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Webinar: Segmenting the Market for Transportation Demand Management Campaigns

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SEGMENT

APPLICABILITY OF AN EXISTING SEGMENTATION TECHNIQUE TO TDM SOCIAL MARKETING CAMPAIGNS IN THE UNITED STATES

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Phil Winters
Minh Pham

Center for Urban Transportation Research
University of South Florida

Funded by: National Institute for Transportation and Communities
Overview

- Purpose of Market Segmentation
- Europe SEGMENT project methods and results
- US SEGMENT project methods and results
- Demonstration of the spreadsheet tool
- Implementation results from Europe
- Q&A
Why Segment?

- Differentiate groups of users based on their personal travel behaviors and characteristics/attitudes.
- The act of thinking about different priority groups and their specific needs and lifestyle characteristics will aid the creative dialogue around the initiatives and key messages being developed for the campaign.
- The collection of rich contextual data adds new insightful information to existing knowledge about mobility patterns and public perceptions and motivations.
- Improvements targeted at a single segment could improve the experiences of other groups as well, thus motivating behaviors among different users.
- Develop policy recommendations that reach further than policies directed at a single cluster.
European SEGMENT Project

- Used by all the EU’s 27 member-states when designing social marketing campaigns to persuade people to change their travel behavior and adopt more energy-efficient forms of transport.

- Analyzed over 10,000 attitudinal surveys (over 100 questions)

- Eight main segments

- Eighteen ‘golden questions’
European Attitudinal Segments

**Devoted Drivers**
- Not convinced that other modes are realistic alternatives and therefore primarily used their cars for travel.

**Image Improvers**
- Did not want any restrictions on driving, nonetheless somewhat concerned for the environment.

**Malcontented Motorists**
- Found driving stressful desiring the reduction of car but finding the alternatives not practical for their travel needs.

**Active Aspirers**
- Motivated by environmental awareness; prefer walking and cycling to public transportation in short trips when trying to reduce car use.

**Practical Travelers**
- Used cars for efficiency and practicality and had little tendencies to change their habits.

**Car Contemplators**
- Aspired to be car owners desiring the freedom and independence driving offers.

**Public Transport Dependents**
- Not anti-car mode, had little interest in environmental issues, and were frustrated with transit service.

**Car-free Choosers**
- Conscientiously using healthy modes of transportation and deeply concerned about environmental issues.
European Golden Questions

Q1 Have you driven a car or van in the past 12 months?

Yes

No

Q2: For most journeys, I would rather use the car than any other form of transport
Q3: I like to drive just for the fun of it
Q4: I am not interested in reducing my car use
Q5: Driving gives me a way to express myself
   [strongly disagree; disagree; neither/nor; agree; strongly agree]

Q6: How likely are you to drive in the next 12 months?
   [very unlikely; quite unlikely; neither/nor; fairly likely; very likely]

Q7: I am not the kind of person who rides a bicycle
Q8: I feel I should cycle more to keep fit
Q9: I find cycling stressful
Q10: Cycling can be the quickest way to travel around
Q11: I like travelling by bicycle
Q12: I am not the kind of person that likes to walk a lot
Q13: I feel I should walk more to keep fit
Q14: I like travelling by walking
Q15: I am not the kind of person to use the bus
Q16: In general, I would rather cycle than use the bus
Q17: I feel a moral obligation to reduce my emissions of greenhouse gases
Q18: People should be allowed to use their cars as much as they like
   [strongly disagree; disagree; neither/nor; agree; strongly agree]
United States Segment Project
Survey Design

- Qualtrics online survey
- Attitudinal questions about different modes of travel
  - Scored using a 5-point Likert scale
- Same set of questions as European study (adjusted for differences in metric systems)
- 22 additional questions added based on U.S. travel (e.g. telework, Uber/Lyft, etc.)
U.S. Participants

Residents of:
- Florida
- Virginia
- Oregon

18+ years

Employed part-time or full-time
Survey Responses

1889 Participants

- 248 non-drivers (99 Florida, 76 Oregon, 73 Virginia)
- 1641 drivers (552 Florida, 551 Oregon, 558 Virginia)

Age

- 13.2% under 25 years old
- 43.3% 25-44 years old
- 43.5% over 45

Gender

- 53% male
- 47% female
Hierarchical Clustering

- Observe structure of data
- Identify potential numbers of clusters

Discriminate Analysis

- Obtain the smallest set of questions that can be used to predict cluster membership
SEGMENTS

Non-Driver and Driver
Non-Driver Segments

- Open-minded and Practical Travelers
- Car-free Choosers (EUR)
- Car Contemplators (EUR)
Driver Segments

