Differentiation between everyday travel and tourism related travel

Authors

Miriam Magdolen[*a], Lisa Ecke [a], Tim Hilgert [a], Bastian Chlond [a] and Peter Vortisch [a]

[*]corresponding author: miriam.magdolen@kit.edu
[a] Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Abstract

Besides the differentiation between everyday and long-distance travel based on a distance criterion, another distinction of travel can be made based on the definition of tourism. The World Tourism Organization assigns the movement of people outside their usual environment as tourism. According to this, travel within a person's usual environment is part of everyday life and travel outside the usual environment corresponds to tourism-related travel. Leaving the usual environment depends on the duration of a visit, the purpose and frequency of a visit and the distance from the usual place of residence. However, there is no general method or fixed framework for determining the usual environment and for applying it to data from travel surveys. In this paper, longitudinal travel behaviour data from the German Mobility Panel (MOP) is used to develop a heuristic to distinguish between everyday and tourism related travel. We approach the usual environment by considering activities and trips that are undertaken on a routine basis. We develop a step-by-step method that examines travel behaviour of individuals over a period of three weeks. Depending on the reported trips and activities, individual thresholds are calculated to describe the usual environment. Applying the method and the selected thresholds, we identify 9.57% of all reported trips taking place outside the usual environment and thus being tourism related trips. These trips account for 33.44% of the distances travelled in our data set. The results demonstrate a relevant share of tourism related travel embedded in everyday life and captured in everyday travel survey data.

Introduction

In research, travel volumes are often classified into everyday and long-distance travel. The differentiation into these different types of travel is relevant, as these vary regarding to their potential for being influenced, which is also important when evaluating policy measures. To differentiate between everyday travel and long-distance travel, a distance criterion is commonly used. However, this approach has two main problems: First, there are no established cut-off values and therefore comparability between different studies and official statistics is difficult. Second, a simple definition using a distance criterion is imprecise to classify the travel behaviour of people who differ in their characteristics such as the spatial type of residence or their stage in the life cycle.

Beside the distinction of everyday and long-distance travel by a distance criterion, another break-up of travel can be made based on the underlying causes, backgrounds and motivations: A differentiation between everyday travel and tourism related travel is useful here. To identify travel in the context of tourism, the definition of the World Tourism Organization (UNWTO) is useful: "Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes." (1). A crucial aspect is the definition of the "usual environment for personal or business/professional purposes". This is difficult to formalise because the usual environment of individuals has both a subjective dimension and varies greatly between individuals. Holiday trips and business trips, which are considered in specific surveys, can be directly assigned to tourism. However, there are activities and trips that are embedded in everyday life but whose characteristics still correspond to the definition of tourism, e.g. a day excursion. Eurostat (2) gives an overview on the main aspects to identify tourism. According to this, the usual environment of individuals is dependent on the duration of the visit, the purpose and the frequency of the visit as well as the distance from the place of usual residence to the destination or the crossing of administrative borders. Although these criteria are mentioned, it is also pointed out that there is no strict framework to define the usual environment, as the subjective interpretation of the individual matters.

A reasonable approach to describe the usual environment of people is to consider places where regular life routines take place (1; 2). This complex issue is dealt with in literature on activity spaces (3-5). Activity spaces can be defined as the part of the environment, where an individual participates in daily, i.e., routinized and repeated activities. Studies that analyse activity spaces with geographical data based methods can directly transfer the behaviour of individuals to the geographical area of daily activities (6- 8). However, usually only data from household travel surveys without geographical information are available. For this reason, a method is needed to identify tourism related travel, which takes place outside peoples' individual usual environment, in the data of everyday travel surveys.

Methodology

This paper uses the longitudinal data from the German Mobility Panel (MOP) to develop a method for distinguishing between everyday travel and tourism related travel. In our approach, we approximate the usual environment by considering activities and trips that are typically undertaken on a routine basis (work, education, shopping, short leisure activities such as walking the dog). Therefore, we analyse the travel behaviour and describe the usual environment on an individual level. The MOP is a rotating panel in which participants remain in the sample for up to three consecutive years. The participants fill in a trip diary to report their travel behaviour during one week in autumn. The data of a subsample of 1,068 people who have participated for three consecutive years (between 2014 and 2018) allow us to analyse the repetition of activities and travel over a period of three weeks using the reported trip diaries. When filtering the subsample, we check that there is no residential relocation or change in occupational status as such life events may cause major changes in travel behaviour. Since the focus of this study is on tourism related travel embedded in everyday life, those participants who explicitly reporting holidays during the survey period are excluded. The diaries of the subsample provide information about all undertaken trips during the three weeks (distances, means of transport, trip purposes and departure and arrival times). There is no information about the locations of the activities, such as geo-coordinates, which could allow conclusions about the spatial distribution.

In our method for defining a usual environment, we examine the data at the tour level. A tour is defined as the chain of trips and activities from leaving to returning to a home location and/or another accommodation.

