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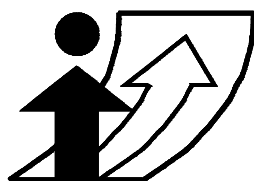
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Travelling to reach destination, or for the sake of it: a typology of trips after French national travel survey data

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Travelling to reach destination, or for the sake of it: a typology of trips after French national travel survey data

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Abstract

The purpose of this paper is to analyze the *primary utility of travel* (PUT) after data from the *French National Travel Survey* (FNTS) 2007-2008, to know how “primary” actual trips are, or more exactly to what extent they yield each of three types of utility: utility of reaching a destination, utility of activities performed during the trip, and utility of the trip itself. For that, a twelve-fold typology of trips is created (*PUT type*). The paper provides one dimension statistics of all PUT questions in the FNTS, as well as the split of all trips by *PUT type*. Cross tabulations of *PUT type* by different PUT questions, age-gender groups, trip purpose and travel mode are also described. Finally, a generalized logistic model is estimated to explain the trip split by *PUT type* with respect to a number of explanatory variables at the household level, at the individual level, at the trip level. Many variables have a significant effect on the probability that a trip is of any of the twelve considered *PUT types*.

Keywords

Primary utility of travel, derived demand, promenade, travel survey, France, activity, pleasant, feelings, trip purpose.

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1. Context

1.1 The *primary utility of travel* (PUT)

Travel demand is traditionally considered as entirely derived, i.e. travel should only be a necessary cost to perform activities in different places. But some authors have pointed out the *primary utility of travel* (PUT) (Hupkes, 1982; Marchetti, 1994; Mokhtarian *et al.*, 2001), i.e. travel might yield a positive benefit by itself. Even some trips can be performed only for the sake of it, and not to reach any destination. Different specific surveys have been conducted to investigate the PUT (Mokhtarian & Salomon, 1999, 2001; Redmond & Mokhtarian, 2001; Richardson, 2003; Mokhtarian, 2005; Diana, 2005, 2006, 2008). Different techniques are used to measure the PUT: factual travel surveys, stated preference surveys, surveys on attitudes and opinions, factorial analyses, variable constructs capturing the positive attributes of trips (Papon *et al.*, 2007, 2008).

1.2 The *primary utility of travel* questions in the *French National Travel Survey* (FNTS)

But for the first time in France, specific questions about the PUT were passed for randomly sorted trips in the *French national travel survey* (FNTS) 2007-2008. This enables to relate this issue to all other questions that are present in the FNTS, many of them being linked in some respect to the PUT (Papon *et al.*, 2007, 2008).

Table 1: Specific questions in the FNTS on the PUT
(for one random weekday or weekend day trip)

VARIABLE	QUESTION	MEASURE
MUACTI	Activity during trip	Yes/no
MUACTIVITE	Which activity	Max 3 answers in list of 10
MUACTIVAUT	Other activity	Open answer
MUINCIDENT	Trip without incident	No/yes
MUQUELINCIDENT	Which incident	Max 3 answers in list of 8
MUQUELINCIDAUT	Other incident	Open answer
MUSENSATION	Trip pleasantness	3 items
MUFATIGUE	Trip tiredness	4 items
MURAISON	Main reason for travelling	3 items: <ul style="list-style-type: none">• The only important thing in this trip was to go from one place to another• The activities during the trip were important for me• The feelings during the trip were important for me

2. Typology of trips according to their *primary utility* (PUT type)

2.1 Three utilities

The sheer notion of utility is a one-dimension notion in economics. If travel demand is

entirely derived, the utility of a trip equals the utility provided by the activity performed at destination. To keep it simple, we shall call this utility: *derived utility*. But, if the trip is not exclusively motivated by the need to go to destination, a certain part of its utility, that we shall call *primary utility*, is provided by the process of the trip itself.

This *primary utility* can be broken up into two shares: first, activities performed during the trip provide one share, that we shall call *accessory utility*; second, the trip itself provides another share, that we shall call *intrinsic utility*. But this distinction is not straightforward: is the delight brought by some lovely scenery attributable to the trip itself, or to the accessory activity “looking at the scenery”? Looking at the scenery in a tunnel brings no pleasure; so the origin of the pleasure do lies in the trip itself; but there is indeed a competition between accessory activities “looking at the scenery” and for example, “reading a book”: the choice may privilege the real time highest interest between the scenery and the book, notwithstanding the fact that the interest of the book is not lost if the reading is postponed.

The following equation can be written:

$$U_t = U_i + U_a + U_d \text{ (1) where:}$$

U_t denotes the total trip utility

U_i denotes the trip *intrinsic utility*, provided by the trip itself

U_a denotes the trip *accessory utility* provided by activities engaged during the trip

U_d denotes the trip *derived utility*, i.e. provided by activities at the trip destination.

A great stake is to determine the respective shares of those three utilities. However, this economist’s approach trying to summarize everything into one dimension is basically restrictive with respect to the multi-dimensionality of the phenomenon, and a sociological understanding is also necessary.

We shall call *promenades* those trips without *derived utility* ($U_d = 0$).

We shall call *purely destination trips* those trips without *intrinsic utility* ($U_i = 0$).

Accessory activities can occur, including in those pure PUT situations of *purely destination trips* or promenades: for example, it is possible to chat while strolling, or to read a book on a routine commuter train the only aim of which is to go to work.

So, here are three utility dimensions: the importance of destination, the importance of accessory activities, and the importance of trip involvement. Those three dimensions can be diversely measured by the FNTS questions on the PUT.

2.2 Identification of the PUT in the FNTS

In the FNTS, *promenades* are identified as a specific trip purpose (7.77: “promenades without precise destination”) and here denoted “p”.

Conversely, *purely destination trips* are identified with a specific PUT question (item “the only important thing in this trip was do go from one place to another”,

MURAISON=3, for trips that are not *promenades*) and denoted “d”.

Trips that are neither “p” nor “d” are called *intermediary trips* and denoted “i”. Those three kinds of trips contrast the importance of destination and the *derived utility*. In the real world, there may exist a continuum of situations between *promenades* and *purely destination trips*.

Activity performed during travel is identified by the specific PUT question, with a particular activity during the trip being stated (MUACTION=1) and denoted “a”, which is related to the *accessory utility*. Those trips will be distinguished from those where no activity during the trip were described (MUACTION=2). This definition is independent from the main reason for travelling. In particular, trips for which respondents stated: “the activities during the trip were important for me” (MURAISON=2) may be of type “a” or not. When persons made such a statement, without describing any activity during the trip, it is possible that this answer was not properly understood, and that those persons thought about activities at the destination.

