



Daily mobility and the regions in Belgium

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How strong are the regional differences?

We focus here on

- mobility of **individuals** (as opposed to freight)
- **daily** mobility patterns and indicators
- items of “interest” or with significant regional component

Purpose: obtain a first appraisal on what, if anything, makes people behave differently in the 3 regions
(everything based on the **MOBEL 1999** survey)

Outline

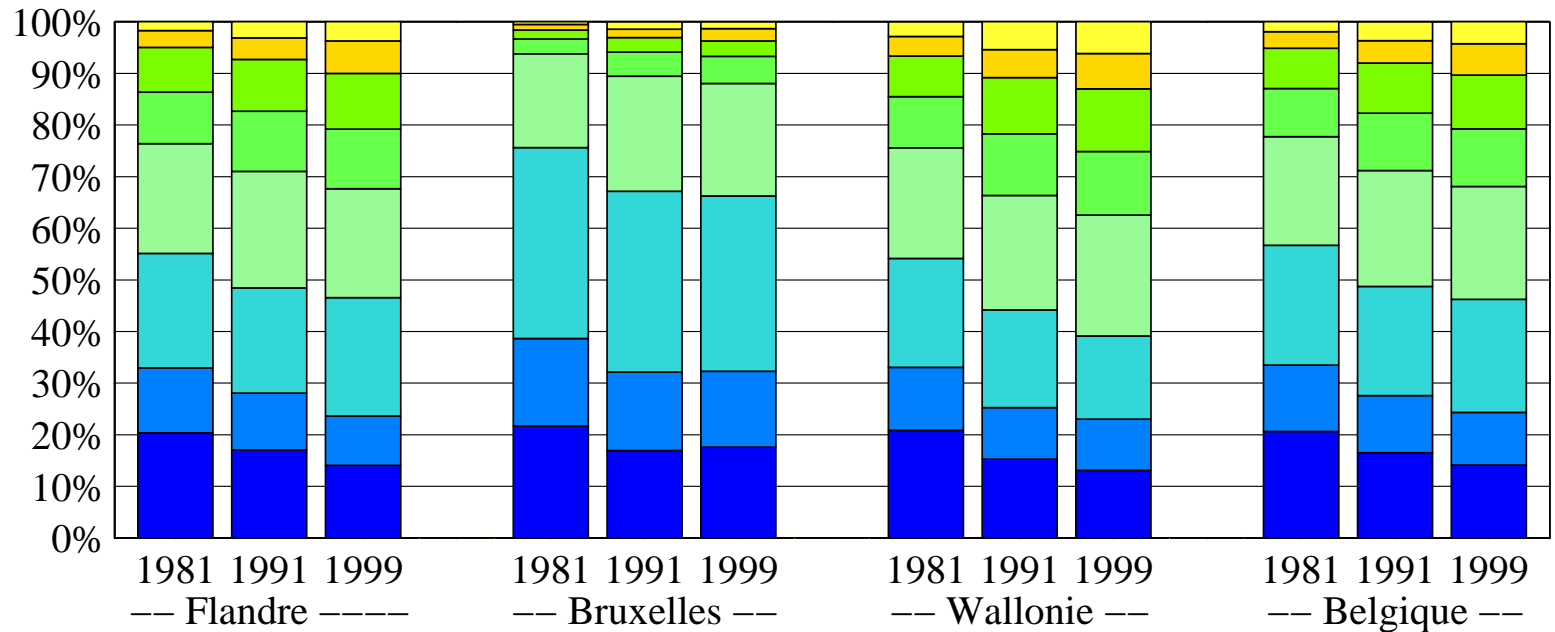
→ Introduction

- The households
- Socio-spatial aspects
- Temporality
- Trip purpose
- Modal choice
- Conclusions

Distance to work

Outline

- Introduction
- *The households*
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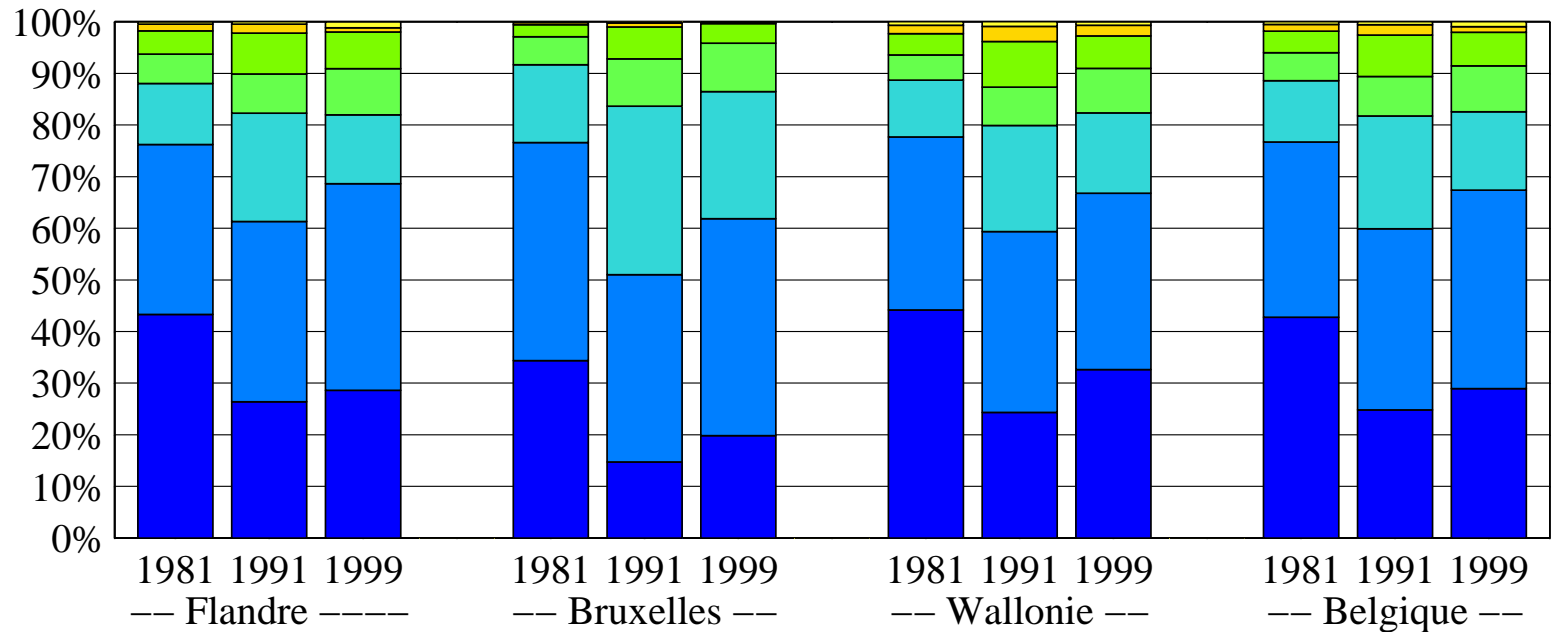