Our developed approach and the respective decision rules are shown in Figure 1 and consist of these four steps:

- In step 1 of our methodology, we define all tours that do not start and end at home as non-routine. These tours for example start or end at a hotel and are not considered in the following steps.
- In step 2, we calculate personal thresholds to approach an individual usual environment by analysing the remaining tour data of three reported weeks of everyday travel behaviour per person. Those thresholds describe two dimensions: the radius of the tour duration and the radius of the tour distance. As there are neither established definitions of usual environments nor hints from literature, we carry out a sensitivity analysis to show different possibilities for a definition of these thresholds. Here, we use the mean values and medians of the tour duration radius and tour distance radius and apply various uncertainty factors. From this, we select the 1.5-fold median of the durations and the distances of all tours as personal threshold values to describe the individual usual environment for further analyses. In addition, the determination of a minimum tour duration is useful, since the thresholds are sensitive for people with only a few tours. We set the minimum tour duration to 120 minutes. Tours that do not have at least this minimum duration or do not exceed the 1.5-fold median of the tour durations and the tour distances from the three weeks of report are directly assigned to the usual environment.
- In step 3, we consider the trip purposes. Tours that include trips to work or educational that are typically of a routine character in everyday life are therefore classified as routine trips and are therefore assigned to the usual environment regardless of the calculated thresholds.
- In step 4, the tours that were not classified as non-routine in step 1 or as routine in step 3 are compared with the calculated threshold values. The three calculated thresholds (1.5-fold median of tour duration radius, 1.5-fold median of tour distance radius, 120 min as minimum tour duration) describe the usual environment at the individual level. If the characteristics of a tour exceed all three thresholds, then this is a non-routine tour. If at least one threshold is not met, the tour is a routine tour in our methodology.
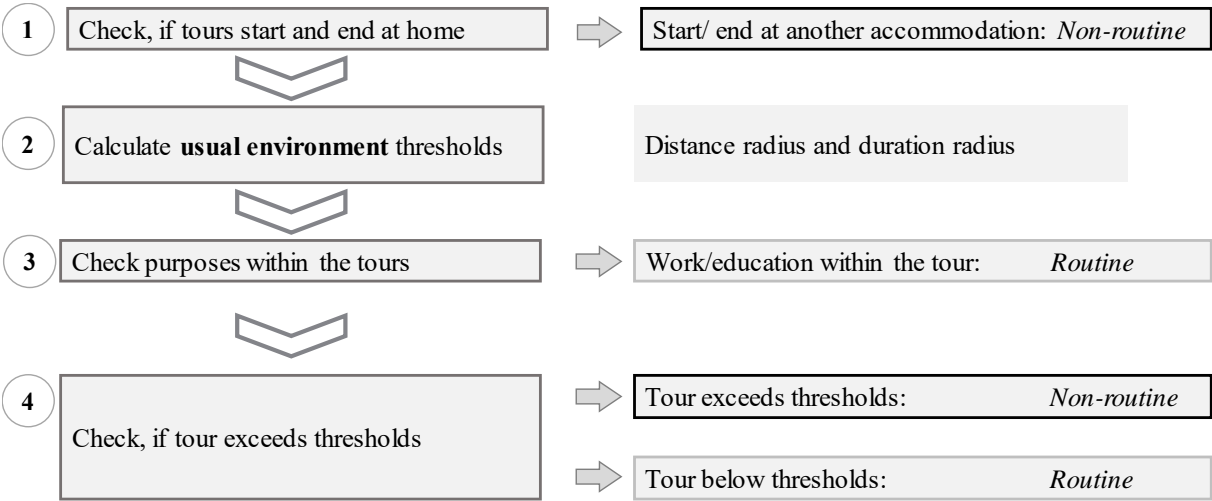

Figure 1: Process of decision rules to identify routine and non-routine tours

3

According to our approach and the definition that routine tours take place within the usual environment and non-routine tours outside, all identified non-routine tours are related to tourism. Applying the described heuristic and selected thresholds above, we identify 8.56% of all tours as non-routine and thus as tourism related travel. This corresponds to 9.57% of all reported trips but accounts for 33.44% of distances travelled in our dataset. When analysing the sociodemographic characteristics, we find differences between groups of people. In the group of young people aged 10 to 19 the share of people with tourism related travel is lowest at 45.63%. In the group of people aged 60 to 69 the share of people with tourism related travel is 74.60%. We see similar differences between students and pensioners: 48.45% compared to 86.47%. Overall, 66.01% of the people in our sample leave their usual environment at least once in three weeks.

