Traffic and Transport Psychology

The seductiveness of air travel

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Overview

Growth in traffic and transport psychology

Motivations for flying

Behavioural change

Conclusions
Change in Philosophy:
The growth of traffic and transport psychology
The growth of social science in transport studies

Growing realisation that traffic and transport needs to be studied in a social context

- Tradition, history
  - Epistemology: “positivist approach” in natural sciences into other disciplines
  - (Civil) Engineering has been a dominant leader in transportation studies in the past

- Growing role for social science including
  - psychology (traffic and transport psychology – Steve Stradling, Ray Fuller, Ian Walker),
  - sociology (new mobilities paradigm – John Urry, Laura Watts)

- More complex than input-throughput-output
  - People are dynamic, changing, active not reactive (e.g. Predict-provide)
  - People are not rational (e.g. can’t just give them information and they will act)
  - Most journeys now made were never made by other modes (Urry)

- Perhaps engineering has come to an end – how much more can it do?
  - Engineer our way out of problems without understanding how people use/adhere/accept such technology
  - Failure to understand the side-effects

- Change in relationship between state and people and a realisation that people need to encouraged not forced
  - Behavioural change (see http://www.dft.gov.uk/pgr/scienceresearch/social/behaviour-changes/%20)
  - Nudges (Thaler and Sunstein, 2008, 2009)
Social nature of transport

View traffic and transport environment as a social situation

- Haglund and Aberg (2000) that traffic and transport should be viewed as a social situation where drivers interact and influence each other.

- O’Connell (2002) states the design and construction of the road and traffic system must not be based on an erroneous model of humans as abstract rational actors, isolated from their social context and operating on purely ‘objective’ criteria” (pg. 201).


Motivation for travel
Mobility Needs

PRIMARY MOBILITY NEEDS
Practical/utilitarian Needs

- e.g. A to B - safe, reliable, cheap, easy to understand, comfortable

SECONDARY MOBILITY NEEDS
Social/affective Needs

- e.g. The need for independence, control, status, roles, norms.

TERTIARY MOBILITY NEEDS
Aesthetic Needs

- e.g. The need for relaxation, visit nature, use and test cognitive skills

After Musselwhite and Haddad, 2010
To understand travel by air need to focus on practical elements

<table>
<thead>
<tr>
<th>Cost</th>
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<tbody>
<tr>
<td>Terminal improvements</td>
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<td>Accessibility</td>
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<td>Safety</td>
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<td>Information</td>
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<th>Speed?</th>
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<tr>
<td>Aeroplane</td>
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<td>Comfort</td>
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<td>Accessibility</td>
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<td>Safety</td>
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Microeconomic approach

Relevant attributes
- e.g. time, cost, comfort

Benefits minus costs
- ‘Utility’ of aeroplane

Choice
- Option with higher utility

Benefits minus costs
- ‘Utility’ of train

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Traditional Models of Attitude Change

- Linear Deficit Model

(Source: Kollmuss and Agyeman 2002)

- Rational Choice Model

Road pricing

(Personal) travel plans
More socially (ir)rational

<table>
<thead>
<tr>
<th>Practical motivation (A to B, cost, convenience)</th>
<th>Values (freedom, independence, need, necessity)</th>
<th>Aesthetic motivation (discover, master, achieve, relax)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social context</td>
<td>Identity</td>
<td>Norms</td>
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<td></td>
<td>What should I do to create a certain image about myself</td>
<td>What’s expected of (someone like) me</td>
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<td>What would my friends do?</td>
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<td></td>
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<td>What do others do?</td>
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<td>How would it look if I did this?</td>
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- Environmentally conscious and aware
- Being well travelled

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Seducing Secondary and Tertiary Mobility Needs
Changing behaviour
Individuals are different and behave within groups
Person Typologies

Segmentation Research

- Average is of little use. Need different answers for different people.
- A-priori versions – age, gender, socio-demographics, user
- Post-hoc – attitudes, behaviour
1: Positive greens
I think it's important that I do as much as I can to limit my impact on the environment. 18%

2: Waste watchers
‘Waste not, want not’ that’s important, you should live life thinking about what you are doing and using. 12%

3: Concerned consumers
I think I do more than a lot of people. Still, going away is important, I’d find that hard to give up… well I wouldn’t, so carbon off-setting would make me feel better. 14%

4: Sideline supporters
I think climate change is a big problem for us. I know I don’t think much about how much water or electricity I use, and I forget to turn things off. I’d like to do a bit more. 14%

5: Cautious participants
I do a couple of things to help the environment. I’d really like to do more, well as long as I saw others were. 14%

6: Stalled starters
I don’t know much about climate change. I can’t afford a car so I use public transport… I’d like a car though. 10%

7: Honestly disengaged
Maybe there’ll be an environmental disaster, maybe not. Makes no difference to me, I’m just living life the way I want to. 18%

Low potential and unwilling
Social marketing and environmental commitment (Hjelmar 2005)

- 3% Dark Greens
- 9% Greens
- 23% Slipping Greens
- 18% Available to Green
- 14% Ambivalent to Green
- 14% Easy Greens
- 16% Browns

- 12% Committed to a totally environmentally considerate lifestyle
- 23% Vulnerable to switching to a less environmentally considerate lifestyle
- 32% Opportunity to convert into living a totally environmentally considerate lifestyle
- 30% Unavailable and very unlikely to convert into a more environmentally considerate lifestyle
Changing the context to affect change: NudGING
An example of NUDGE Amsterdam’s Schiphol airport

(Thaler and Sunstein, 2008, 2009)
Changing behaviour utilising the social context
Feedback and social comparison

- Motivation for change
  - Can this be altered?
  - Knowledge/"dressing up"

- Feedback
  - Immediate, quickly, direct to the behaviour
  - Reward better than punishment, though both together better still
  - Framing of reward-punishment important
  - Explicit reward; implicit punishment

- Friendly social context
  - Support
  - Norms
  - Competition


A role for technology?
  – Very personalised travel planning

Carbon calculators
  – Understand the feedback
  – Motivated to change?

Road safety (GreenRoad Sensor)

Add a social (networking) element

Gaming
  – Can dress up the motivation, provide feedback and create social context

Does it have to involve technology?
  – Mission:Explore

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Conclusions
Conclusions

Social context of transportation
- Non-rational
- Need to encourage rather than restrict
- Education and the person side of engineering and enforcement

Seductiveness of air travel
- Practical/Utilitarian
- Psychosocial/Affective
- Aesthetic

Behavioural change – social marketing?
- Rational choice models
- Irrational/social context models
  - Segmentation
  - Nudge
  - Gaming
References


