
Master Thesis: Choice Sets

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Travel Survey Metadata Series

58
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Abstract

The quality of mode choice prediction is essential on the way to a resource-efficient transport system. Commonly, mode choice is modelled on the trip or tour level, but a systematic evaluation of the definition of appropriate analytical units and aggregation rules is missing so far. This is in analogy to the 'modifiable areal unit problem' (MAUP) in statistical geography, in the sense that the definitions applied can affect the result. In order to find evidence for unit definition with respect to mode choice, a choice set is generated on the basis of the Swiss Microcensus 2010 data, and multinomial logit-models are estimated for different aggregation levels. Results show that marginal substitution rates derived from coefficient estimates do not always show plausible values, which could be due to the known correlation between attributes in RP data. It can be concluded that regarding the trade-off between computation cost and prediction precision, the tour level might be appropriate level for mode choice. It has to be noted however, that meaningful definitions will be subject to change with a more multi-modal behaviour.

Keywords

Model estimation, choice sets

Preferred citation style

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1.0 Document Description

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2.0 Study Description

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Study Scope

Topic
Classification: model estimation and choice sets

Abstract:

The quality of mode choice prediction is essential on the way to a resource-efficient transport system. Commonly, mode choice is modelled on the trip or tour level, but a systematic evaluation of the definition of appropriate analytical units and aggregation rules is missing so far. This is in analogy to the 'modifiable areal unit problem' (MAUP) in statistical geography, in the sense that the definitions applied can affect the result. In order to find evidence for unit definition with respect to mode choice, a choice set is generated on the basis of the Swiss Microcensus 2010 data, and multinomial logit-models are estimated for different aggregation levels. Results show that marginal substitution rates derived from coefficient estimates do not always show plausible values, which could be due to the known correlation between attributes in RP data. It can be concluded that regarding the trade-off between computation cost and prediction precision, the tour level might be appropriate level for mode choice. It has to be noted however, that meaningful definitions will be subject to change with a more multi-modal behaviour.

Country: Switzerland

3.0 File Description

File: choice_dat_full.NSDstat

- Number of cases: 664516
- No. of variables per record: 77
- Type of File: Nesstar 200801

4.0 Variable Description

- [Observation ID per level](#)
- [ID for household](#)
- [ID for person per household](#)
- [Reported mode group](#)
- [Choice of walk mode](#)
- [Choice of bike mode](#)
- [Choice of car mode](#)
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- [Availability of bike mode](#)
- [Availability of car mode](#)
- [Availability of PT mode](#)
- [Aggregation level of movement](#)
- [None of the mode groups chosen](#)
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- [Observation contains missing values](#)
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- [Observation is filtered due to application of downstream filter](#)
- [Summary of filters and no observations with PT connection only walked](#)
- [Walking travel time \[min\]](#)
- [Bike travel time \[min\]](#)
- [Walking travel distance \[km\]](#)
- [Bike travel distance \[km\]](#)
- [Slope, incline \[-\]](#)
- [Crowfly distance \[km\]](#)
- [Car total travel time \[min\]](#)
- [Car travel time \[min\]](#)
- [Car travel cost \[CHF\]](#)
- [Car travel distance \[km\]](#)
- [PT total travel time \[min\]](#)
- [PT travel time \[min\]](#)
- [PT access/egress time \[min\]](#)
- [PT transfers \[-\]](#)
- [PT transfer time \[min\]](#)
- [PT travel cost \[CHF\]](#)
- [PT interval \[min\]](#)
- [PT in-vehicle travel distance \[km\]](#)
- [PT connection with walking only](#)
- [PT pass full-fare discount](#)
- [PT pass half-fare discount](#)
- [PT pass route-specific](#)
- [Car as passenger](#)
- [Multiple persons in the car](#)
- [PT early arrival time \[min\]](#)
- [PT late arrival time \[min\]](#)
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- [Sex](#)
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- [Bike always available](#)

List of Variables:

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- [Car always available](#)
- [Car available by consultation](#)
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- [Positive incline in percent](#)
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- [Start time category, approximated PT load medium](#)
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- [Destination in extended agglomeration core](#)
- [Destination in outer agglomeration](#)
- [Destination in other spatial area type](#)

Variables

Variable: Observation ID per level

Location: *Range of Valid Data Values: 1 to 310193*

Width: 3 **Summary Statistics:**

Variable Format: numeric

Variable: ID for household

Location: *Range of Valid Data Values: 100002 to 520942*

Width: 6 **Summary Statistics:**

Variable Format: numeric

Variable: ID for person per household

Location:	Value	Label	Frequency
Width: 1	1 .		570677
	2 .		93839

Range of Valid Data Values: 1 to 2

Summary Statistics:

