some limits like real measurement takes more time, cost benefits were not taken into account, for comparison you need to give the same weighting at least at the beginning.

5. Case study city of Stuttgart

Gisa Gaietto, Stuttgart city council and Antonios Tsakarestos (TUM, München)

Within the CIVITAS 2MOVE 2 project the measure 'Emission based traffic management' is being implemented in the city of Stuttgart. The case study was B14 arterial where a dynamic speed limit is being implemented, depending on emission situation or traffic situation, hand in hand with speed enforcement etc. The goal was to minimize stop and go traffic on this specific road. The final data (after measurement) will be collected in July 2015.

Gisa Gaietto explained that for Stuttgart the added value lies in the simplification of the evaluations for politicians and for a non-expert audience.

Antonios wanted to diverse the results into one striking value. Different weighting scenarios were presented.

6. Case study city of Tel Aviv-Yafo

Haggai Yaron (Tel Aviv municipality) and Niv Eden (Technion)

The dilemma in Tel Aviv-Yafo was to establish a new mobility management system. Two options were examined namely: self-development and single propriety system. The initial requirements were long-term relationship and open data. The outcome was a new system named AVIVIM, independent form hardware and software manufacturers and open architecture and in-house know-how. The goal of this system is dual: to monitor and to support decision. System is connected to the bike sharing system, public transport system, Waze, parking management, city tunnel etc. Much more efficient decision making is now possible.

Niv Eden presented a workflow for decision-making.

7. Questions and Answers

Q1: Supporting decision-making process with KPI-date, is this something what could applicable in your city?

A1:

Q2: You go very into depth for a measure. There is a lot of discussion about type of measures between different CIVITAS-measures. Who first choose the measure, instead of the combination of measures.

A2: It's all about Impact prediction in relation to policy.

Q3: How much does it cost?

A3: The tool is free and easy but you need some support. According researchers it only is a matter of staff costs, but can be done in a few days, it's a matter of the expertise of the city as well. To give one price is not possible. The calculation takes time, but the tool does this. The policy scenario has to be done by the city. Becoming a part of the European project gives you the possibility to further develop the tool. CPIs could remove a constraints in the requirement of the evaluation of the CIVITAS cities.

8. Evaluation

35 persons registered for the training, 20 persons attended the training. Participants were asked to fill in an online questionnaire. 4 participants filled in the evaluation form. You can view the evaluation results here.

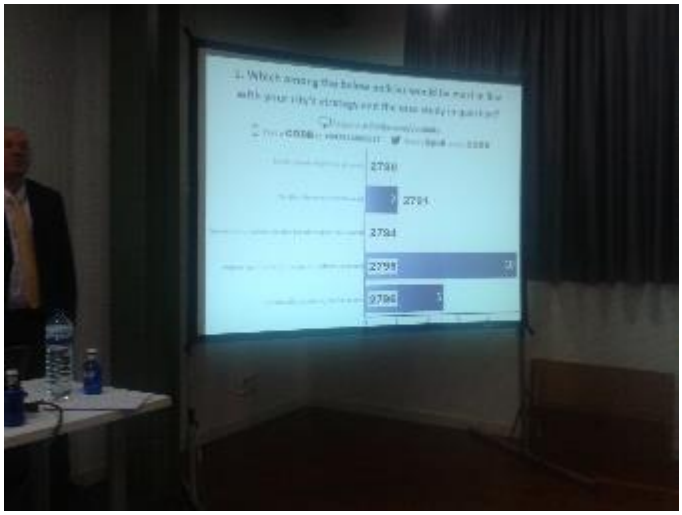
Attachment 1 - Interactive session

During this session the participants received a demonstration of the weights' influence in an interactive way.

Step 1 - Participants were asked to choose the most adequate alternative.

They had to vote for which policy objective they would like to choose for their city. This were the results:

- ☐ Equity: 0
- ☐ Bus: 2
- ☐ Space-consumption: 0
- ☐ Pedestrian priority: 10
- ☐ Sustainability: 5



Doing nothing seemed to be the best approach for the pedestrian priority. For pollution reduction the do nothing is the worst, also effecting the pedestrians. Just bearing in mind that the picture is complex. Pedestrians pay the price.

Step 2 - Based on the results, which alternative would you choose for you city?

- ☐ Do nothing: 1
- ☐ Alternative one Mild priority for PT: 5
- ☐ Alternative two Moderate priority for PT: 7
- ☐ Alternative three Aggressive priority for PT: 4

This was an exercise to balance traffic efficiency and pollution.

Brussels: congestion of pedestrians problem in New York causing problems. Therefor priority for traffic efficiency for pedestrians.

Comment: why not measure people standing on sidewalks? – It's being done in Leuven., but there are some private issues of course.

Step 3 - Please explain briefly the reasoning behind you choice.

Suggestion from Antonios was listen to the voice of car drivers who often have an important voice in a city.

Step 4 - Which among the below policies would be your second best?

- ☐ Equity: 0
- ☐ Bus: 1
- ☐ Space-consumption: 4
- ☐ Pedestrian priority: 4
- ☐ Sustainability: 8

When we apply sustainability, the pollution is the highest in the do nothing approach etc.

Step 5: Based on the new results, which alternative would you choose?

- ☐ Do nothing: 0
- ☐ Mild priority: 9
- ☐ Moderate priority: 8
- ☐ Aggressive priority: 0

The discussion was about who and when defines the weightings. Financial issues are also important like more businesses linked to attractive space, more visitors linked to a better transport system and reducing space for travelers.

The increase of pollutions if often not enough to neutralize active modes. There are many KPIs to bring in, and the good thing is that this start the discussion. Strong decision-making is needed anyway/in any cases, and could be named 'key performance person'.

Step 6 - Did you change your selection between the two objectives?

- ☐ Yes:
- ☐ No:

Step 7 - Please describe briefly why you did or did not change your selection of alternatives?

Go through a decision making process using the tool. Choose a policy, see the impact and reconsider.