

SEGMENT

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

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Project Background

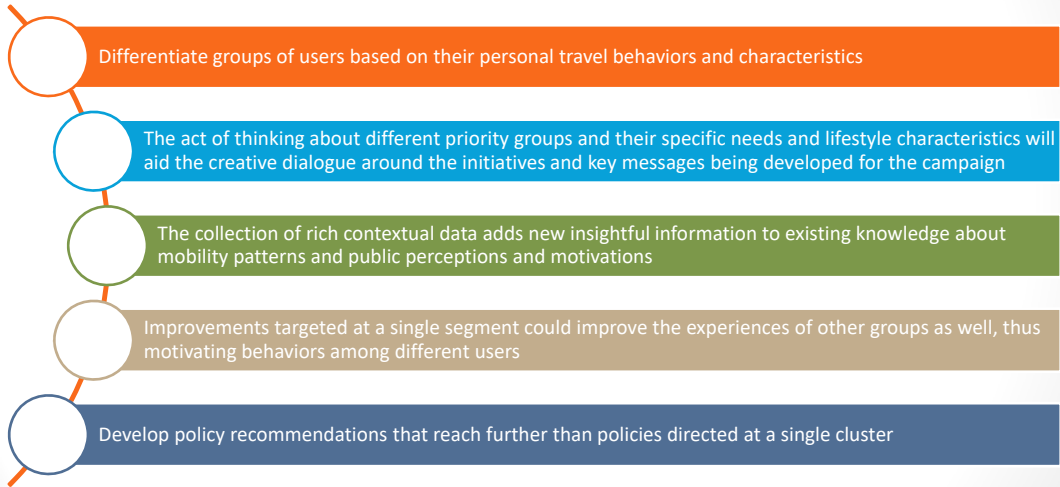
Conducted by CUTR at the University of South Florida

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- Amy Lester, Research Associate
- Minh Pham, Graduate Student

Funded by NITC (National Institute for Transportation and Communities) at Portland State University

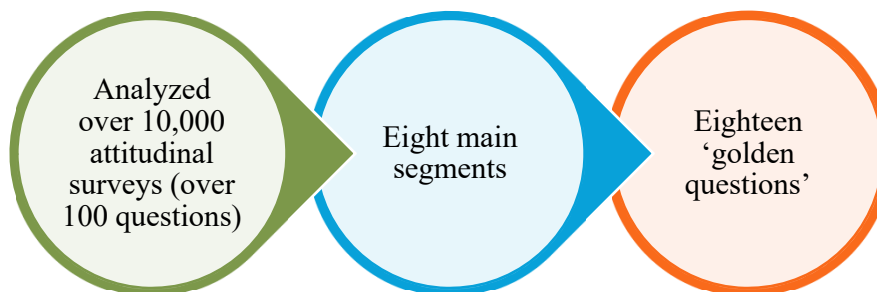
Replicated the European SEGMENT project

Why Segment?



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



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

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]

No

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

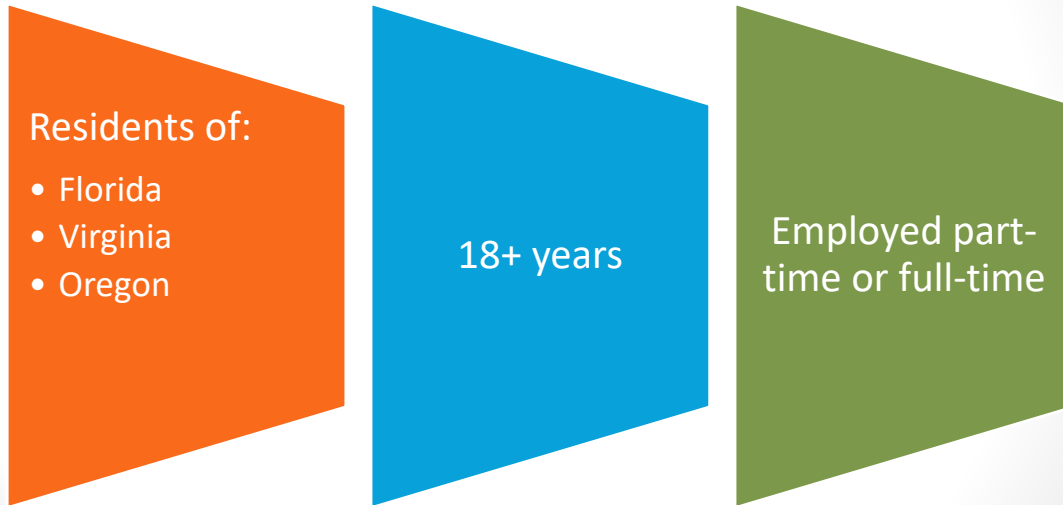
Attitudinal questions about different modes of travel