Evolution of the distance to work

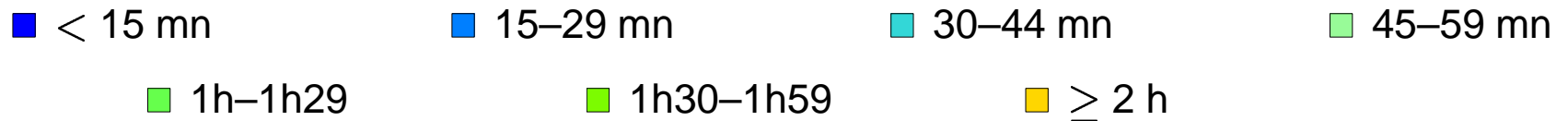
between 1981 and 1999 (census source: INS)



Trip to work duration



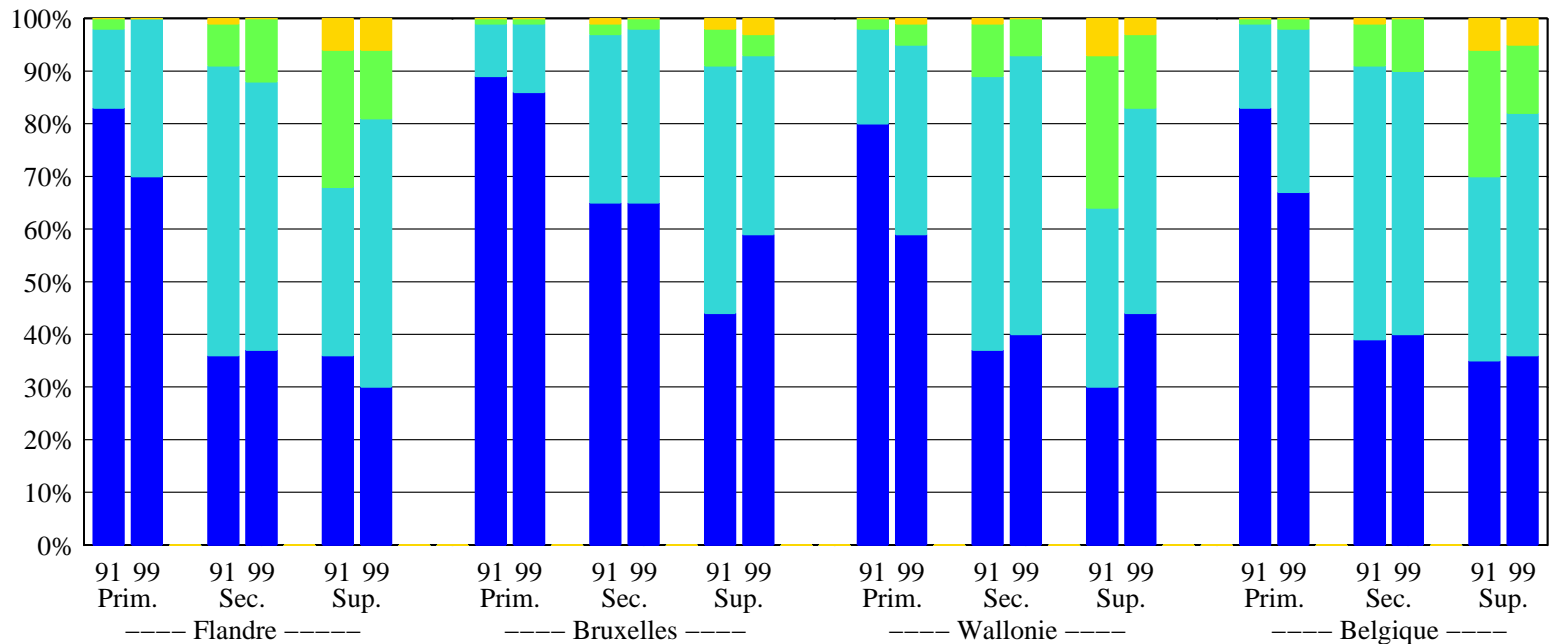
Evolution of the duration of the trip
to work between 1981 and 1999 (census source: INS)



ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Distance to school

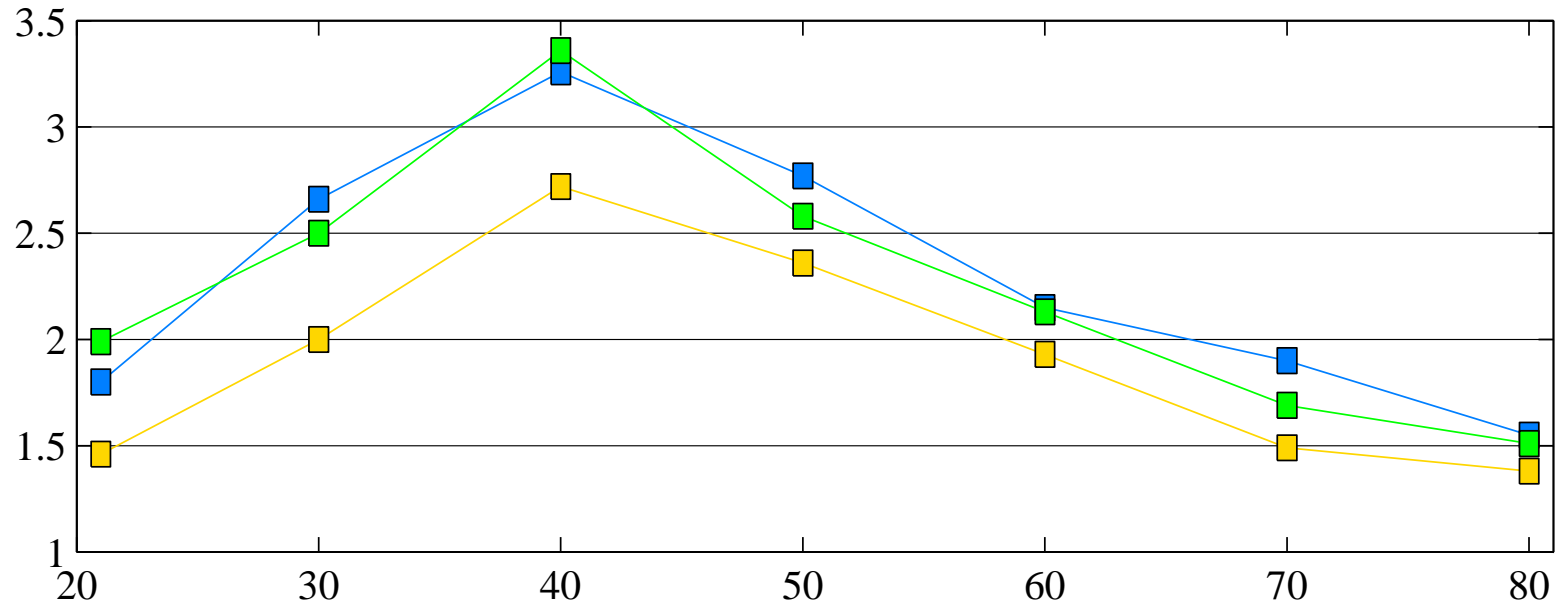


Evolution of the distance to school between 1991 and 1999



ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Age and size of households



Size of households according to age of household head

■ Flanders

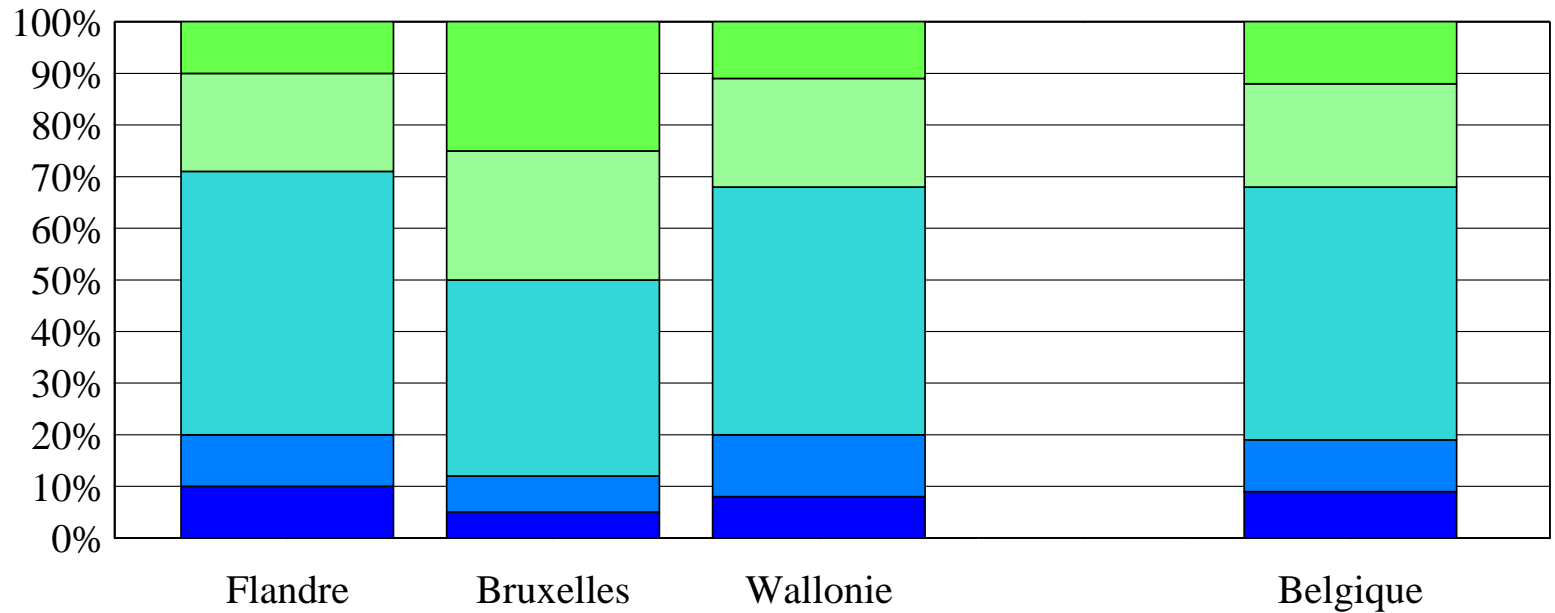
■ Brussels

■ Wallonia

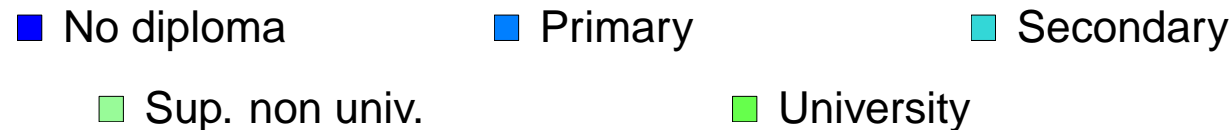
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Level of formal education



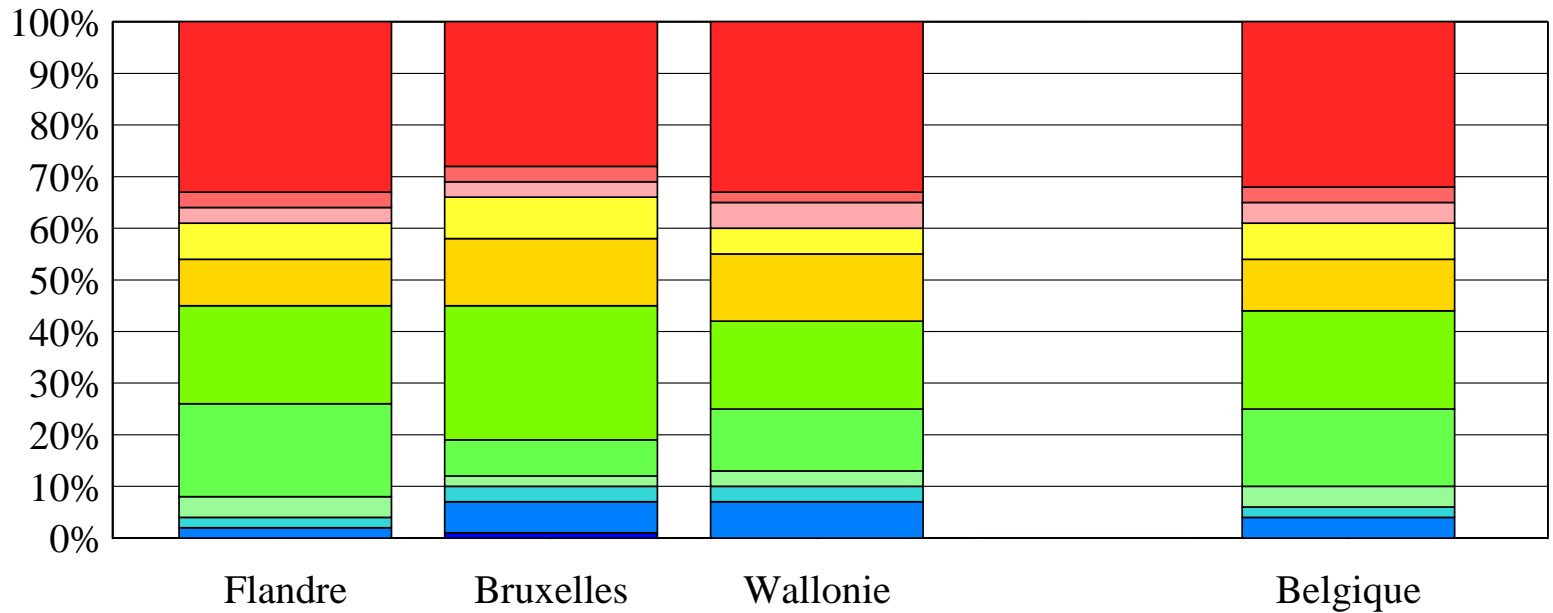
Distribution of highest school degree for household heads