The *intrinsic utility* is more difficult to tackle, and is linked to the involvement of the traveller in the trip. Several PUT questions can show this implication: answer “the feelings during the trip were important for me” (MURAISON=3), incident occurring during travel (MUINCIDENT=2), pleasant trip or unpleasant trip (MUSENSATION=1 or 2), or any kind of tiring trip (MUFATIGUE = 1, 2 or 3). Any of these answers are considered as an implication in the trip, denoted “s” (as “sensation”). More restrictive definitions were also considered. It is possible that the involvement be linked to the control of the travel means: travellers should be more involved in active or driver modes, and less involved in passenger modes.

2.3 Twelve trip categories according to the PUT

From there, a typology of trips is derived, by crossing the importance of destination (“d”, “i” or “p”), the activity while travelling (“a” or Ø), and the implication in the trip (“s” or Ø), which yields 12 types of trips, called *PUT types* (table 2). To refer to these 12 *PUT types*, besides the code letters, we shall use twelve vernacular words. Those words will have a very specific meaning, which may differ in some cases from the one in everyday use, or in another technical definition.

Purely destination trips “d” will be called *transfers*. If an activity is performed during the trip, they will become “da” *transports*. If they are involving, they will be called “ds” *rides*. If they are both involving and including an activity, they will turn into “dsa” *outings*.

Intermediary trips “i” will be called *translations*. If an activity is performed during the trip, they will become “ia” *transitions*. If they are involving, they will be called “is” *excursions*. If they are both involving and including an activity, they will turn into “isa” *journeys*.

Promenades “p” will be called *wanders*. If an activity is performed during the trip, they will become “pa” *saunters*. If they are involving, they will be called “ps” *treks*. If they are both involving and including an activity, they will turn into “psa” *strolls*.

Table 2: Twelve trip types according to PUT and examples

		Essential destination “d” <i>purely destination trip</i>	Secondary destination “i” <i>intermediary trip</i>	No relevant destination “p” <i>promenade</i>
Weak involvement	Without activity	“d” <i>transfer</i> 100% <i>derived utility</i> Go to appointment on a late subway	“i” <i>translation</i> <i>low derived utility</i> Drive to mall and spend afternoon	“p” <i>wander</i> <i>no utility</i> Child passenger sits in touring parents’ car
Weak involvement	With activity “a”	“da” <i>transport</i> Commute to work and read a book on a suburban train	“ia” <i>transition</i> Call friend on the bus on the way back home	“pa” <i>saunter</i> 100% <i>accessory utility</i> Smoke and hang around workplace
Strong involvement “s”	Without activity	“ds” <i>ride</i> Cycle to work	“is” <i>excursion</i> Test new motorbike and leave for weekend	“ps” <i>trek</i> 100% <i>intrinsic utility</i> Jog and workout
Strong involvement “s”	With activity “a”	“dsa” <i>outing</i> Drive to friends’ place and search for best route and listen to the radio	“isa” <i>journey</i> Enjoy a steam engine train and take pictures on the way to a conference	“psa” <i>stroll</i> 100% <i>primary utility</i> Walk in forest and chat about mushroom species

Table 2 sums up those twelve trip types with examples. The *PUT type* variable is denoted *triprim3*.

2.4 Typology of trip purposes

An interesting distinction for trips with a destination purpose is whether the destination place is unique. Trips with unique destination place (such as workplace, relative’s place) are linked to socializing, meeting somebody, and can occur only in a specific location. Conversely, for other purposes, the location can be changed, for example when going to a shopping place as the purchase could be performed elsewhere. It is likely that essential destinations should require a unique place and have specific purposes: socializing is more essential than consuming.

We sort the FNTS purposes MMOTIFDES in four categories in variable *motifc2*:

- *Promenade* (7.77: “promenades without precise destination”)
- *Socializing* (purposes 1.11 & 1.12: education, 5: visiting friends or relatives, 6: escort, 7.71: association, 8.89: other personal purpose, 9: work and professional)
- *Consumption* (purposes 2: shopping, 3: health care, 4: administrative business,

- 7: leisure except those already quoted, 8.80: holidays)
- *Home* (purposes 1.1, 1.2, 1.3, 8.81 and 8.82).

3. One- and two-dimension statistics of the PUT variables

The PUT inset of the FNTS was passed during the second visit to one random individual in each household, called the “Kish” individual, for one random trip. Only trips with a number of minutes greater or equal to 10 were selected. So trips lasting 0 to 9 minutes are not selected, but neither, because of poor programming, are trips lasting 1:00 to 1:09, 2:00 à 2:09 etc. However, this poor programming eliminates trips the duration of which is surrounded by selected trips, so that it should not disturb results too much. Conversely, it must be kept in mind that short trips lasting less than 10 minutes are not concerned by these results.

In all, because of individuals eliminated by this filter, or no answer to this inset, 18632 “Kish” individuals described the *primary utility* of 17940 trips. The distribution of those trips by day type being different to that of all trips, those trips were re-weighted to get a similar distribution by day type, i.e. 77.24% for weekdays, 13.6% for Saturdays, and 9.16% for Sundays. This re-weighting mainly increased the share of Saturdays and Sundays, by a factor lower than 2. The re-weighting also takes into account the general survey weighting, so that the resulting statistics are representative of the surveyed individual population, with one trip per individual; but they are not representative of trips.

3.1 Activities during travel

In all, 61.21% of individuals stated no particular activity performed during the trip. 38.79% stated an activity, and described a first activity; 11.87% described a second activity, and 3.53% described a third activity. These activities are detailed in table 3.

Table 3: Activities performed during trip (% of individuals)

Activities during trip	Activity 1	Activity 2	Activity 3	Other re-categorized activity	Total
Chat with other persons	25.82	1.90	0.19	0.06	27.97
Listen to music or the radio	5.27	5.87	0.80	0.00	11.94
Phone, text message	3.79	0.47	0.12	0.01	4.39
Look at scenery, shop windows, people	0.98	1.54	1.53	0.00	4.05
Read	2.01	0.15	0.02		2.18
Eat, drink, smoke	0.07	0.54	0.44		1.05
Think, stay alone	0.13	0.70	0.19	0.00	1.02
Play or manual activity	0.16	0.42	0.04	0.04	0.66
Work, study	0.29	0.04	0.02		0.35
Sleep, doze	0.05	0.06	0.14		0.25
Other	0.20	0.17	0.04		0.41
Of which, non re-categorized				0.05	0.05
Watch a movie				0.16	0.16
Exercise				0.04	0.04
Trip purpose				0.04	0.04
Collect (mushroom, etc.)				0.02	0.02

Source: FNTS 2007-2008, Ifsttar processing

Other activities were typed in full text. Among those other activities, some could be re-categorized among the proposed questionnaire list. Others correspond to activities that were not provided in the questionnaire, and could be regrouped in headings “Watch a movie”, “Exercise”, or “Collect”. It can be questioned whether exercising is really an accessory activity, or is part of the trip itself if performed with an active mode. The percentage of concerned individuals is low, but this item should have been proposed to all to monitor the proportion of individuals who consider that exercising while travelling is an activity *per se*.