- 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



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

Analysis

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

Non-Driver and Driver

SEGMENTS

Non-Driver Segments



Whatever-mode and
Practical Travelers



Car-free Choosers
(EUR)



Car Contemplators
(EUR)

Non-Driver Group 1 Whatever-mode 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-Drivers 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



Non-Driver Demographics

		Group 1	Group 2	Group 3
Age	18-24	40%	13%	28%
	25-34	24%	24%	22%
	35-44	15%	26%	24%
	45-54	13%	15%	20%
	55-64	6%	12%	7%
	65-74	1%	8%	0%
	75+	0%	1%	0%
Gender	Male	60%	44%	48%
	Female	37%	54%	50%
	Transgender	2%	2%	0%
Employment	Employed Full-time	63%	65%	61%
	Employed Part-time	37%	35%	39%
	Student	4%	0%	2%
Number of children under 2 years in household	0	83%	98%	89%
	1	13%	2%	11%
	2	2%	0%	0%
	3	1%	0%	0%
Number of children 2-18 years in household	0	63%	79%	61%
	1	17%	15%	26%
	2	13%	6%	13%
	3	6%	0%	0%

Driver Segments



Malcontented Motorists (EUR)



Car Lovers/Devoted Drivers (EUR)



Active Aspirers (EUR)



Open-minded Car Lovers

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



Driver Demographics

		Group 1	Group 2	Group 3	Group 4
Age	18-24	9%	13%	12%	10%
	25-34	24%	22%	27%	26%
	35-44	21%	17%	22%	18%
	45-54	21%	20%	16%	21%
	55-64	16%	22%	16%	19%
	65-74	8%	5%	7%	6%
	75+	0%	0%	0%	0%
Gender	Male	57%	54%	55%	49%
	Female	43%	45%	44%	51%
	Transgender	0%	0%	0%	0%
Employment	Employed Full-time	84%	79%	87%	83%
	Employed Part-time	16%	21%	13%	18%
	Student	0%	2%	2%	1%
Number of children under 2 years in household	0	93%	94%	93%	93%
	1	7%	5%	6%	6%
	2	1%	0%	0%	1%
Number of children 2-18 years in household	0	63%	64%	62%	67%
	1	20%	14%	21%	15%
	2	12%	16%	11%	13%
	3	4%	3%	3%	5%

GOLDEN QUESTIONS

Non-Driver Questions

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

Driver Questions

15 Golden Questions
I am NOT the kind of person to use public transportation
I like traveling by bicycle
I am NOT the kind of person who rides a bicycle
In general, I would rather bicycle than use the bus
I would rather be a carpool passenger to read, use smartphones, or sleep on the way to work
Reducing my car/truck/van use would make me feel good
Driving gives me a way to express myself
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
I like traveling by ferryboat
I feel a moral obligation to reduce the emission of greenhouse gases
Environmental threats such as global warming have been exaggerated
I like traveling by streetcar or trolley car
I like traveling by walking (to/from destination)
I tend NOT to walk much because I am not fit enough

APPLICATION OF GOLDEN QUESTIONS

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

CAP Evaluation Project

Non-Driver Segments	CAP Region	Summit Attendees
1 – Open-minded and Practical Travelers	7 (3.3%)	0 (0.0%)
2 - Car-free Choosers	146 (68.5%)	1 (33.3%)
3 - Car Contemplators	60 (28.2%)	2 (66.7%)
Grand Total	213	3

CAP Evaluation Project

Driver Segments	CAP Region	Summit Attendees
1 – Malcontented Motorists	175 (37.8%)	2 (28.6%)
2 – Car Lovers/Devoted Drivers	22 (4.8%)	0 (0.0%)
3 – Active Aspirers	201 (43.4%)	5 (71.4%)
4 – Open Minded Car Lovers	65 (14.0%)	0 (0.0%)
Grand Total	463	7

Thank You!

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