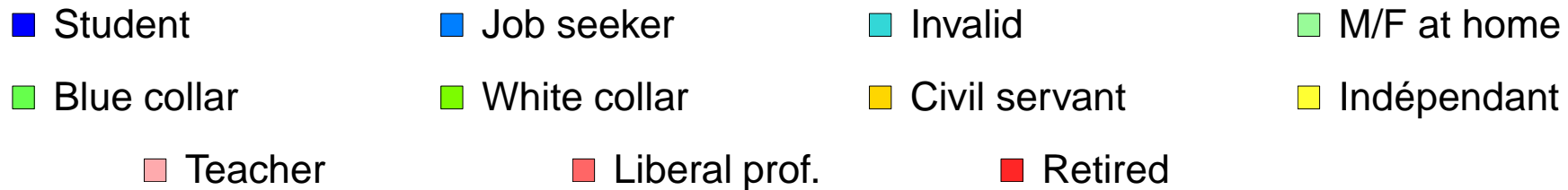
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Professional status



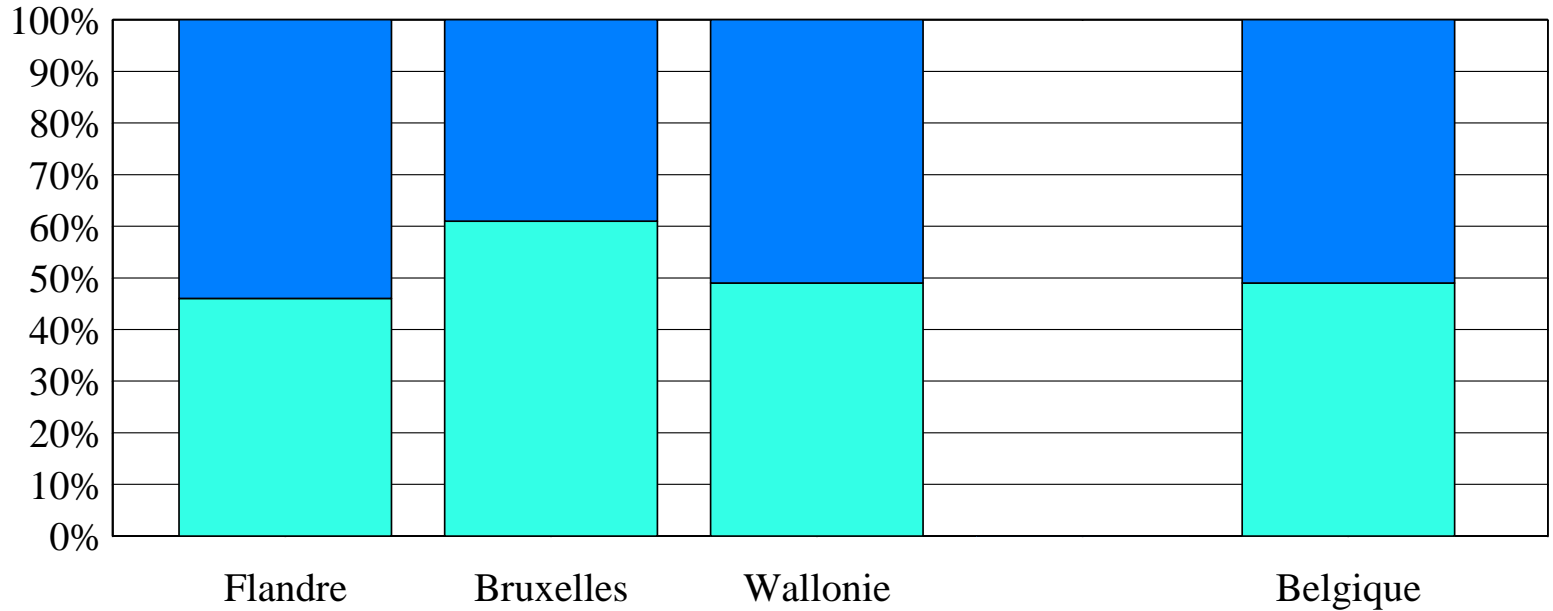
Professional status of household heads



ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Number of incomes



Distribution of households with single or multiple incomes

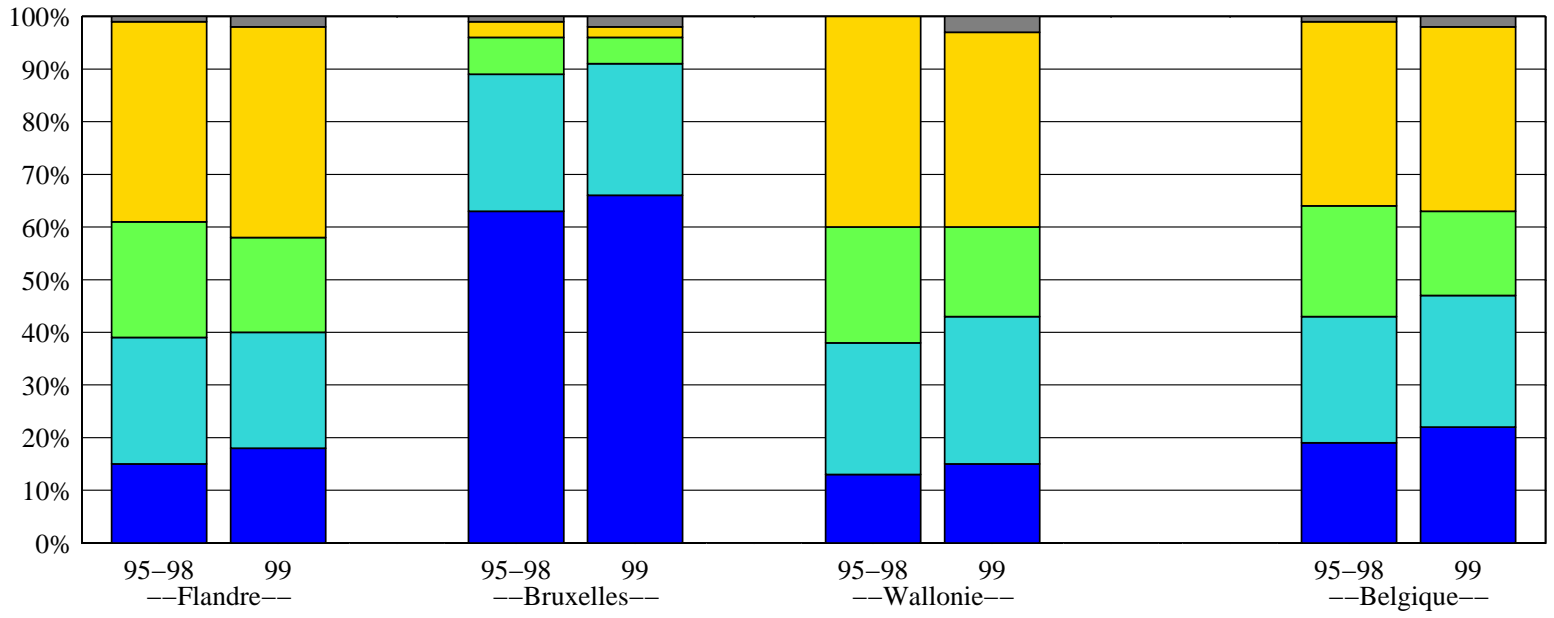
■ One income ■ More than one

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Housing type

- Outline**
- Introduction