Some of the activities that were described as “Other” are static activities that should have formed a trip purpose, if the survey instructions had been followed. The remaining “Other” activities are too specific to be re-categorized.

In all, the most frequent activity is “Chat with other persons” (overall as first activity), followed by “Listen to music or the radio” (as first or second activity). It is funny to learn that only 1% of individuals claim that they “Think” during their trip.

3.2 Incidents during travel

The overwhelming majority of individuals (99.46%) reported that their trip occurred without any incident. Only 0.51% described one incident, and less than one out of ten thousand described two or three incidents. Among those describing an incident, most did not stick to the proposed incident list, and described in full text another incident (0.33% of individuals). As for activities, some of those incidents were regrouped in categories. Table 4 lists those incidents. Incidents are very scarce and very diverse.

Table 4: Incidents reported during trip (% of individuals)

<i>Incidents in proposed survey list:</i>	% of individuals
Vehicle stalled in traffic jam	0.13
Aggressive traveller towards you or somebody else	0.05
Vehicle breakdown	0.03
Dangerous motorist behaviour	0.02
Train or subway stopped between stations	0.01
Missed transfer with delay over 20 min	0.01
<i>Other stated incidents:</i>	
Not re-categorized	0.10
Poor public transport regularity	0.06
Accident	0.03
Weather	0.03
Tiredness	0.02
Policeman	0.01
Diversion	0.00

Source: FNTS 2007-2008, Ifsttar processing

3.3 Pleasantness of trip

About half of individuals considered their trip neither pleasant nor unpleasant. Others mostly found it pleasant (table 5).

Table 5: Feeling about trip (% of individuals)

MUSENSATION	
NR	0.08
1 Pleasant or rather pleasant	45.56
2 Unpleasant or rather unpleasant	3.59
3 Neither	50.77

Source: FNTS 2007-2008, Ifsttar processing

3.4 Tiredness of trip

The overwhelming majority of individuals did not think that their trip was tiring (table 6). For 8% who stated it tiring, physical tiredness was the first one.

Table 6: Tiring trips (% of individuals)

MUFATIGUE	
NR	0.09
1 Yes, especially nervously	2.46
2 Yes, especially physically	3.80
3 Yes, both	1.86
4 No, not tiring	91.79

Source: FNTS 2007-2008, Ifsttar processing

3.5 Sentence applying best to trip

The wide majority of persons considered that “the only important thing in this trip was to go from one place to another” (table 7). So, for those trips, the PUT can be considered as low. 9% gave importance to activities, and 6% to feelings.

Table 7: Sentence applying best to trip (% of individuals)

MURAISON	
NR	0.55
1 The only important thing in this trip was to go from one place to another	84.43
2 The activities during the trip were important for me	9.05
3 The feelings during the trip were important for me	5.97

Source: FNTS 2007-2008, Ifsttar processing

Cross tabulations of this variable with other PUT variables show that:

- The activity during the trip is more frequent when activities are important (46%) or when feelings are important (50%), instead of places (37%), but no activity is described for over half of trips for which activities are important.
- Incidents are markedly more frequent (1.23% vs. 0.51%) when feelings are important, but only 14% of incidents lead to finding feelings important.
- Trips are markedly more often pleasant when activities or feelings are important (respectively 80 and 83% vs. 39% for places), and slightly less often unpleasant (respectively 2.2 and 2.5% vs. 3.8% for places); however, for 73% of pleasant trips and 90% of unpleasant trips, places are the only important thing.
- Trips are less often nervously tiring when feelings are important (1.0% vs. 2.6% for places and 2.8% for activities), more often physically tiring when feelings or activities are important (respectively 7.0% and 5.9% vs. 3.4% for places), and more often tiring both nervously and physically when activities are important (5.6% vs. 1.5% for places and 1.3% for feelings); in all, *purely destination trips* are the less tiring, but constitute the majority of tiring trips, and trips where activities are important are the most tiring.

3.6 Purpose type

Different trip purpose types are shown in table 8. Except for home, *Socializing* is the most frequent.

Table 8: Trip purpose type (*motifc2*) (% of individuals)

Type	% individuals
<i>Promenade</i>	2.67
<i>Socializing</i>	34.67
<i>Consumption</i>	25.50
<i>Home</i>	37.16

Source: FNTS 2007-2008, Ifsttar processing

3.7 PUT type

The study of the *PUT type* shows that most trips are *purely destination trips* (table 9), and the highest share is for *transfers*, without involvement or activity. However, *rides*, *outings*, and *transports* also are frequent. Far behind come *intermediary trips*, which for their part are more often with involvement (*excursions* and *journeys*). Then, pure *promenades* are rare, but are also more often with involvement (*treks* and *strolls*). However, this domination of involvement for *intermediary trips* and *promenades* would not be true with a more restrictive definition of involvement, based only on the MURAISON variable.

Table 9: Trip *PUT type* (*triprim3*) (% of individuals)

Type	% individuals	
"d", <i>transfer</i>	29.43	82.94
"da", <i>transport</i>	14.70	
"ds", <i>ride</i>	22.77	
"dsa", <i>outing</i>	16.04	
"i", <i>translation</i>	1.10	13.78
"ia", <i>transition</i>	0.57	
"is", <i>excursion</i>	6.13	
"isa", <i>journey</i>	5.98	
"p", <i>wander</i>	0.38	3.29
"pa", <i>saunter</i>	0.19	
"ps", <i>trek</i>	1.41	
"psa", <i>stroll</i>	1.31	

Source: FNTS 2007-2008, Ifsttar processing

The cross-tabulation of the *PUT type* with the main reason for travelling is partly tautological as the main reason was used for defining the *PUT type*: so places are the only important thing for 100% of *transfers*, *transports*, *rides* and *outing* by definition, but surprisingly also for 86% of *wanders*, 94% of *saunters*, 42% of *treks* and 29% of *strolls* that yet have no precise destination.

Activities are important for 71% of *transitions*, 57% of *journeys*, 1% of *saunters* and 29% of *strolls*, that have a stated activity, but also for 90% of *translations*, 58% of *excursions*, 14% of *wanders* and 18% of *treks* that have no stated activity. Thus, the statement of an activity during the trip is poorly correlated with the importance of activities during the trip.

Feelings are important for 40% of *excursions*, 41% of *journeys*, 38% of *treks* and 41% of *strolls*, and by definition only for those *PUT types*.

