Mode choice of tourists at the destination

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SKIBUS
Unterrainer

Motivation

- Tourism studies – focus on arrival and long-distance travel
- Transportation studies – focus on traffic and congestion management
- NO studies – how visitors travel at the destination?

- Cursory knowledge of hoteliers, decision-makers & politicians

↓

Policy measures are shots in the dark
based on no kind of empirical data

Survey – travel-activity diary

1. Sociodemographics
2. Travel / sojourn situation
3. Activity diary
   - widely used in household surveys
   - uncommon in tourist surveys
   - still outperforms big data in specialized applications

About you

1. What year were you born in? [ ]

2. Your gender: ○ Male ○ Female

3. Your nationality: [ ]

4. Place of residence:
Country: [ ] Postal code: [ ]

5. Which is the highest educational level you have completed?
- ○ Primary level
- ○ Secondary level (high school)
- ○ A-levels / High school diploma
- ○ University degree (Bachelor's, Master's, PhD)

6. Are you ... *(multiple answers possible)*
- ☐ Pupil or student
- ☐ Apprentice or trainee
- ☐ Doing housework, looking after the home or children
- ☐ Part-time employed
- ☐ Full-time employed
- ☐ Self-employed / own business
- ☐ Retired
- ☐ Unemployed or looking for a job

7. How many persons – including yourself – live in your household?
- [ ] adults
- [ ] children under 6
- [ ] children 6 – 17

8. Do you have a spouse or a partner?
- ○ Yes, I have a spouse / partner and we share the same household
- ○ Yes, I have a spouse / partner, but we don't share the same household
- ○ No, I don't have a spouse / partner

9. What on average is the total net income of your household per month, after taxes and other deductions?
- ○ Less than 1,000 EUR per month, net
- ○ 1,000 – 2,000 EUR
- ○ 2,001 – 3,000 EUR
- ○ 3,001 – 4,000 EUR
- ○ 4,001 – 5,000 EUR
- ○ 5,001 – 6,000 EUR
- ○ 6,001 – 7,000 EUR
- ○ 7,001 – 8,000 EUR
- ○ 8,001 – 9,000 EUR
- ○ 9,001 – 10,000 EUR
- ○ 10,001 – 12,000 EUR
- ○ 12,001 – 14,000 EUR
- ○ 14,001 – 16,000 EUR
- ○ 16,001 – 18,000 EUR
- ○ 18,001 – 20,000 EUR
- ○ More than 20,000 EUR per month, net

10. How many paid vacation days are you entitled to each year?
[ ] days ○ Does not apply

11. In the last 12 months, how many nights altogether did you stay away from home for holidays or social visits?
- ○ I did not go away
- ○ 1-5 nights
- ○ 6-10 nights
- ○ 11-20 nights
- ○ 21-30 nights
- ○ More than 30 nights

12. Do you own a driver's license?
○ Yes ○ No

13. In a typical week, how often is a private car available to you?
- ○ Always
- ○ Sometimes
- ○ Never

14. In a typical week, how often do you drive a private car?
- ○ Daily
- ○ 4-6 days a week
- ○ 1-3 days a week
- ○ 1-3 times a month
- ○ Less than once a month
- ○ Does not apply

15. How is your health in general?
(This refers to both physical and mental health)
- ○ Very good
- ○ Good
- ○ Fair
- ○ Bad
- ○ Very bad

16. Are you limited because of a health problem in activities people usually do?
- ○ Severely limited
- ○ Limited but not severely
- ○ Not limited at all

17. In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) physical activities for at least 10 continuous minutes?
Number of days: [ ] (1-7) per week
○ I never carry out such physical activities

18. How much time in total do you spend on sports, fitness or recreational (leisure) physical activities in a typical week?
[ ] hours

Your stay in Ötztal

19. Date of arrival: [ ]

20. Date of departure: [ ]

21. Place where you are staying:
(name of the accommodation and village)
[ ]

22. Who is accompanying you during your stay in Ötztal?
(multiple answers possible)
- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6 → *How many?* [ ]
- ☐ Children 6-17 → *How many?* [ ]
- ☐ Other household members → *How many?* [ ]
- ☐ Other known person → *How many?* [ ]