Variable Format: numeric

Variable: Reported mode group

Location:	Value	Label	Frequency
Width: 1	1 .	walking	215712
	2 .	bike	39561
	3 .	car	306831
	4 .	pt	95418
	5 .		6929
	-99 .		65

Range of Valid Data Values: 1 to 5

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Choice of walk mode

Location:	Value	Label	Frequency
Width: 1	0 .	not chosen	448804
	1 .	chosen	215712

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Choice of bike mode

Location:	Value	Label	Frequency
Width: 1	0 .	not chosen	624955
	1 .	chosen	39561

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Choice of car mode

Location:	Value	Label	Frequency
Width: 1	0 .	not chosen	367634
	1 .	chosen	296882

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Choice of PT mode

Location:	Value	Label	Frequency
Width: 1	0 .	not chosen	569098
	1 .	chosen	95418

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Availability of walk mode

Location:	Value	Label	Frequency
Width: 1	0 .	not available	0
	1 .	available	664516

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Availability of bike mode

Location:	Value	Label	Frequency
Width: 1	0 .	not available	157127
	1 .	available	507389

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Availability of car mode

Location:	Value	Label	Frequency
Width: 1	0 .	not available	217515
	1 .	available	447001

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Availability of PT mode

Location:	Value	Label	Frequency
Width: 3	0 .	not available	298773
	1 .	available	358697
	-99 .		7046

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Aggregation level of movement

Location:	Value	Label	Frequency
Width: 1	1 .	stage	282896
	2 .	trip	193719
	3 .	subtour	77929
	4 .	tour	70559
	5 .	dayplan	39413

Range of Valid Data Values: 1 to 5

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: None of the mode groups chosen

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	647573
	1 .	TRUE	16943

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Chosen mode not available

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	613667
	1 .	TRUE	49798
	-99 .		1051

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Observation contains missing values

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	551319
	1 .	TRUE	113197

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Observation is filtered due to initial or aggregated filter

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	619477
	1 .	TRUE	45039

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Observation is filtered due to application of downstream filter

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	411770
	1 .	TRUE	252746

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Summary of filters and no observations with PT connection only walked

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	175047
	1 .	TRUE	489469

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Walking travel time [min]

Location: *Range of Valid Data Values: 0.00200096963726659 to 9259.74916808581*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0.002

Maximum : 9259.749

Mean : 161.747

Standard deviation : 383.585

Variable Format: numeric

Variable: Bike travel time [min]

Location: *Range of Valid Data Values: 0.00066698987908886 to 3086.5830560286*

Width: 19 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0.000667

Maximum : 3086.583

Mean : 53.916

Standard deviation : 127.862

Variable Format: numeric

Variable: Walking travel distance [km]

Location: *Range of Valid Data Values: 0.000166747469772216 to 771.645764007151*

Width: 20

Range of Invalid Data Values: -99

Summary Statistics:

Minimum : 0.000167

Maximum : 771.646

Mean : 13.479

Standard deviation : 31.965

Variable Format: numeric

Variable: Bike travel distance [km]

Location: *Range of Valid Data Values: 0.000166747469772216 to 771.645764007151*

Width: 20

Range of Invalid Data Values: -99

Summary Statistics:

Minimum : 0.000167

Maximum : 771.646

Mean : 13.479

Standard deviation : 31.965

Variable Format: numeric

Variable: Slope, incline [-]

Location: *Range of Valid Data Values:* -1026.62321542346 to 1026.62321542346

Width: 19 *Range of Invalid Data Values:* -99

Summary Statistics:

Minimum : -1026.623

Maximum : 1026.623

Mean : 0.718

Standard deviation : 7.171

Variable Format: numeric

Variable: Crowfly distance [km]

Location: *Range of Valid Data Values: 0.000111164979848144 to 514.4305093381*

Width: 20 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0.000111

Maximum : 514.431

Mean : 8.986

Standard deviation : 21.31

Variable Format: numeric

Variable: Car total travel time [min]

Location: *Range of Valid Data Values: 0 to 1426.33176211675*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 1426.332

Mean : 19.267

Standard deviation : 34.173

Variable Format: numeric

Variable: Car travel time [min]

Location: *Range of Valid Data Values: 0 to 654*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 654

Mean : 17.537

Standard deviation : 27.874

Variable Format: numeric

Variable: Car travel cost [CHF]

Location: *Range of Valid Data Values: 0 to 119.44761288655*

Width: 18 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 119.448

Mean : 1.701

Standard deviation : 3.958

Variable Format: numeric

Variable: Car travel distance [km]