The cross-tabulation of the *PUT type* with the activity during the trip is completely tautological as the activity during the trip only concerns *transports*, *outings*, *transitions*, *journeys*, *saunters* and *strolls*.

The cross-tabulation of the *PUT type* with feelings about the trip is partly tautological as feelings were also used to define the involvement aspect in the *PUT type*. Thus, pleasant trips represent 81% of *rides*, 86% of *outings*, 83% of *excursions*, 95% of *journeys*, 98% of *treks*, and 92% of *strolls*. Unpleasant trips represent 9% of *rides*, 7%

of *outings*, 3% of *excursions*, 2% of *journeys*, 0.5% of *treks*, and 7% of *strolls*. If other *PUT* types are neither pleasant nor unpleasant by definition, so is the small remainder of the previous involving *PUT* types.

The same comment applies to the cross-tabulation of the *PUT* type with tiredness. But here, nervously tiring trips are only a small minority (1 to 6%) for each involving *PUT* type, so are physically tiring trips (4% to 10%), or tiring trips both ways (1 to 6%). The most often tiring trips are *excursions* (18%) and *rides* (17%).

The cross-tabulation of the *PUT* type with the purpose type obviously shows that *wanders*, *saunters*, *treks* or *strolls* have the *promenade* or *home* purposes. The more *consumption* prone trips are *journeys* (43%) and *excursions* (35%), while the trips more linked with *socializing* are *translations* (48%), *transfers* (42%), and *transports* (41%). Returning back home is more frequent for *transitions* (56%), *saunters* (44%), *outings* (43%) and *excursions* (43%).

4. Cross tabulations with other variables

4.1 Age and gender

The activity during the trip is more frequent for the youngest persons, mainly because those people chat more with other persons during the trip. Those who listen the most to music or the radio are young male adults and female adolescents. Those who make the most often phone calls or send messages are young persons aged 18 to 20. Young women aged 18 to 24 are also keen readers.

The trip pleasantness curve according to age displays a U shape; children and seniors find their trip more often pleasant. Conversely, young adults state it more often unpleasant.

Nervous tiredness concerns more men aged 35 to 64, and women aged 18 to 34. Physical tiredness strikes more those aged 75 and over. Both tiredness kinds add for those aged 21 to 24. Children are less often tired.

The activities during the trip are important for minors and seniors. Feelings are more important for boys less than 20. Places are paramount for those aged 21 to 49.

Transfers are more frequent for working age men, *transports* for adolescents, *rides* for mature men, and *outings* for those under 20. *Excursions* occur more for children and seniors, *journeys* for those under 20. *Treks* and *strolls* concern more seniors.

4.2 Trip purpose

Activity is scarcer in work trips, and more frequent in education trips, because of the pupils' chatting. But chatting is even more frequent for sport or *promenade* trips, which are also favourable to thinking and scenery contemplation. Listening to the radio, making phone calls and reading are more frequent activities while commuting to work. Working is more spread on the way to education. Looking, eating, drinking,

smoking, sleeping or performing another activity is more frequent when visiting friends or relatives.

Incidents are slightly more frequent for work trips, but remain rare (0.8%).

The most often pleasant trips are for sport or *promenade*, and the least often for commuting to work. The reverse is true for unpleasant trips, or trips that are neither pleasant nor unpleasant.

The most nervously tiring trips are linked to work. Physical tiredness concerns more shopping and sport. Both kinds of tiredness cumulate in work trips. The least tiring trips are for visits and education.

Trips to work are more often *purely destination trips*; conversely, for sport or *promenade* trips, activities or feelings are more often important.

Transfers concern more often work; *transports*: education; *rides*: shopping; *outings*: visits. *Excursions* have to do more with education, and *journeys* with shopping. *Treks* and *strolls* are of course relating to the sport-promenade purpose.

4.3 Travel mode

Activities are very frequent for passenger modes (car and public transport), because the mind is free, then for active modes. Conversely, powered two wheelers require full concentration.

As far as incidents are concerned, cyclists report them more often. Of course, the nature of described incidents depends on the travel mode.

The feeling is more often pleasant for the motorcycle, the bicycle, and walk, and less often for public transport, and the car as a driver that are more often neutral. The uttermost unpleasant mode is the moped.

Nervous or double tiredness concerns more public transport, physical tiredness active modes. The less tiring mode is the car as a passenger.

Places are important for car drivers, and less important for cyclists. Conversely, the latter attach more importance to feelings. Moped riders and pedestrians more often think activities are important.

Transfers are more frequent for moped riders and car drivers, and less frequent for cyclists. *Transports*, as indicated by their name, are linked to public transport. *Rides* occur more often for motorcyclists. *Outings* are more of interest for car passengers. *Translations*, that are rare, are more often performed with public transport. *Excursions* are more readily undertaken with a bicycle or moped. *Journeys* privilege active modes, so do *treks* and *strolls*.

5. Modelling of PUT variables

5.1 Methodology

Each of the following PUT variables was explained through a model:

- Performing an activity during the trip (MUACTI=1)
- Occurrence of an incident during the trip (MUINCIDENT=2)
- Pleasant trip (MUSENSATION=1)
- Unpleasant trip (MUSENSATION=2)
- Pleasant or unpleasant trip (MUSENSATION=1 or 2)
- Tiring trip (MUFATIGUE=1, 2 or 3)
- *Purely destination trip* (MURAISON=1)
- *Promenade* (motif 7.77)
- *Transfer* (i.e. no PUT element described in the survey)
- The whole *PUT type* with 12 modalities.

These variables were modelled with generalized logit models.

The following explanatory variables relate to household:

- Residence zone type aggregated in four modalities (rural including small towns, outer ring, suburbs, *reference* centre city)
- Land development zone (ZEAT, *reference* south-west)
- Neighbourhood habitat type (multi family housing or *reference* single family housing)
- Household type in five modalities (*reference* single, childless couple, couple with children, single parent family, other)
- Dog ownership
- Household with car or van
- Household with several cars or vans
- Household with bicycle.

As far as the “Kish” individual performing the trip is concerned:

- Age group
- Gender
- Handicap
- Has a job
- Attends education
- Social category in four classes (independent, lower, inactive, *reference* higher)
- Very good general health condition
- Health problems for the last six months
- Obese
- Rode public transport during last year
- Travelled on a train during last year
- Travelled on a plane during last year
- Left for vacations during last year
- Regularly exercises (at least once per week)
- Walks over 30 minutes per day
- Holds driving license
- Regularly drives a car
- Occasionally drives a car

- Likes driving a car
- Holds motorcycle license
- Drives a motorcycle
- Likes driving a motorcycle
- Drives a moped
- Likes driving a moped
- Travels by bicycle
- Likes travelling by bicycle
- Holds public transport pass or discount card
- Is hindered in his/her trips.