23. Type of holiday:
- ○ Organized travel (by tour operator, school, club, etc.)
- ○ Individual trip

24. Is it your first visit to Ötztal?
- ○ Yes
- ○ No, I have been here [ ] times before

25. Is Ötztal the main destination of your stay?
- ○ Yes
- ○ No, I am on a stopover here and will be moving to another place later

26. What is the main purpose of your visit in Ötztal?
(choose only one)
- ○ Sport, recreation
- ○ Culture, heritage, sightseeing
- ○ Rest, relaxation
- ○ Health, wellness
- ○ Social (time with family, friends)
- ○ Business
- ○ Conference/congress
- ○ Shopping, fun, entertainment
- ○ Other: [ ]

27. Which transport mode have you mainly used to come to Ötztal? *(choose only one)*
- ○ Private car
- ○ Rented car, car-sharing
- ○ Motorcycle
  - ○ as a driver ○ as a passenger

  please indicate
- ○ Train
- ○ Coach
- ○ Airplane
- ○ Bicycle

28. Why did you choose this transport mode for your journey?
(multiple answers possible)
- ☐ No other mode was available
- ☐ Because of the distance of the journey
- ☐ Fastest mode
- ☐ Cheapest mode
- ☐ Safest mode
- ☐ Most convenient mode (direct, accessible, flexible)
- ☐ Most comfortable mode (e.g. cleanliness, seats, ventilation)
- ☐ Personal mobility constraints (e.g. disabled)
- ☐ Luggage transport (bulky, heavy)
- ☐ Weather conditions
- ☐ Other: [ ]

29. How informed do you feel about the journey options (arrival) to Ötztal?
- ○ Very well informed
- ○ Well informed
- ○ Somewhat informed
- ○ Slightly informed
- ○ Not informed at all

30. How have you informed yourself in advance about the journey to Ötztal? *(multiple answers possible)*
- ☐ On websites/mobile app of the region/destination
- ☐ On websites/mobile app of the hotel
- ☐ On online/mobile map services (i.e. GoogleMaps)
- ☐ At the travel agency
- ☐ From travel guidebooks
- ☐ From friends and relatives
- ☐ Other: [ ]
- ☐ I have not informed myself in advance

31. How informed do you feel about the on-site mobility services in Ötztal?
- ○ Very well informed
- ○ Well informed
- ○ Somewhat informed
- ○ Slightly informed
- ○ Not informed at all

32. How have you informed yourself in advance about the on-site mobility services in Ötztal? *(multiple answers possible)*
- ☐ On websites/mobile app of the region/destination
- ☐ On websites/mobile app of the hotel
- ☐ On websites/mobile apps of the local public transport operator
- ☐ On online map services (i.e. GoogleMaps)
- ☐ At the travel agency
- ☐ From travel guidebooks
- ☐ From friends and relatives
- ☐ Other: [ ]
- ☐ I have not informed myself in advance

Activity Diary **DAY 1** *Date:* _____

Accommodation

What time did you leave your accommodation?
(start time of the first trip)
:

If you have not left your accommodation on this day, please indicate the reason:

- ◯ Bad weather
- ◯ Childcare
- ◯ Health/mood
- ◯ Other:

Trip 1

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 1

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 2

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 2

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 3

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 3

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 4

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 4

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 5

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 5

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 6

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 6

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 7

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

Activity 7

Start time: :

End time: :

Type:

Start location *(address/name)*:

End location *(address/name)*:

Expenses: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

Impact of weather:

- ◯ 1st choice activity performed as planned
- ◯ 2nd choice (plan B) activity due to weather conditions

Trip 8

Skip if both activities were at the same location

Mode *(multiple answers possible):*

- ☐ Private car
- ☐ Rented car, car-sharing
- ☐ Motorcycle
  - ◯ as driver
  - ◯ as passenger

please indicate

- ☐ Public transport
- ☐ Cable car
- ☐ Taxi, ride-sharing
- ☐ Bicycle / e-bike
- ☐ Walk

Cost *(other than fuel)*: €

Company:

- ☐ No one
- ☐ Spouse/partner
- ☐ Children under 6
- ☐ Children 6-17
- ☐ Other household members
- ☐ Other known persons

