Slimme Prikkels tussen Prijzen en Belonen

Eindpresentatie van project U-SMILE – Urban Smart Measures and Incentives for quality of Life Enhancement
Why this project?

- Background: external costs of transport
  - Congestion
  - Pollution
  - Accidents

- Price incentives can be efficient and effective, but...
  - Charges are not very popular
  - Rewards are not financially sustainable
  - Budget-neutral solutions?
    - Tradable permits?
Multi-disciplinary perspective

Table 1 Thematic cooperation between subprojects
This morning

Programma

Welcome and Introduction
9:30-9:40 Erik Verhoef, U-SMILE project leader

Pcoins - the first field experiment with tradable mobility permits
9:40-9:55 Erik Verhoef, Vrije Universiteit Amsterdam – Spatial Economics (SBE)
9:55-10:00 questions from the audience

 Tradable credits for congestion management: support/reject?
10:00-10:15 Lizet Krabbenborg, Technische Universiteit Delft – Transport and Logistics (TBM)
10:15-10:20 questions from the audience

Intrinsic motivation and sustainable transport behavior
10:20-10:35 Ellen van der Werff, Rijksuniversiteit Groningen – Environmental Psychology (GMW)
10:35-10:40 questions from the audience

What shapes the bathtub — effects of departure time shifts
10:40-10:55 Victor Knoop, Technische Universiteit Delft – Transport and Planning (CITG)
10:55-11:00 questions from the audience
Pcoins - the first field experiment with tradable mobility permits

Devi Brands, Erik Verhoef & Jasper Knockaert
collaboration with ANWB and Innovactory

25-03-2021
U-SMILE - final meeting
Basic idea behind tradable permits for mobility management
• Instead of paying with money for mobility, travellers pay with permits
  • Distributed for free
  • Scarcity of permits results in market price
  • Scarcity because there is an overall maximum on number of trips, or veh-km’s
• Permits can be traded
  • “Overachiever”: sell some, so receive a net reward
  • “Underachiever”: buy some, so pay a net charge
  • Money flows between travellers only: budget-neutral

Questions:
• Is it an effective and efficient policy instrument?
• Do people understand the concept?
• Is it an acceptable policy?
Previous work

• Market design
  • Minimize transaction costs
    • Mobile phone
    • Single price
    • Automated transactions
  • Avoid speculation
    • No more permits in possession than possibly needed
    • Miniscule transaction fee

• Lab-in-the-field experiment
  • Virtual choices & real monetary incentive
Focus today

• Pcoins experiment at ANWB
  • 8 week experiment with tradable parking permits
  • End of 2019 - beginning of 2020 (before Covid-19)
  • 56 participants

• Parking at ANWB headquarters (6:00 - 17:00) costs 1 Pcoin
  • Incentive: change mode
  • Harder than change time or mode, as in Spitsmijden
Set-up

- Participants received:
  - Starting budget at begin of experiment
    - Becomes real money after the experiment
    - Budget so big that it cannot go negative
  - Pcoins at the start of each “trading week”
    - More permits for those who work more

- Participation voluntary and guaranteed positive pay-off
  - Disadvantage: risk of passive participants who just “sign up & ignore”
    - System buys permits for them
  - We define participants as more active if a larger share of their trades is done by themselves
Passive users

• Some consequences
  • An overall maximum will be harder to achieve
  • Their automated buying will drive up the price for others
  • In that way, they will impact others differently than under rewarding or pricing

• Important point of attention in future applications
  • Less likely when there is no guaranteed positive pay-off and the scheme is truly budget neutral
  • But lesson is: keep people informed, keep them connected!
Parking behaviour

Successfully achieves a 15% reduction of parking by active participants

No response by passive participants

- at least 33% own transactions to be active
Passive participants drive up the price
Survey responses (1)

I think a system with Pcoins will function better than paid parking

I think a system with Pcoins will be more fair than paid parking
Survey responses (2)

Participation will take much time

Allocating permits based on number of working days is fair
Survey responses (3)

Trading Pcoins seems fun

Trading Pcoins seems difficult
Conclusions

- Passive participants influence price → advisable to include alerts
  - High number of passive participants probably due guaranteed positive outcome
- Participation takes less effort than anticipated
- Tradable permits viewed by many as better functioning and fairer than introducing paid parking
- Instrument is understood and affects behaviour of *active* participants as intended
- Time for large(r) scale experiments?
Warm aanbevolen!

VerDuS  SURF

KENNIS VOOR DUURZAME STEDELIJKE REGIO'S  FESTIVAL  25.3.2021
Sessies over mobiliteit

Hoe zorgen we ervoor dat digitale platforms, voor bijvoorbeeld het regelen van onze mobiliteit bijdragen aan publieke waarden in de stad? Maak kennis met een *afwegingskader om 12.30 uur*

Hoe houden we steden bereikbaar en leefbaar voor iedereen? Welke rol spelen innovaties en gedragskennis hierin? Praat met Bert van Wee, auteur *Synthesestudie Mobiliteit*, en Bart van Arem, Arjen van Weert en Marco te Brömmelstroet *om 13.15 uur*

Ook interessant

Veel onderzoekers werken met living labs en action research. Wat leren we van ervaringen met deze manieren van onderzoek doen uit het VerDuSSURF-programma? Met Rathenau Instituut *om 13.15 uur*

Hoe kunnen we de grote stedelijke opgaven met nieuwe kennis aangaan? Welke vragen moeten nu worden opgepakt door wetenschap en steden? *Debatteer mee om 15.30 uur*