 - *The households*
 - Socio-spatial aspects
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 - Conclusions



Evolution of housing type between 1995-1998 and 1999
(source for 1995-1998: INS)

- Apartment
- Terrace
- Semi-detached
- Detached
- Other

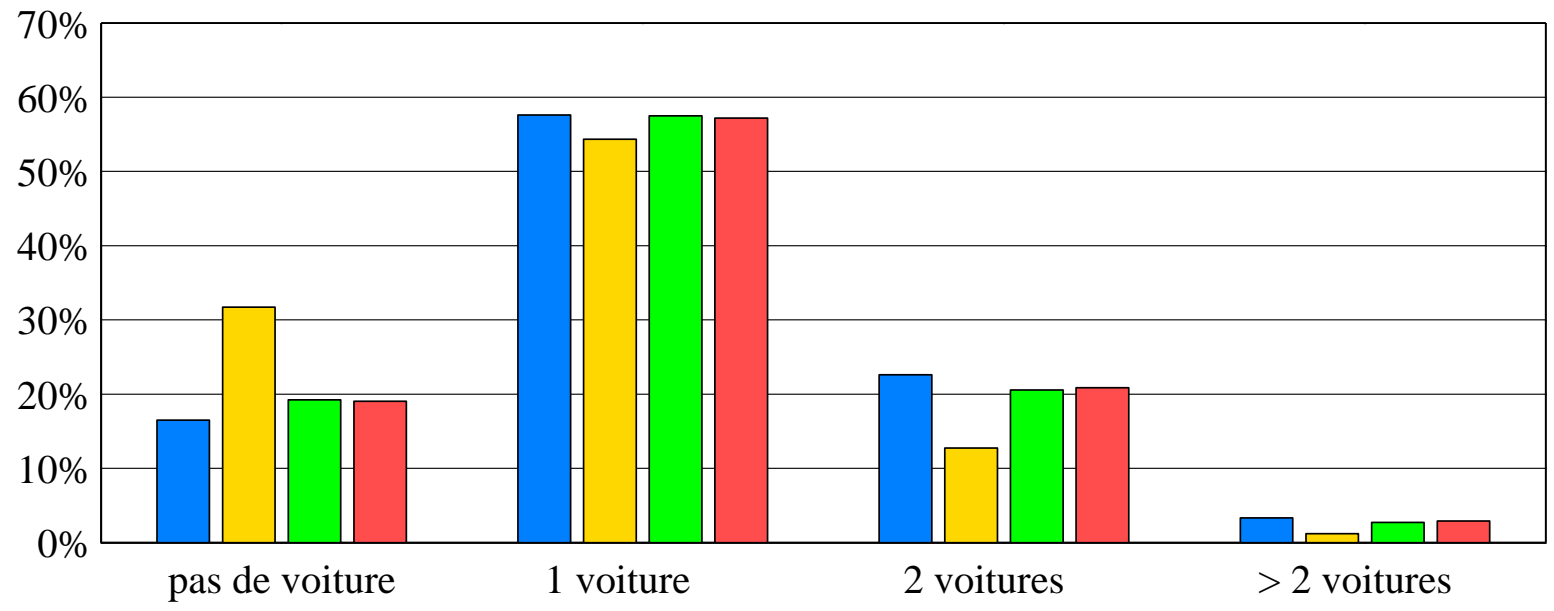
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 10



Motorisation

Outline

- Introduction
- *The households*
- Socio-spatial aspects
- Temporality
- Trip purpose
- Modal choice
- Conclusions