Location: *Range of Valid Data Values: 0 to 918.827791435*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 918.828

Mean : 13.088

Standard deviation : 30.442

Variable Format: numeric

Variable: PT total travel time [min]

Location: *Range of Valid Data Values: 0 to 7242.93151497582*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 7242.932

Mean : 50.009

Standard deviation : 81.009

Variable Format: numeric

Variable: PT travel time [min]

Location: *Range of Valid Data Values: 0 to 1705*

Width: 3 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 1705

Mean : 21.847

Standard deviation : 48.493

Variable Format: numeric

Variable: PT access/egress time [min]

Location: *Range of Valid Data Values: 0 to 7242.93151497582*

Width: 18 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 7242.932

Mean : 31.193

Standard deviation : 65.903

Variable Format: numeric

Variable: PT transfers [-]

Location: *Range of Valid Data Values: 0 to 25*

Width: 3 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 25

Mean : 0.559

Standard deviation : 1.291

Variable Format: numeric

Variable: PT transfer time [min]

Location: *Range of Valid Data Values: 0 to 2.99615522477053e+306*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 2.99616e+306

Mean : 3.55176e+303

Standard deviation : 1.03097e+305

Variable Format: numeric

Variable: PT travel cost [CHF]

Location: *Range of Valid Data Values: 0 to 184.886822292979*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 184.887

Mean : 3.706

Standard deviation : 8.161

Variable Format: numeric

Variable: PT interval [min]

Location: *Range of Valid Data Values: 10 to 120*

Width: 16 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 10

Maximum : 120

Mean : 24.067

Standard deviation : 18.702

Variable Format: numeric

Variable: PT in-vehicle travel distance [km]

Location: *Range of Valid Data Values: 0 to 928.939218149215*

Width: 17 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 928.939

Mean : 11.56

Standard deviation : 31.049

Variable Format: numeric

Variable: PT connection with walking only

Location:	Value	Label	Frequency
Width: 3	0 .	FALSE	358700
	1 .	TRUE	298770

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Minimum : 0

Maximum : 1

Variable Format: numeric

Variable: PT pass full-fare discount

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	593362
	1 .	TRUE	71154

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: PT pass half-fare discount

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	409901
	1 .	TRUE	254615

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: PT pass route-specific

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	494682
	1 .	TRUE	169834

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Car as passenger

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	590337
	1 .	TRUE	74179

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Multiple persons in the car

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	514373
	1 .	TRUE	150143

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: PT early arrival time [min]

Location: *Range of Valid Data Values: 0 to 1279*

Width: 3 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 1279

Mean : 30.148

Standard deviation : 40.343

Variable Format: numeric

Variable: PT late arrival time [min]

Location: *Range of Valid Data Values: 0 to 6718*

Width: 3 *Range of Invalid Data Values: -99*

Summary Statistics:

Minimum : 0

Maximum : 6718

Mean : 14.03

Standard deviation : 57.017

Variable Format: numeric

Variable: Unique ID from household and person IDs

Location: *Range of Valid Data Values: 1 to 62867*

Width: 2 *Range of Invalid Data Values: -99*

Summary Statistics:

Variable Format: numeric

Variable: Age

Location:	Value	Label	Frequency
Width: 2	6 .		5308
	7 .		5752
	8 .		6009
	9 .		6639
	10 .		7914
	11 .		6673
	12 .		7912
	13 .		8074
	14 .		9143
	15 .		9152
	16 .		9377
	17 .		9736
	18 .		9087
	19 .		8216
	20 .		7874
	21 .		7190
	22 .		6169
	23 .		5583
	24 .		5998
	25 .		5830
	26 .		6252
	27 .		6361
	28 .		7475
	29 .		7676
	30 .		8149
	31 .		7914
	32 .		8027
	33 .		8337
	34 .		8208
	35 .		9505
	36 .		8773
	37 .		9757

38 .	10520
39 .	11032
40 .	12283
41 .	9977
42 .	11470
43 .	12505
44 .	11629
45 .	13613
46 .	13340
47 .	12338
48 .	11109
49 .	12111
50 .	11628
51 .	10106
52 .	11086
53 .	10359
54 .	10315
55 .	11431
56 .	10355
57 .	9609
58 .	9922
59 .	10073
60 .	10034
61 .	8606
62 .	9968
63 .	9748
64 .	9592
65 .	9526
66 .	8879
67 .	9001
68 .	8194
69 .	7887
70 .	7379
71 .	5502