Malcontented Motorists & Non-bikers (EUR)

Car Lovers/Devoted Drivers (EUR)

Active Aspirers (EUR)

Open-minded Car Lovers
Distribution of Segments
Distribution of Segments by State

1 – Open-minded and Practical Travelers
2 - Car Free Choosers
3 - Car Contemplators
4 - Malcontented Motorists and Non-Bikers
5 – Car lovers/Devoted Drivers
6 – Active Aspirers
7 – Open-minded Car Lovers
## Profile of Florida CAP Customers

<table>
<thead>
<tr>
<th>Segment</th>
<th>FL CAP</th>
<th>Sarasota and Ft. Myers</th>
<th>Tallahassee</th>
<th>Pensacola</th>
<th>Miami-Ft. Lauderdale</th>
<th>Orlando and Daytona</th>
<th>Tampa Bay</th>
<th>NITC webinar</th>
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<tbody>
<tr>
<td><strong>NON-DRIVERS</strong></td>
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<td>Open-minded and Practical Travelers</td>
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<td>Car-free Choosers</td>
<td>17.7%</td>
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<td>14.9%</td>
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<td>Car Contemplators</td>
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<td><strong>DRIVERS</strong></td>
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<td>Malcontented Motorists &amp; Non-bikers</td>
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<td>29.3%</td>
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<td>Car lovers/ Devoted Drivers</td>
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<td>Active Aspirers</td>
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<td>Open-minded car lovers</td>
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</table>
For all journeys combined, in the past 12 months, how frequently have you used a car, truck, or van as a driver?

Once a week or less

My employer reimburses bicycle commuting expenses
I like traveling by subway or elevated
I do NOT need to have a car/truck/van
I like traveling by taxicab
Traffic congestion is a problem in my local area
I have no need to drive as public transport/walking/cycling are all adequate
In general, I would rather walk than use the bus
I like traveling by local bus or trolley bus
There are many problems with using public transportation
I do NOT know anyone with whom to carpool
Walking can be the quickest way to travel for short journeys
I had a bad experience as a carpool passenger in the past
Finding a parking space at work is difficult

More than once a week

I like traveling by bicycle
Reducing my car/truck/van use would make me feel good
I like traveling by streetcar or trolley car
I am NOT the kind of person who rides a bicycle
Driving gives me a way to express myself
I would rather be a carpool passenger to read, use smartphones, or sleep on the way to work
I like traveling by walking (to/from destination)
In general, I would rather bicycle than use the bus
If I could, I would gladly do without a car/truck/van
People should be allowed to use their cars/trucks/vans as much as they like
Environmental threats such as global warming have been exaggerated
I tend NOT to walk much because I am not fit enough

I am NOT the kind of person to use public transportation
I feel a moral obligation to reduce the emission of greenhouse gases
I like traveling by ferryboat
## Non-Driver Questions

### 16 ‘Golden Questions’

<table>
<thead>
<tr>
<th>Question</th>
<th>Category</th>
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<tbody>
<tr>
<td>I am NOT the kind of person to use public transportation</td>
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</table>

* European golden questions
** New questions
**Driver Questions**

**15 ‘Golden Questions’**

<table>
<thead>
<tr>
<th>Question</th>
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<th>New questions</th>
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Significance

Golden questions can be added to existing surveys to gather information about the proportion of individuals that belong to differing segments in an area.

Limited resources can be better allocated to target those segments that are most susceptible to behavior change.

Allows communities to easily classify and identify segments from which the appropriate services and incentives can be designed.

Golden questions should reduce the cost, if not the need, for custom segmentation studies.

Markets can be segmented based on individual ability and willingness to change current behavior rather than solely based on socio-demographics and geography.
Segment Prediction Tool

- Demonstrate prediction tool
Application of Golden Questions in Europe
SEGMENT EU – Gdynia, Poland: New Employees

Cycle more often when traveling to work

Segments
- Status Seekers (14%)*
- Reluctant Pragmatists (13%)*
- Car contemplators (15%)**

Initiatives
- Competitions, branded bicycles, decorated bicycles, free bicycle service, poster campaign*
- Certificates, Starbucks vouchers**

Results
- Car driving decreased 12%
- Cycling increased 3%
- Walking increased 1%
- Public transport increased 6%
- CO₂ savings of 14.9 tons/year

Headline: He goes to work by bike?!
## SEGMENT EU – London Borough of Hounslow: MyTime Schools Campaign

Reduce car use and walk more when traveling to school

### Segment

- Image Improvers (20%)

### Initiatives

- Rewards for parents – fitness/gym classes, swimming lessons, shopping
- School that logged most km – 10 scooters

### Results

- Walking increased by 6% overall
- Among Image Improvers – walking increased 51% and car use decreased 39%
SEGMENT EU – Utrecht, Holland: New Residents

Reduce car use and use car sharing, public transport, and e-bikes

Segments

- Peddlers (33%)
- Aspiring Environmentalists (21%)

Initiatives

- New resident welcome pack – letter from mayor, cycling map, discounts
- Website with information and downloadable vouchers

Results

- Modal shift of 4% from car to cycling and public transport
Thank You!