Proportion of the Belgian households according to their number of cars

■ Flanders ■ Brussels ■ Wallonia ■ Belgium

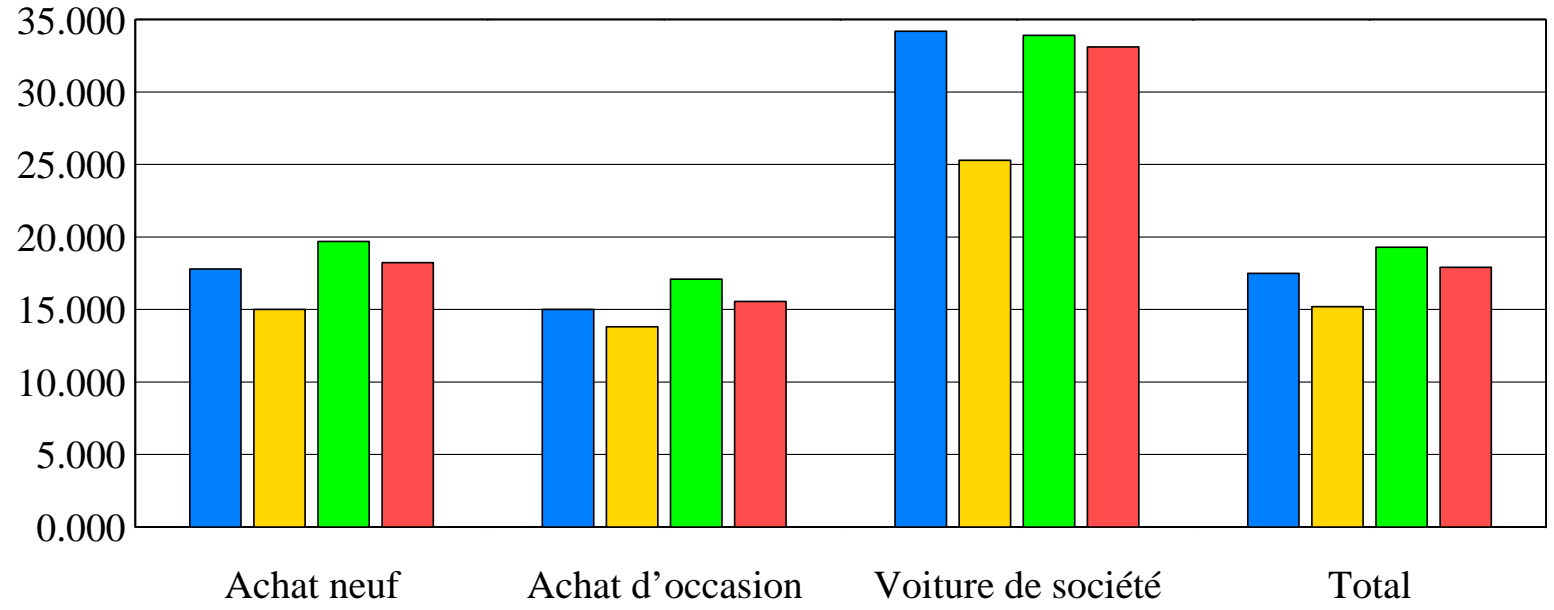
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 11



What cars are used most?

Outline

- Introduction
- *The households*
- Socio-spatial aspects
- Temporality
- Trip purpose
- Modal choice
- Conclusions



Average yearly kilometrage according to car acquisition mode

■ Flanders ■ Brussels ■ Wallonia ■ Belgium

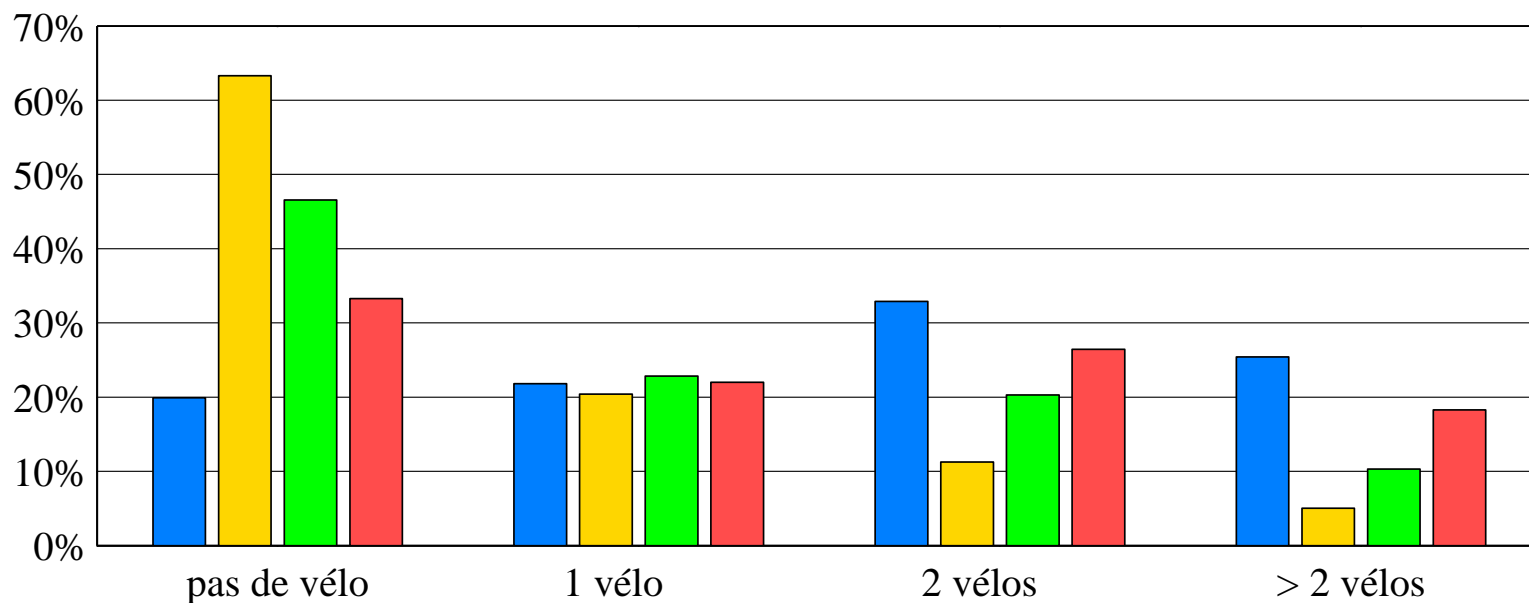
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 12



Cycle ownership

Outline

- Introduction
- *The households*
- Socio-spatial aspects
- Temporality
- Trip purpose
- Modal choice
- Conclusions