To obtain further and detailed information about the extent and structure of such tourism related travel, in the following analysis we only consider the behaviour of people who have left their usual environment at least once. We calculate the share of trips undertaken within tourism related travel of all trips that a participant reported. The same was applied to distances travelled within tourism related tours compared to all reported distances travelled. Table 1 shows the resulting proportions as mean values. The mean share of the number of tourism related trips within non-routine tours compared to the total number of reported trips is relatively low at 14.52%. In comparison, the proportion of distances travelled is high at 40.44%. This again indicates that leaving one's usual environment is usually combined with many kilometres of travel. Furthermore, we present the proportions differentiated by person and household characteristics. There are only small variations between the considered characteristics in the calculated proportions of the total number of trips (see Table 1). The proportions are within 9.53% and 18.00%. Children and adolescents aged between 10 and 19 have the lowest percentage (9.53%), which is reflected in the low value in the occupation status "education". There are only minor differences with regard to the share of travelled distances generated by tourism related travel (Table 1). The share is relatively high irrespective of certain groups of people. It varies between 29.43% and 45.38%, whereby it is higher for older people and thus for pensioners. Since the share of distances travelled is much higher than the share of number of trips, the importance of such rather seldom non-routine, tourism related tours with long distances becomes clear.

Table 1: Share of trips and distances travelled classified as tourism related travel

Category / variables		Mean share of tourism related trips per person [%]	Mean share of tourism relaed distances travelled per person [%]
All persons*		14.52	40.44
Gender	Male	15.77	42.05
	Female	13.28	38.84
Occupation	Employed (full time / half time)	14.65	38.17
	Education (school, university, others)	11.19	30.29
	Other	13.17	34.59
	Pensioner	14.99	44.21
Age	10 to 19	9.53	29.43
	20 to 29	18.00	37.75
	30 to 39	13.48	37.25
	40 to 49	14.37	32.91
	50 to 59	14.81	39.16
	60 to 69	14.54	42.53
	70 and older	15.19	45.38
Car availability	Regularly	14.53	38.98
	Occasionally by arrangement	15.41	43.41
	No availability	15.06	45.30
Living area	Urban area	14.92	41.55
	Rural area	13.72	38.22
Household	Small household with employed person(s) (1-2 persons)	15.67	40.42
	Small household with non-employed person(s) (1-2 persons)	15.20	44.30
	Household with children aged 17 or younger	12.08	34.04
	Household without children, 3 and more adults	13.79	38.22

* with at least one tour outside their usual environment

Conclusions

The results demonstrate the importance and relevance of the research topic. In surveys on everyday travel, we capture trips and activities that are not part of everyday life, but which can be counted as tourism related. The methodology presented can be criticised because a more or less arbitrary threshold (1.5 times the median) was applied: Therefore, the identification of the usual environment is not very reliable, especially in cases where few trips per person are reported or where the trips reported are very variable. To face this problem, further research could develop heuristics for specific groups of people. However, our presented approach is sufficient for a first assessment as well as for the identification of the research gap. The identification and evaluation of tourism related travel plays an important role in the selection of political measures, e.g. to reduce climate impacts. The potential for influencing optional activities such as occasional tourism trips may differ from daily travel with a high repetition such as work. This distinction between the types of travel is further important as motivations and backgrounds that generate trips are different for tourism and everyday travel.

References

1. World Tourism Organization (UNWTO). *Understanding Tourism: Basic Glossary*, 2007.

2. EUROSTAT. *Methodological manual for tourism statistics*, 2013.

3. Buliung, R. N., M. Roorda, and T. K. Remmel. *Exploring spatial variety in patterns of activity-travel behaviour: initial results from the Toronto Travel-Activity Panel Survey (TTAPS)*. Transportation, Vol. 35, No. 6, 2008, pp. 697–722, http://dx.doi.org/10.1007/s11116-008-9178-4.

4. Pas, E. I., and S. Sundar. *Intrapersonal variability in daily urban travel behavior - Some additional evidence*. Transportation, Vol. 22, No. 2, 1995, pp. 135–150, http://dx.doi.org/10.1007/BF01099436.

5. Hasanzadeh, K., T. Laatikainen, and M. Kyttä. A place-based model of local activity spaces: individual place exposure and characteristics. Journal of Geographical Systems, Vol. 20, 2018, pp. 227–252, http://dx.doi.org/10.1007/s10109-017-0264-z.

6. Holliday, K. M., A. G. Howard, M. Emch, D. A. Rodríguez, and K. R. Evenson. *Are buffers around home representative of physical activity spaces among adults?* Health & place, Vol. 45, 2017, pp. 181–188, http://dx.doi.org/10.1016/j.healthplace.2017.03.013.

7. Parthasarathi, P., H. Hochmair, and D. Levinson. *Street network structure and household activity spaces.* Urban Studies, Vol. 52, No. 6, 2015, pp. 1090–1112, http://dx.doi.org/10.1177/0042098014537956.

8. Schönfelder, S., and K. W. Axhausen. *Activity spaces - measures of social exclusion?* Transport Policy, Vol. 10, No. 4, 2003, pp. 273–286, http://dx.doi.org/10.1016/j.tranpol.2003.07.002.