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Non-Driver Group 1
Open-minded and Practical Travelers

- Like driving (3.4)
- Positive towards walking and biking and are aware of the health benefits
- Positive towards carpool
- Aware of environmental problems, but do not have a strong drive to act
- Have neutral attitude towards any mode of transportation
Non-Driver Group 2
Car-free Choosers (EUR)

Have no need to drive as they believe public transportation, walking, cycling are adequate (42% agree). Believe that car/truck/van is expensive.

Unlikely to increase driving frequency (rated 2.4)

Do not like traveling by motorcycle (rated 2.2)

Like traveling in car/truck/van as a passenger (rated 3.9)

Like traveling by many types of public transportation such as bus, subway, railroad, and ferryboat (3.3 to 3.9 rating). Very favorable of walking (rated 4.2)

Love biking and walking

Highly aware of environmental responsibilities
Non-Drivers Group 3
Car Contemplators (EUR)

Like traveling by car/truck/van as a driver or a passenger

Negative attitudes towards public transportation such as bus, subway, railroad, and ferryboat. They think that public transportations are stressful and slow

Not favorable of walking or biking but are aware of the health benefits of walking and biking

Feel that driving provides status and prestige and that people should be allowed to drive as much as they like

They are aware of environmental problems and climate change, but do not feel that they need to act personally to solve the problems
Drivers Group 1
Malcontented Motorists (EUR)

Like driving, but not as strongly as Drivers Group 2 and 4, only slightly more than Group 3 who actively try to reduce driving

Particularly dislike bike and motorbike. Distinctive feature of this group is that they strongly dislike biking, even though they acknowledge the health benefits of biking

Do not enjoy public transportations → not many options besides driving

Agree that it is important to reduce the number of cars/trucks/vans on the road due to traffic noise and odor

Feel responsible about environmental problems and do not believe that environmental problems have been exaggerated. Somewhat believe that by reducing car use, they can help stop climate change
Drivers Group 2
Car Lovers/Devoted Drivers (EUR)

Really love to drive (4.74), and do not want to cut down car/truck/van use, and believe that there is no realistic alternative to driving, strongly believe that people should be allowed to use car/truck/van as much as they like

Think that driving is a way to express themselves

Very negative attitudes towards any kind of public transportation and believe that car/truck/van are faster and cheaper and safer also do not like carpool

Also negative attitudes towards biking and walking, however, they acknowledge the health benefits of walking and biking

Do not agree that car/truck/van create noise and odor nuisance or lead to an unhealthy lifestyle

Regarding environment and climate change, they somewhat believe that environmental threats have been exaggerated (3.3) and refuse to act to solve these problems

Surprisingly, they don’t think that they are too dependent on car/truck/van
Drivers Group 3
Active Aspirers (EUR)

Do not enjoy driving as much as other driver groups. Would gladly cut down car/truck/van use if they could

Believe that driving is quicker than transportation but not cheaper. More than other groups, they think that car/truck/van are expensive

Do not like traveling by taxi cab and motorcycle

Have neutral to positive attitudes towards public transportations such as bus, subway, railroad, and ferryboat

Enjoy biking and walking

Believe that it is important to reduce the number of car/truck/van due to traffic noise and odor

Highly appreciate the benefits of biking and walking

Highly aware of environmental responsibilities and climate change and would like to act on them

Would like to carpool to work
Drivers Group 4
Open-minded Car Lovers

Just like Drivers Group 2, really love to drive (4.46), and do not want to cut down car/truck/van use, and believe that there is no realistic alternative to driving, strongly believe that people should be allowed to use car/truck/van as much as they like

Also think that driving is a way to express themselves

Believe that car/truck/van are cheaper and quicker. Have unfavorable views towards public transportations but not as strongly as Group 2

Unlike Group 2, they like traveling by walking or biking and have very positive attitudes towards biking and walking.

Unlike Group 2, they feel responsible about the environment and do not believe that environmental threats have been exaggerated. They also have stronger agreement that it is important to reduce the number of car/truck/van because of traffic noise and odor

Unlike Group 2, they are more open to carpool