As far as the described trip is concerned:

- Rain during the trip day
- Trip departure time (morning peak hours, evening peak hours, evening after peak, night, *reference* normal daytime hours)
- Trip escorted by another person
- Trip duration (20 to 39 minutes, 40 to 79 minutes, over 80 minutes, *reference* 10 to 19 minutes)
- Trip lasting longer than expected (or less long, *reference* as long)
- Total walking time during the trip: 1 to 5 minutes, 6 minutes and over (*reference* nil)
- Public transport waiting time 6 minutes and over (*reference* less than 5 minutes)
- Unwillingly standing in public transport for at least a part of the ride (*reference* always seated or standing with available seat)
- Trip drive on motorway (car or motorcycle)
- Aggregated main travel mode (walk, bicycle, moped, motorcycle, car as a driver, car as a passenger, public transport)
- Used several travel means
- Likes the main travel mode that he/she used (walks over 30 minutes per day proxy for likes walking, likes driving proxy for likes being a car passenger, holds public transport pass proxy for likes public transport)
- Ordered origin destination trip purpose (work, education, shopping, visits, sport-promenade, other).

5.2 *PUT* type modelling

By estimating a generalized logit model simultaneously explaining the 12 *PUT* types, with *transfers* as reference, the outcome is the probability that a trip belongs to each other *PUT* type instead of *transfer*, according to the value of each of the explanatory variables. The numbers of variables with a significant negative (respectively positive) effect on the probability of each *PUT* type are the following:

- *Transport*: 33 negative and 23 positive;
- *Ride*: 22 negative and 24 positive;
- *Outing*: 19 negative and 38 positive;
- *Translation*: 16 negative and 19 positive;
- *Transition*: 10 negative and 12 positive;
- *Excursion*: 24 negative and 20 positive;
- *Journey*: 15 negative and 26 positive;
- *Wander*: 7 negative and 8 positive;
- *Saunter*: 7 negative and 5 positive;

- *Trek*: 10 negative and 12 positive;
- *Stroll*: 6 negative and 14 positive.

Odd ratio results are provided in the appendix.

6. Conclusions

These first results on the PUT show some rationale, but also some inconstancies from the surveyed individuals who can find activities during the trip important without describing any of them, or find that the only important thing was to go from one place to another while the purpose is promenade without precise destination. However, these inconsistent trips are, in terms of absolute number, scarce.

Most described trips are purely destination trips, in accordance with classical analysis, and to the original rationale of travel surveys. Yet, there are also *intermediary trips* (14%), and pure *promenades* (6%) that are generally found pleasant. But most *purely destination trips* also have a feeling or an activity performed during the trip. Thus, only 29% of trips get no PUT element.

Some basic variables, linked to the individual (age-gender), or to the trip (purpose, mode), logically play a role in the PUT. By estimating logit models, other variables describing the trip, the household, the individual and his/her travel capability, do have an effect on the PUT.

This PUT could be identified from specific questions in the FNTS; there remains now to discover some way of measuring it, by means of a quantitative model. One idea is to calibrate some kind of thermometer, with 0° attributed to *transfers*, that are trips without any *primary utility*, and 100° to *promenades*, the utility of which is entirely primary. The estimation of a linear model on only *transfers* and *promenades* (estimated on 3911 observations, $r^2=0.82$) show the role of other PUT variables (parameter \pm standard deviation):

- A pleasant trip adds 83° ($\pm 1^\circ$)
- An unpleasant trip adds 63° ($\pm 7^\circ$)
- An activity during the trip adds 23° ($\pm 1^\circ$)
- A tiring trip adds 15° ($\pm 7^\circ$, nervous tiredness), 8° ($\pm 3^\circ$, physical tiredness), or 10° ($\pm 7^\circ$, both)
- The importance attached to activities instead of places adds 9° ($\pm 2^\circ$)
- The importance attached to feelings instead of places adds 5° ($\pm 2^\circ$)
- An incident has no significant effect.

Thus, the most determining character on the PUT is the pleasant trip feeling. But this estimation only measure the propensity of a trip to be a *promenade* according to the survey PUT variables. It is not a measure of utility that is anyway unknown.

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Appendix: Odd ratios of the generalized logit model explaining the *PUT type* of the trip

Tables 10 to 20 display the effects of explanatory variables on the probability that a trip be of one the 11 other *PUT type* instead of the reference *transfer*.

Note: Variable names including "hh." relate to the household, variable names including "trip" relate to the described trip, other variable names relate to the individual performing the trip, and not to the specific trip.

Only significant variables at the 95% confidence threshold are shown. Variables showing a positive effect are ordered by decreasing minimum point of confidence interval. Variables showing a negative effect are ordered by increasing maximum point of confidence interval.

Table 10-1: Odd ratio *PUT type* (*triprim3*) be da:transport instead of d:transfer

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
age 18-20 vs. 35-49	2.656	1.881	3.749
trip drive on motorway	2.117	1.75	2.561
trip escorted	1.994	1.748	2.275
likes riding a moped	6.103	1.746	21.338
left for vacations	1.938	1.696	2.214
hh. region centre east vs. south west	1.96	1.584	2.426
likes travelling by bicycle	1.894	1.506	2.381
household type couple with children vs. single	1.845	1.491	2.284
hh. region north vs. south west	1.769	1.391	2.249
age 15-17 vs. 35-49	2.078	1.33	3.248
trip in evening peak hours	1.558	1.327	1.829
household type other vs. single	1.787	1.304	2.45
hh. owns bicycle	1.504	1.301	1.738
drives a motorcycle	2.17	1.221	3.857
social category independent vs. higher	1.51	1.205	1.892
hh. region west vs. south west	1.421	1.151	1.754
household type childless couple vs. single	1.416	1.149	1.746
trip walk over 5 min.	1.433	1.141	1.8
age 21-24 vs. 35-49	1.453	1.133	1.864
walks over 30 min. per day	1.236	1.104	1.384
holds public transport card	1.276	1.073	1.518
hh. region Mediterranean vs. south west	1.321	1.056	1.653
regularly drives a car	1.506	1.008	2.248