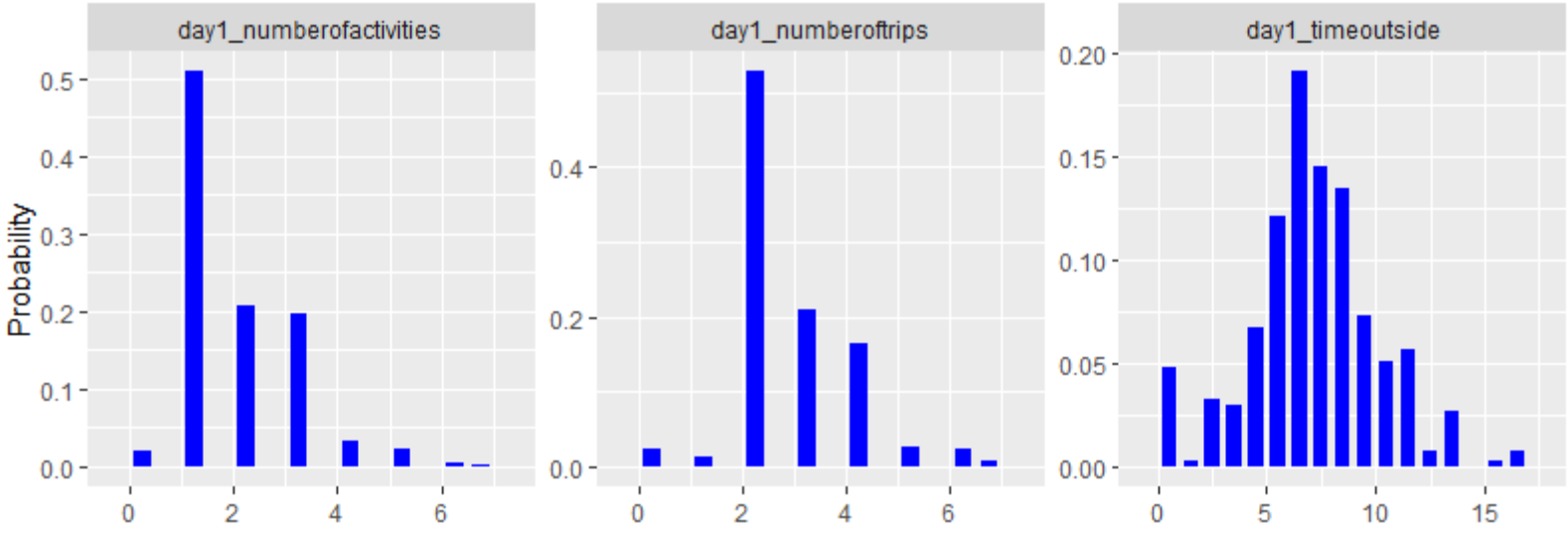
Impact of weather:

- ◯ 1st choice transport mode as planned
- ◯ 2nd choice (plan B) transport mode due to weather conditions

What time did you return to your accommodation?
(end time of the last trip)
:

Data

- 438 (winter) + 410 (summer) valid responses
- 1621 valid trips = choice cases (winter)



Models and variables

age
gender
nationality
residence_country
education
employment
householdsize
partner
income
vacation
nightsaway
driverslicense
caravailability
carfrequency
health
limited
sportfrequency
sporttime
lengthofstay
companysize_stay
holidaytype
visittimesbefore

maindestination
mainpurpose
maintransportmode
informedarrival
informedonsite
companysize
cost
trippurpose
temperature
precipitation
precipitationtype
sunhours
wind
snowdepth
distance_car
distance_walk
distance_transit
tt_car
tt_walk
tt_transit

Models and variables

age
gender
nationality
residence_country
education
employment
householdsize
partner
income
vacation
nightsaway
driverslicense
caravailability
carfrequency
health
limited
sportfrequency
sporttime
lengthofstay
companysize_stay
holidaytype
visittimesbefore

maindestination
mainpurpose
maintransportmode
informedarrival
informedonsite
companysize
cost
trippurpose
temperature
precipitation
precipitationtype
sunhours
wind
snowdepth
distance_car
distance_walk
distance_transit
tt_car
tt_walk
tt_transit