72 .	6319
73 .	6391
74 .	5795
75 .	6298
76 .	5524
77 .	5336
78 .	4999
79 .	4339
80 .	4321
81 .	3346
82 .	3301
83 .	2860
84 .	2183
85 .	2257
86 .	1668
87 .	1410
88 .	849
89 .	653
90 .	589
91 .	298
92 .	165
93 .	158
94 .	83
95 .	74
96 .	34
97 .	50
98 .	7
99 .	12

Range of Valid Data Values: 6 to 99

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Sex

Location:	Value	Label	Frequency
Width: 1	1 .		316879
	2 .		347637

Range of Valid Data Values: 1 to 2

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Able to walk distances >200 m

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	9046
	1 .	TRUE	655470

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Bike always available

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	195617
	1 .	TRUE	468899

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Bike available by consultation

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	626026
	1 .	TRUE	38490

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Car always available

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	293614
	1 .	TRUE	370902

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Car available by consultation

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	588417
	1 .	TRUE	76099

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Weekday

Location:	Value	Label	Frequency
Width: 1	1 .		113799
	2 .		115112
	3 .		106243
	4 .		97979
	5 .		90229
	6 .		76768
	7 .		64386

Range of Valid Data Values: 1 to 7

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Household income, in categories with upper limits of 2000 CHF

Location:	Value	Label	Frequency
Width: 3	1 .		13664
	2 .		84173
	3 .		128776
	4 .		114538
	5 .		84860
	6 .		54848
	7 .		28312
	8 .		19146
	9 .		29845
	-99 .		106354

Range of Valid Data Values: 1 to 9

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Positive incline in percent

Location: *Range of Valid Data Values: 0 to 1026.62321542346*

Width: 18 *Range of Invalid Data Values: -99*

Summary Statistics:

Variable Format: numeric

Variable: PT travel time for pure walk connections [min]

Location:	Value	Label	Frequency
Width: 1	0 .		664516

Range of Valid Data Values: 0 to 0

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: PT effective travel cost [CHF]

Location: *Range of Valid Data Values: 0 to 184.886822292979*

Width: 18 *Range of Invalid Data Values: -99*

Summary Statistics:

Variable Format: numeric

Variable: Start time category, approximated PT load low

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	578338
	1 .	TRUE	86121
	-99 .		57

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Start time category, approximated PT load medium

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	349559
	1 .	TRUE	314900
	-99 .		57

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Start time category, approximated PT load high

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	401021
	1 .	TRUE	263438
	-99 .		57

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Start time category, morning

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	430005
	1 .	TRUE	234454
	-99 .		57

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Start time category, noon

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	394022
	1 .	TRUE	270437
	-99 .		57

Range of Valid Data Values: 0 to 1

Range of Invalid Data Values: -99

Summary Statistics:

Variable Format: numeric

Variable: Start time category, evening

Location:	Value	Label	Frequency
Width: 1	-99 .		57
	0 .	FALSE	534219
	1 .	TRUE	130240

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Start time category, night

Location:	Value	Label	Frequency
Width: 1	-99 .		57
	0 .	FALSE	635131
	1 .	TRUE	29328

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Arrival time category, morning

Location:	Value	Label	Frequency
Width: 1	-99 .		17
	0 .	FALSE	517150
	1 .	TRUE	147349

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Arrival time category, noon

Location:	Value	Label	Frequency
Width: 1	-99 .		17
	0 .	FALSE	387494
	1 .	TRUE	277005

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Arrival time category, evening

Location:	Value	Label	Frequency
Width: 1	-99 .		17
	0 .	FALSE	480288
	1 .	TRUE	184211

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Arrival time category, night

Location:	Value	Label	Frequency
Width: 1	-99 .		17
	0 .	FALSE	608565
	1 .	TRUE	55934

Range of Valid Data Values: -99 to 1

Summary Statistics:

Variable Format: numeric

Variable: Start in agglomeration core

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	399184
	1 .	TRUE	265332

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Start in extended agglomeration core

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	570822
	1 .	TRUE	93694

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Start in outer agglomeration

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	482425
	1 .	TRUE	182091

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Start in other spatial area type

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	542401
	1 .	TRUE	122115

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Destination in agglomeration core

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	399121
	1 .	TRUE	265395

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Destination in extended agglomeration core

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	570812
	1 .	TRUE	93704

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Destination in outer agglomeration

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	482020
	1 .	TRUE	182496

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric

Variable: Destination in other spatial area type

Location:	Value	Label	Frequency
Width: 1	0 .	FALSE	542694
	1 .	TRUE	121822

Range of Valid Data Values: 0 to 1

Summary Statistics:

Variable Format: numeric