Table 10-2: Odd ratio *PUT type (triprim3)* be *da:transport* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Negative effects			
trip mode moped vs. PT	0.003	<0.001	0.021
trip mode walk vs. PT	0.207	0.152	0.284
trip mode car driver vs. PT	0.245	0.187	0.32
trip mode motorcycle vs. PT	0.096	0.023	0.405
hh. region east vs. south west	0.389	0.298	0.508
age over 75 vs. 35-49	0.432	0.299	0.624
trip purpose work vs. other	0.545	0.455	0.653
hh. owns a car or a van	0.526	0.422	0.656
likes driving a motorcycle	0.357	0.186	0.685
travels by bicycle	0.555	0.443	0.696
travelled on a train	0.627	0.553	0.711
used several travel means	0.509	0.363	0.713
age 6-10 vs. 35-49	0.473	0.308	0.728
age 65-74 vs. 35-49	0.548	0.405	0.742
driving license	0.517	0.355	0.753
trip mode bicycle vs. PT	0.456	0.275	0.759
obese	0.631	0.504	0.79
social category inactive vs. higher	0.582	0.428	0.791
has a job	0.665	0.549	0.805
motorcycle driving license	0.62	0.471	0.816
age 0-5 vs. 35-49	0.343	0.144	0.817
trip purpose shopping vs. other	0.698	0.593	0.821
regularly exercises	0.763	0.681	0.856
rain trip day	0.786	0.707	0.874
rides a moped	0.266	0.081	0.875
trip mode car passenger vs. PT	0.673	0.513	0.884
social category lower vs. higher	0.773	0.673	0.888
female	0.805	0.72	0.9
trip purpose visits vs. other	0.739	0.604	0.904
trip purpose education vs. other	0.704	0.545	0.909
age 11-14 vs. 35-49	0.613	0.402	0.934
hh. owns several cars or vans	0.828	0.73	0.94
trip duration 20-39 min.	0.86	0.755	0.979

Table 11: Odd ratio *PUT type (triprim3)* be *ds:ride* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip mode motorcycle vs. PT	3.629	2.019	6.523
trip duration over 80 min.	2.448	1.769	3.389
trip purpose sport-promenade vs. other	2.109	1.669	2.666
attends education	2.013	1.386	2.926
trip mode bicycle vs. PT	1.988	1.31	3.017
trip duration 40-79 min.	1.56	1.302	1.869
trip at night	1.539	1.259	1.881
trip in evening peak hours	1.373	1.198	1.575
trip shorter than expected	1.695	1.19	2.414
hh. region centre east vs. south west	1.422	1.188	1.703
trip longer than expected	1.456	1.155	1.836
likes travelling by bicycle	1.305	1.097	1.553
health problems	1.275	1.096	1.483
trip purpose visits vs. other	1.292	1.092	1.528
hh. region Mediterranean vs. south west	1.298	1.085	1.551
rode public transport	1.198	1.071	1.34
likes driving a car	1.252	1.043	1.503
trip duration 20-39 min.	1.143	1.031	1.268
hh. region Paris basin vs. south west	1.21	1.028	1.424
very good health	1.128	1.023	1.244
trip in morning peak hours	1.147	1.019	1.292
motorcycle driving license	1.212	1.01	1.453
age 65-74 vs. 35-49	1.259	1.007	1.575
household type other vs. single	1.291	1.005	1.658
Negative effects			
age 15-17 vs. 35-49	0.388	0.251	0.6
age 18-20 vs. 35-49	0.449	0.316	0.637
age 11-14 vs. 35-49	0.459	0.314	0.671
trip standing in PT	0.53	0.372	0.753
age 6-10 vs. 35-49	0.534	0.366	0.779
drives a motorcycle	0.425	0.231	0.782
travelled on a train	0.708	0.637	0.787
hh. owns a dog	0.709	0.638	0.789
trip purpose work vs. other	0.701	0.6	0.818
hh. in multi family housing habitat	0.752	0.669	0.845
hh. owns a car or a van	0.707	0.583	0.858
regularly exercises	0.789	0.718	0.868
age 25-34 vs. 35-49	0.76	0.66	0.875
trip used several travel means	0.629	0.445	0.889
trip mode car passenger vs. PT	0.683	0.522	0.895
age 50-64 vs. 35-49	0.78	0.676	0.9
trip mode car driver vs. PT	0.707	0.549	0.91
likes trip mode used	0.799	0.677	0.942
household type childless couple vs. single	0.81	0.695	0.945
regularly drives a car	0.705	0.522	0.952
occasionally drives a car	0.692	0.502	0.953
social category lower vs. higher	0.872	0.78	0.974

Table 12: Odd ratio *PUT type (triprim3)* be *dsa:outing* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip escorted	3.115	2.749	3.53
age 0-5 vs. 35-49	4.904	2.484	9.681
trip duration over 80 min.	3.304	2.357	4.632
age 6-10 vs. 35-49	3.267	2.161	4.938
trip shorter than expected	3.079	2.14	4.429
trip duration 40-79 min.	1.929	1.576	2.361
age 18-20 vs. 35-49	2.179	1.54	3.082
attends education	2.317	1.536	3.495
likes driving a motorcycle	9.824	1.434	67.283
age 11-14 vs. 35-49	2.173	1.429	3.305
obese	1.653	1.372	1.993
trip drive on motorway	1.567	1.301	1.886
age 15-17 vs. 35-49	2.026	1.296	3.166
has a job	1.572	1.295	1.909
left for vacations	1.431	1.26	1.625
trip walk 1-5 min.	1.435	1.259	1.635
trip purpose sport-promenade vs. other	1.629	1.259	2.108
age 21-24 vs. 35-49	1.596	1.252	2.035
social category independent vs. higher	1.551	1.233	1.951
trip purpose visits vs. other	1.415	1.182	1.695
rode public transport	1.325	1.16	1.513
household type childless couple vs. single	1.36	1.124	1.646
likes driving a car	1.392	1.121	1.728
hh. owns bicycle	1.292	1.119	1.491
trip longer than expected	1.442	1.103	1.885
trip walk over 5 min.	1.373	1.09	1.729
hh. region centre east vs. south west	1.336	1.076	1.66
travelled on a plane	1.22	1.07	1.392
hh. region Mediterranean vs. south west	1.328	1.069	1.651
walks over 30 min. per day	1.193	1.065	1.335
hh. region west vs. south west	1.295	1.053	1.592
motorcycle driving license	1.316	1.042	1.663
age 25-34 vs. 35-49	1.234	1.039	1.465
household type couple with children vs. single	1.244	1.018	1.52
trip duration 20-39 min.	1.152	1.017	1.305
likes trip mode used	1.22	1.012	1.471
likes travelling by bicycle	1.239	1.01	1.522
trip at night	1.293	1.005	1.664
Negative effects			
trip mode moped vs. PT	0.007	<0.001	0.073
trip mode car driver vs. PT	0.241	0.184	0.314
trip purpose work vs. other	0.391	0.324	0.471
drives a motorcycle	0.085	0.013	0.57
hh. owns a car or a van	0.579	0.467	0.718
trip mode walk vs. PT	0.548	0.405	0.742
travelled on a train	0.706	0.625	0.799
trip in morning peak hours	0.701	0.606	0.81
trip PT waiting over 5 min.	0.602	0.433	0.837
social category lower vs. higher	0.772	0.673	0.887
hh. owns several cars or vans	0.785	0.692	0.891
regularly exercises	0.807	0.722	0.903
household type other vs. single	0.639	0.447	0.914
trip used several travel means	0.663	0.477	0.92
social category inactive vs. higher	0.675	0.492	0.928
hh. region Ile-de-France vs. south west	0.745	0.597	0.931
trip purpose shopping vs. other	0.8	0.682	0.938
hh. in multi family housing habitat	0.836	0.727	0.961
health problems	0.812	0.665	0.992