Models and variables

1 more person in the HH

→ 18% less likely to choose transit
→ 24% less likely to walk

1 more accomp. person

→ 4% less likely to choose transit
→ 11% less likely to walk

Arrived by private car

→ 83% less likely to choose transit
→ 90% less likely to walk

Next activity == snow

→ 100% more likely to choose transit
→ 27% less likely to walk

1 more day of stay

→ 12% more likely to choose transit
→ 22% more likely to walk

+1 information level

→ 36% more likely to choose transit
→ 14% more likely to walk

Policy measures

- Isolate and address the factors directly:
  - advertise arrival by transit + attract people not owning a car
  - attract smaller households / groups
  - make longer stays more attractive / affordable
  - provide better (upfront) information about the arrival and on-site mobility

Issues

- Financial – low-budget research projects so far
- Methodological:
  - Dynamic and hard to reach population (spatial, temporal)
  - No standardized (census-like) form of data collection on tourist mobility
  - FPD – too low resolution, too low receiver density, roaming-issues
  - GPS – expensive and difficult to organize quickly

- T-Mona is a systematically sound attempt but delivers very coarse information

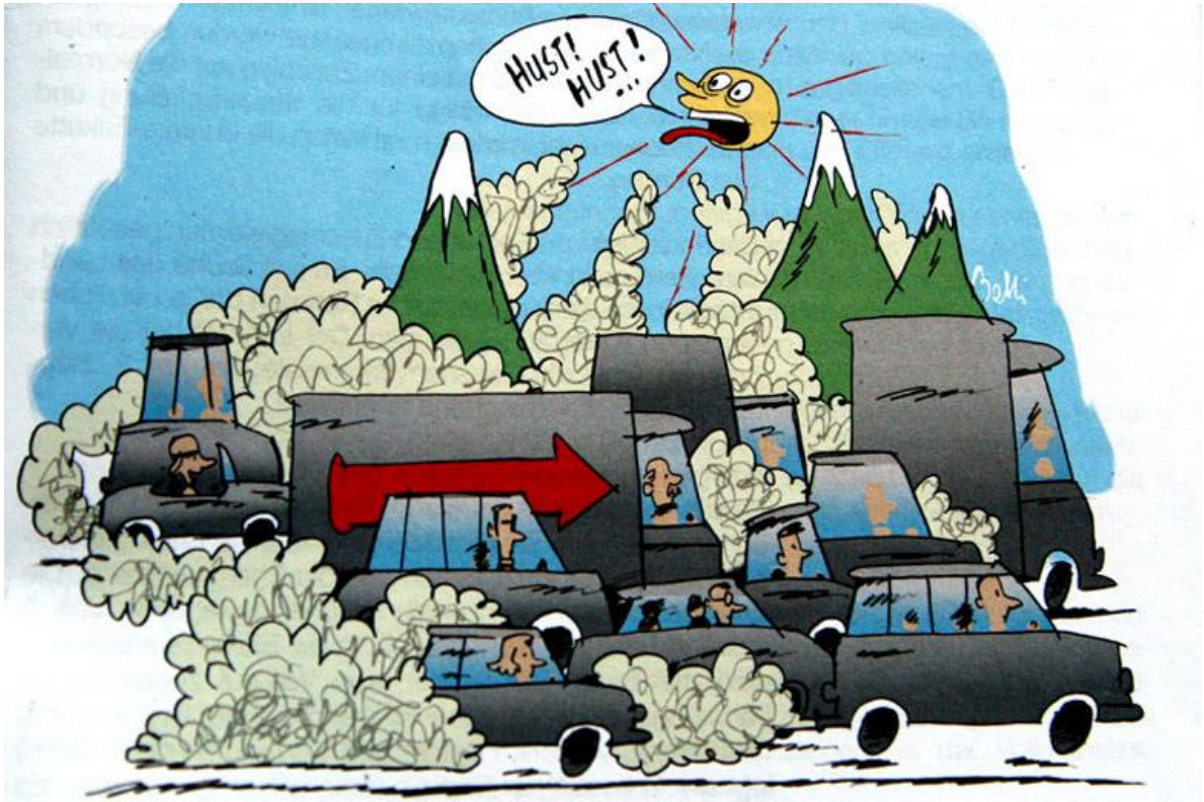
Needs

- Continuous RP data collection in a digital and precise form
- Frequent SP studies to investigate the potential of new mobility or pricing option among tourists
- Develop more general models to account for the whole trip-chain from the origin country to the destination and back

↓

Data-based policy measures

Otherwise we end up like this...



Thank you for your attention