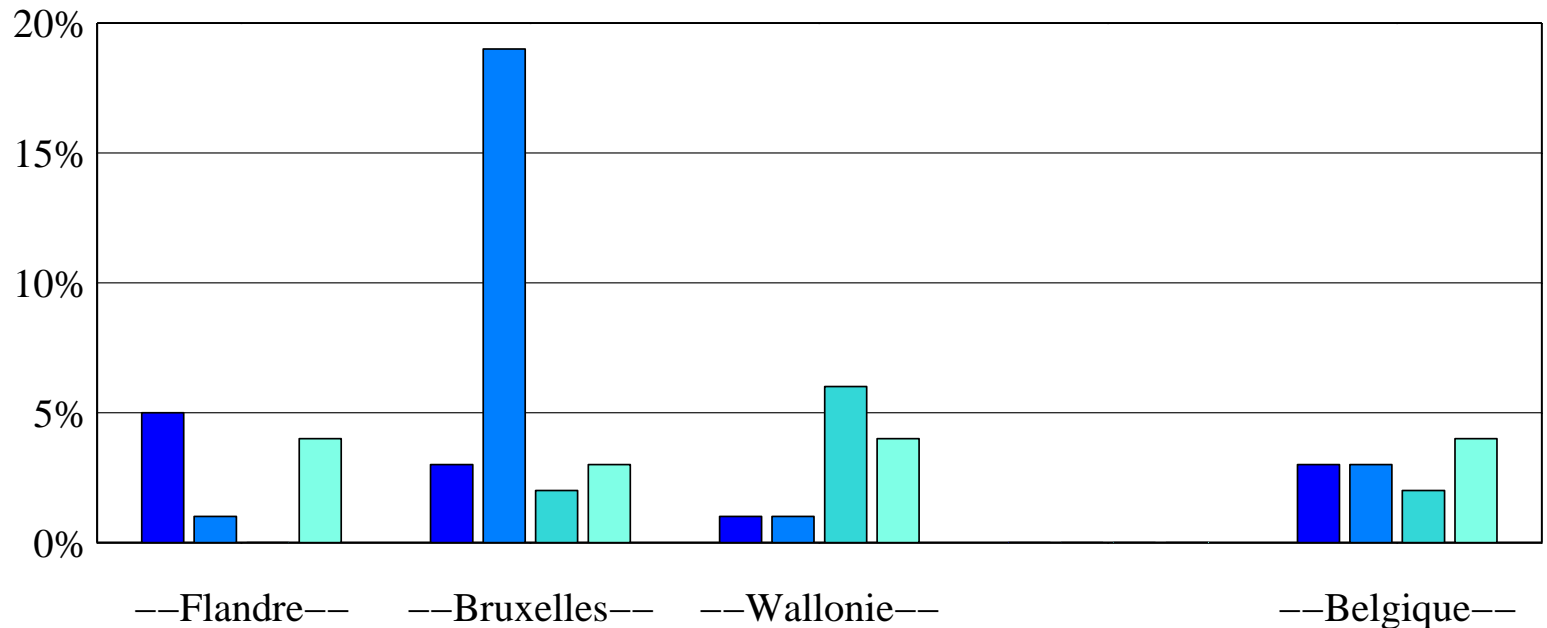
Distribution of the number of cycles per household

■ Flanders ■ Brussels ■ Wallonia ■ Belgium

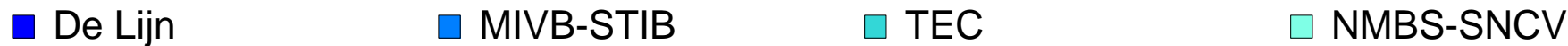
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 13



Public transport season tickets



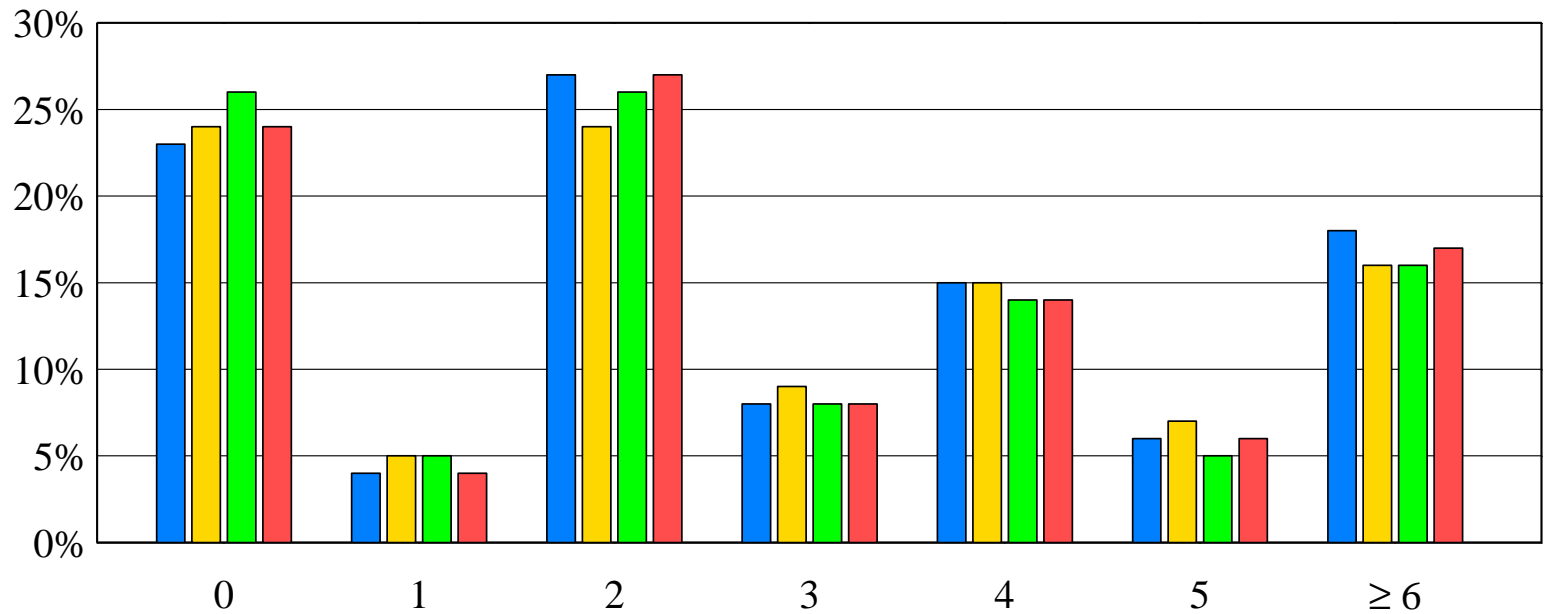
Ownership of season tickets for public transport operators per household



ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 14



Basic mobility (1)