Table 13: Odd ratio *PUT type (triprim3)* be i:translation instead of d:transfer

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
household type other vs. single	10.427	4.18	26.012
age 0-5 vs. 35-49	18.283	3.859	86.616
trip shorter than expected	9.052	3.478	23.555
age 65-74 vs. 35-49	6.276	2.772	14.205
household type single parent family vs. single	5.85	2.636	12.985
age over 75 vs. 35-49	6.066	2.573	14.304
household type couple with children vs. single	4.318	2.028	9.194
age 15-17 vs. 35-49	61.158	1.968	>999.999
age 18-20 vs. 35-49	5.525	1.883	16.208
social category independent vs. higher	3.489	1.881	6.471
obese	2.939	1.864	4.634
likes travelling by bicycle	6.985	1.561	31.265
has a job	2.429	1.302	4.534
hh. owns a car or a van	2.97	1.287	6.855
household type childless couple vs. single	2.467	1.266	4.807
hh. region centre east vs. south west	2.471	1.238	4.935
female	1.666	1.126	2.466
hh. region Paris basin vs. south west	2.009	1.07	3.773
trip duration over 80 min.	3.044	1.014	9.142
Negative effects			
trip mode car passenger vs. PT	0.07	0.03	0.166
trip mode car driver vs. PT	0.137	0.062	0.303
trip purpose education vs. other	0.092	0.027	0.312
trip purpose work vs. other	0.193	0.106	0.351
hh. owns bicycle	0.286	0.181	0.452
trip mode walk vs. PT	0.18	0.058	0.555
hh. owns a dog	0.401	0.254	0.632
hindered in travel	0.198	0.059	0.658
trip walk over 5 min.	0.267	0.101	0.707
hh. region north vs. south west	0.211	0.057	0.788
trip walk 1-5 min.	0.536	0.334	0.86
trip purpose shopping vs. other	0.545	0.337	0.879
trip duration 20-39 min.	0.586	0.379	0.905
regularly exercises	0.62	0.412	0.933
trip in evening peak hours	0.442	0.198	0.988
hh. owns several cars or vans	0.658	0.434	0.998

Table 14: Odd ratio *PUT* type (*triprim3*) be *ia:transition* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
social category inactive vs. higher	51.642	14.593	182.756
social category independent vs. higher	11.958	3.68	38.855
travelled on a plane	4.532	2.604	7.888
has a job	5.068	2.019	12.723
social category lower vs. higher	4.541	1.836	11.233
trip in evening peak hours	2.981	1.687	5.267
trip walk over 5 min.	3.676	1.495	9.041
household type childless couple vs. single	3.185	1.389	7.303
trip walk 1-5 min.	2.241	1.17	4.295
trip mode car passenger vs. PT	3.386	1.088	10.536
rode public transport	2.046	1.078	3.885
household type couple with children vs. single	2.39	1.024	5.579
Negative effects			
hh. owns a car or a van	0.132	0.061	0.282
trip purpose work vs. other	0.21	0.091	0.484
trip mode moped vs. PT	0.066	0.008	0.557
trip purpose shopping vs. other	0.293	0.14	0.612
female	0.421	0.254	0.699
age 11-14 vs. 35-49	0.178	0.044	0.726
travelled on a train	0.467	0.259	0.843
trip standing in PT	0.214	0.051	0.899
trip purpose education vs. other	0.356	0.133	0.949
hh. region centre east vs. south west	0.155	0.025	0.96

Table 15: Odd ratio *PUT type (triprim3)* be is: *excursion* instead of d: *transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip mode bicycle vs. PT	10.95	6.487	18.484
trip mode motorcycle vs. PT	15.81	5.916	42.251
likes travelling by bicycle	3.942	2.54	6.118
trip purpose sport-promenade vs. other	3.092	2.249	4.25
trip mode moped vs. PT	5.033	2.095	12.089
trip duration 40-79 min.	1.918	1.432	2.568
trip drive on motorway	1.82	1.365	2.427
likes driving a car	1.823	1.35	2.461
age 65-74 vs. 35-49	1.911	1.335	2.735
trip in morning peak hours	1.588	1.294	1.95
trip escorted	1.426	1.191	1.708
social category independent vs. higher	1.616	1.184	2.204
trip in the evening	1.58	1.175	2.124
hh. region Ile-de-France vs. south west	1.597	1.174	2.172
age over 75 vs. 35-49	1.682	1.14	2.482
attends education	2.154	1.132	4.098
hh. region east vs. south west	1.411	1.062	1.874
household type couple with children vs. single	1.399	1.061	1.844
obese	1.335	1.041	1.712
hindered in travel	1.407	1.014	1.953
Negative effects			
age 18-20 vs. 35-49	0.13	0.05	0.337
hh. zone suburbs vs. centre city	0.442	0.35	0.559
hh. region west vs. south west	0.395	0.279	0.56
trip purpose work vs. other	0.48	0.357	0.644
travels by bicycle	0.424	0.272	0.661
hh. owns a car or a van	0.514	0.39	0.677
age 15-17 vs. 35-49	0.367	0.178	0.756
rode public transport	0.63	0.519	0.764
trip standing in PT	0.331	0.142	0.773
hh. zone outer ring vs. centre city	0.61	0.461	0.807
trip mode car driver vs. PT	0.551	0.371	0.818
social category inactive vs. higher	0.543	0.357	0.826
likes trip mode used	0.666	0.52	0.852
regularly exercises	0.726	0.61	0.864
has a job	0.662	0.501	0.873
hh. zone rural vs. centre city	0.702	0.563	0.875
left for vacations	0.736	0.619	0.877
regularly drives a car	0.579	0.37	0.906
hh. region centre east vs. south west	0.645	0.456	0.912
hh. in multi family housing habitat	0.761	0.627	0.923
driving license	0.639	0.437	0.934
trip PT waiting over 5 min.	0.446	0.212	0.937
hh. region north vs. south west	0.683	0.472	0.989
trip shorter than expected	0.453	0.206	0.994

