

Centrico BRIEFING NOTE

Using ITS to manage Europe's busiest roads



The Effect of Rewards – Spitsmijden

SUMMARY

Can the car driver be persuaded to avoid peak traffic? The Spitsmijden project will provide the answer. Spitsmijden is Dutch for avoiding peak traffic. Find out the results and next steps of this promising Dutch experiment.

The Experiment

During the 50 working day Dutch experiment, 340 frequent drivers looked for alternatives to driving in morning traffic over the stretch of the Dutch A12 motorway from Zoetermeer towards The Hague. They were rewarded if they were successful, and it worked! The number of participants driving in peak morning traffic was cut in half.

Objective

The purpose of the experiment was to study whether reward stimulus could be a possible control instrument to influence mobility behaviour. For the first time, various techniques and rewards were combined in one unique experiment!

Technology

Various technologies were used in the experiment. Electronic Vehicle Identification (EVI) was a new technology for the Netherlands, and was used for registration and enforcement. Other technologies, such as cameras with number plate recognition and GPS position logs were also used. The benefits of this combination are that it is possible to determine the participants' time and location data.

Motivations of the participants

The most important motivation to participate in the experiment was the reward, but other motives were

also mentioned: the opportunity to modify one's own behaviour and to contribute to finding a solution to the mobility problem.



Reward

All participants received a reward for each time they avoided the peak traffic periods. This was established by comparing the number of times that the participant did not drive during peak traffic to how often they had driven during morning traffic before the experiment. As a reward, the participants could choose between money and a 'Yeti' smart phone. The monetary reward was more popular: 232 participants chose to receive money compared to 108 who found the Yeti more interesting.

Yeti Smartphone

The Yeti smartphone offers e-mail and Internet access and an agenda in addition to normal telephone functions, at any time or place. What made the Yeti

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special within the context of this experiment was that the participants were able to receive detailed, real-time traffic information. This enabled them to choose the best means of transportation for the circumstances.



Rewards Work

Drivers who received a reward for each time they avoided driving in peak traffic were considerably less likely to join the traffic jam on the A12 in the morning. A reward of 3 euros for each morning rush-hour avoided has a significant effect: the number of participants driving during peak traffic was halved during the experiment. A higher reward produced a greater decrease in the numbers of participants driving, but the increase was not as spectacular as with a 3 euros reward. The participants who had chosen the Yeti variant also drove considerably less during peak traffic periods: 43 % of them were observed in traffic daily without a reward, but with a reward the percentage shrank to 15 %.

Working from home for a day, carpooling, cycling or taking public transportation was not attractive enough for most participants to choose to avoid driving during peak traffic. The majority of the adjustments involved the choice to drive at another time of the day. The participants were two to three times more likely to choose to leave before the peak period instead of leaving after. The majority of the participants resumed their old behaviour patterns after the conclusion of the experiment.

Obligations at home or work impediment to avoiding peak traffic. Half of the participants had little to no trouble avoiding driving during the peak traffic periods. Many participants had made agreements with their

employer about their work times or working at home, and at home they had made agreements regarding household chores and scheduling.

Conclusions

Does this experiment with Spitsmijden provide the answer to traffic problems?

It is still too early to answer this question. Traffic-jam problems are too stubborn to be tackled using only one instrument. However, it is clear that a reward mechanism may help reduce rush-hour traffic for specific groups of rush-hour motorists at least. Further research is necessary in order to come to first and foremost, a good estimate of the actual impact of a reward mechanism on the traffic situation and society, to determine its value as a policy instrument, and to take a step closer to sustainable mobility.

Continuation

In the meantime, various initiatives have been set up to continue the experiment. A number of regions are attempting to co-operate with employers to start their own Spitsmijden experiment. The results of the experiment have shown that the employers' attitudes towards flexible work times are an important factor in the effectiveness of reward mechanisms for reducing traffic. The parties involved in the experiment are also busy making plans for a new, larger-scale study.

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