Table 16: Odd ratio *PUT type (triprim3)* be isa:journey instead of d:transfer

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip duration over 80 min.	9.508	6.261	14.44
trip purpose sport-promenade vs. other	3.761	2.742	5.159
trip duration 40-79 min.	3.408	2.573	4.516
age 0-5 vs. 35-49	5.076	2.174	11.852
trip escorted	2.564	2.152	3.057
trip in the evening	2.577	1.979	3.357
travels by bicycle	2.497	1.852	3.367
trip walk over 5 min.	2.443	1.793	3.327
trip mode bicycle vs. PT	2.798	1.622	4.828
obese	2.031	1.559	2.646
age 6-10 vs. 35-49	2.526	1.479	4.315
trip duration 20-39 min.	1.626	1.362	1.942
trip in morning peak hours	1.646	1.333	2.033
trip purpose shopping vs. other	1.662	1.328	2.079
age 18-20 vs. 35-49	2.301	1.316	4.024
household type couple with children vs. single	1.737	1.298	2.325
hh. region centre east vs. south west	1.731	1.252	2.393
disabled	1.766	1.25	2.494
rode public transport	1.499	1.239	1.814
trip in the evening peak hours	1.516	1.206	1.906
hh. zone suburbs vs. centre city	1.322	1.057	1.654
trip purpose visits vs. other	1.373	1.048	1.798
household type childless couple vs. single	1.378	1.046	1.815
has a job	1.381	1.045	1.825
trip walk 1-5 min.	1.269	1.018	1.582
age 15-17 vs. 35-49	1.915	1.008	3.639
Negative effects			
trip purpose work vs. other	0.29	0.21	0.399
trip mode car driver vs. PT	0.306	0.209	0.448
trip used several travel means	0.245	0.133	0.449
trip standing in PT	0.283	0.147	0.542
hh. region east vs. south west	0.48	0.327	0.704
hh. owns bicycle	0.63	0.507	0.783
trip PT waiting over 5 min.	0.461	0.267	0.796
hh. owns a dog	0.676	0.558	0.819
hh. owns a car or a van	0.634	0.483	0.833
social category lower vs. higher	0.715	0.577	0.887
hindered in travel	0.605	0.401	0.911
regularly exercises	0.813	0.689	0.959
driving license	0.637	0.418	0.971
likes trip mode used	0.782	0.617	0.991
social category inactive vs. higher	0.636	0.408	0.992

Table 17: Odd ratio *PUT type (triprim3)* be *p:wander* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip longer than expected	21.773	4.722	100.395
has a job	7.195	1.974	26.231
attends education	24.489	1.858	322.718
trip duration 40-79 min.	4.92	1.741	13.899
age over 75 vs. 35-49	8.562	1.346	54.462
hh. region north vs. south west	4.947	1.227	19.941
regularly drives a car	6.382	1.221	33.357
trip escorted	2.809	1.191	6.625
Negative effects			
trip mode car driver vs. PT	0.024	0.003	0.205
hh. region Ile-de-France vs. south west	0.122	0.029	0.512
hh. region Paris basin vs. south west	0.119	0.025	0.577
age 25-34 vs. 35-49	0.005	<0.001	0.676
hh. owns several cars or vans	0.275	0.091	0.835
hh. owns bicycle	0.319	0.119	0.856
travelled on a plane	0.306	0.095	0.988

Table 18: Odd ratio *PUT type (triprim3)* be *pa:saunter* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effect			
trip duration 40-79 min.	230.146	15.257	>999.999
trip escorted	79.415	5.254	>999.999
travels by bicycle	100.814	4.824	>999.999
household type couple with children vs. single	65.565	1.381	>999.999
rain trip day	9.938	1.287	76.736
Negative effects			
trip mode car driver vs. PT	0.002	<0.001	0.116
trip mode walk vs. PT	0.002	<0.001	0.169
trip mode car passenger vs. PT	0.005	<0.001	0.241
social category lower vs. higher	0.021	<0.001	0.48
hh. owns several cars or vans	0.035	0.002	0.533
hh. region Ile-de-France vs. south west	0.012	<0.001	0.547
likes travelling by bicycle	0.057	0.004	0.723

Table 19: Odd ratio *PUT type (triprim3)* be *ps:trek* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip duration 40-79 min.	5.671	2.958	10.874
trip mode bicycle vs. PT	24.308	1.889	312.772
household type couple with children vs. single	3.811	1.803	8.057
regularly drives a car	4.35	1.517	12.473
likes travelling by bicycle	4.413	1.439	13.53
trip duration over 80 min.	3.586	1.381	9.313
hindered in travel	3.014	1.332	6.819
female	2.046	1.31	3.195
hh. owns a dog	1.956	1.283	2.983
trip duration 20-39 min.	1.877	1.186	2.971
age 50-64 vs. 35-49	2.448	1.096	5.469
hh. zone rural vs. centre city	2.092	1.081	4.05
Negative effects			
age 11-14 vs. 35-49	0.105	0.026	0.424
social category lower vs. higher	0.249	0.146	0.428
rain trip day	0.367	0.246	0.549
hh. owns several cars or vans	0.376	0.222	0.636
age 15-17 vs. 35-49	0.075	0.009	0.646
driving license	0.255	0.1	0.651
age 18-20 vs. 35-49	0.045	0.002	0.863
hh. in multi family housing habitat	0.591	0.357	0.977
has a job	0.488	0.242	0.984
hh. region east vs. south west	0.383	0.149	0.987

Table 20: Odd ratio *PUT type (triprim3)* be *psa:stroll* instead of *d:transfer*

	Point Estimate	95% Wald Confidence Limits	
Positive effects			
trip duration 40-79 min.	15.074	8.207	27.687
trip duration over 80 min.	15.571	7.092	34.185
trip escorted	7.065	4.597	10.86
hindered in travel	7.848	3.004	20.503
travels by bicycle	5.022	2.397	10.52
trip mode walk vs. PT	15.546	2.162	111.781
trip duration 20-39 min.	3.204	1.997	5.14
female	2.939	1.924	4.489
trip at night	9.049	1.808	45.282
trip walk over 5 min.	3.194	1.43	7.135
motorcycle driving license	3.249	1.413	7.473
trip mode bicycle vs. PT	12.491	1.369	113.993
social category independent vs. higher	2.922	1.191	7.17
trip in the evening	2.213	1.124	4.36
Negative effects			
age 50-64 vs. 35-49	0.242	0.104	0.567
regularly exercises	0.464	0.291	0.741
hh. in multi family housing habitat	0.478	0.29	0.787
rain trip day	0.619	0.419	0.915
age 65-74 vs. 35-49	0.382	0.148	0.985
age over 75 vs. 35-49	0.34	0.117	0.987