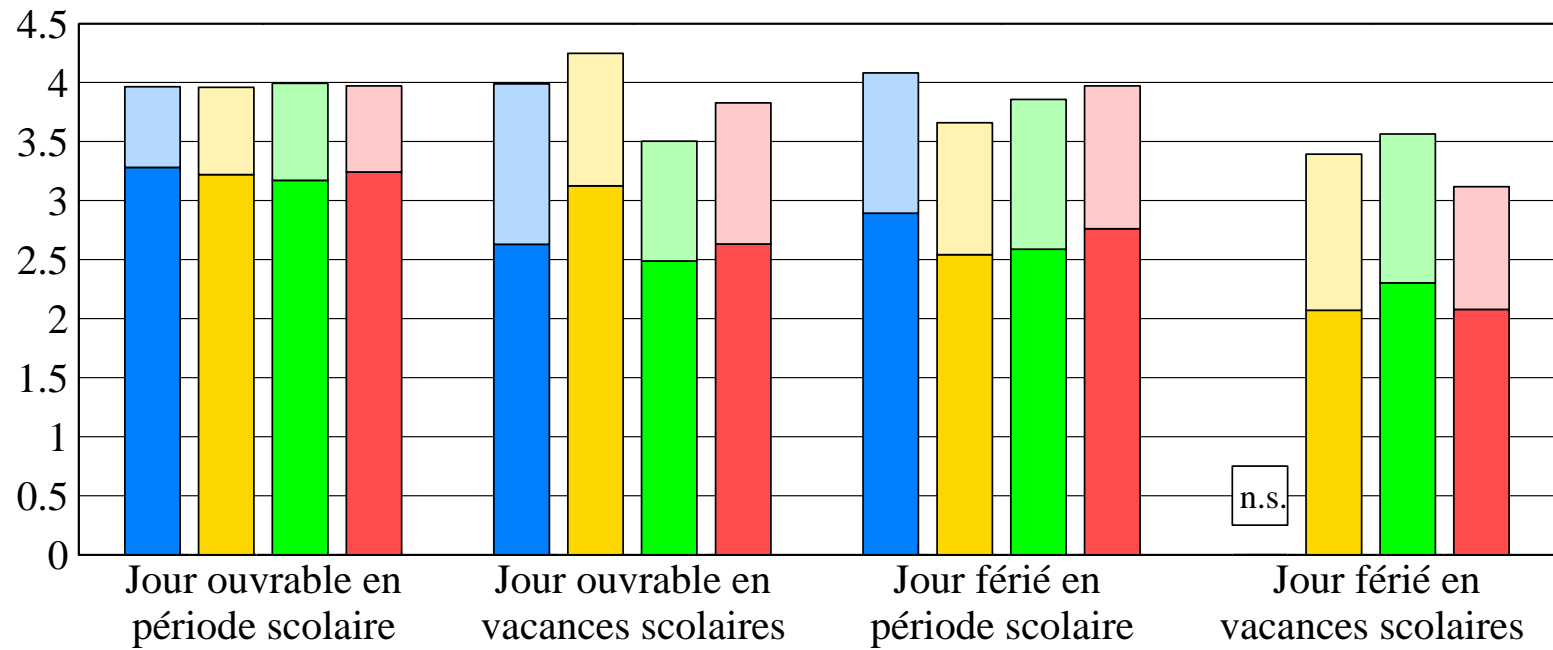
Proportion of individuals according to their average number of trips per day

■ Flanders ■ Brussels ■ Wallonia ■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 15

Basic mobility (2)

- Outline**
- Introduction
 - The households
 - *Socio-spatial aspects*
 - Temporality
 - Trip purpose
 - Modal choice
 - Conclusions

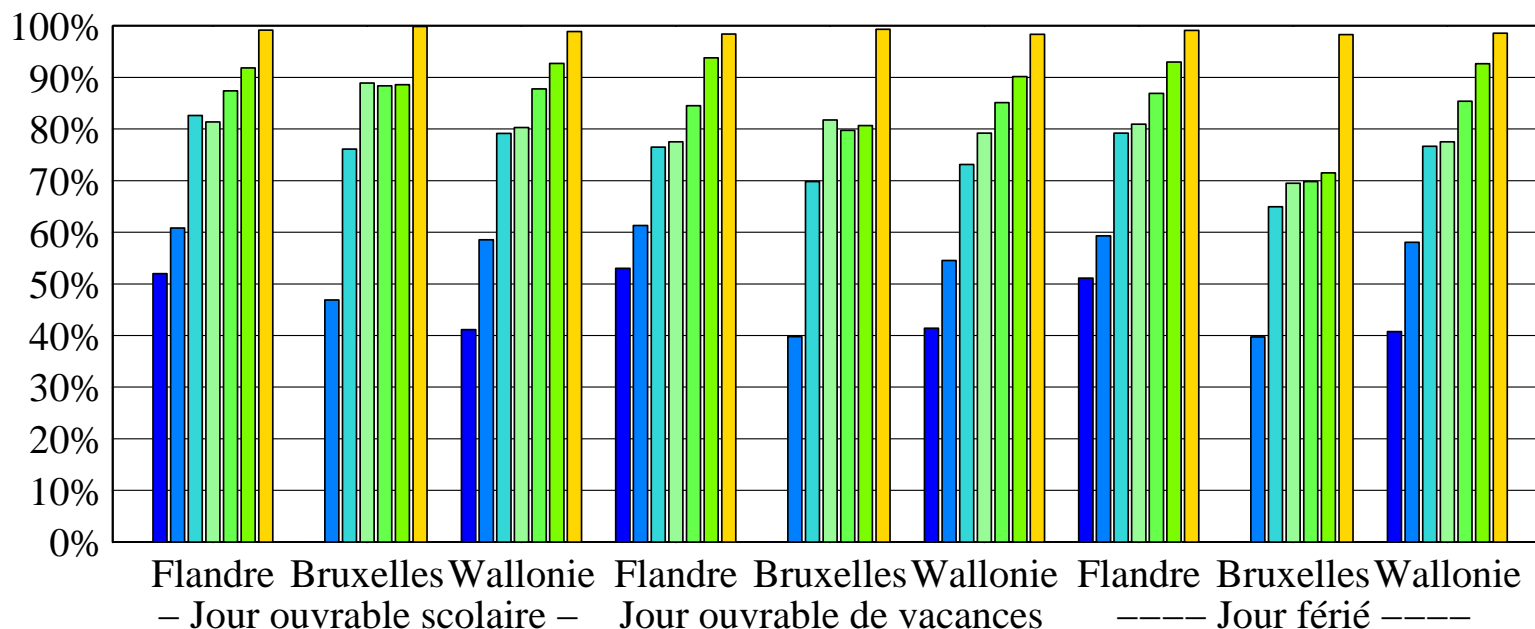


Average number of trips per person and day type
(dark: excluding immobiles)

■ Flanders ■ Brussels ■ Wallonia ■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 16

Locality of the daily trips



Proportion of trips leaving territorial units of increasing size

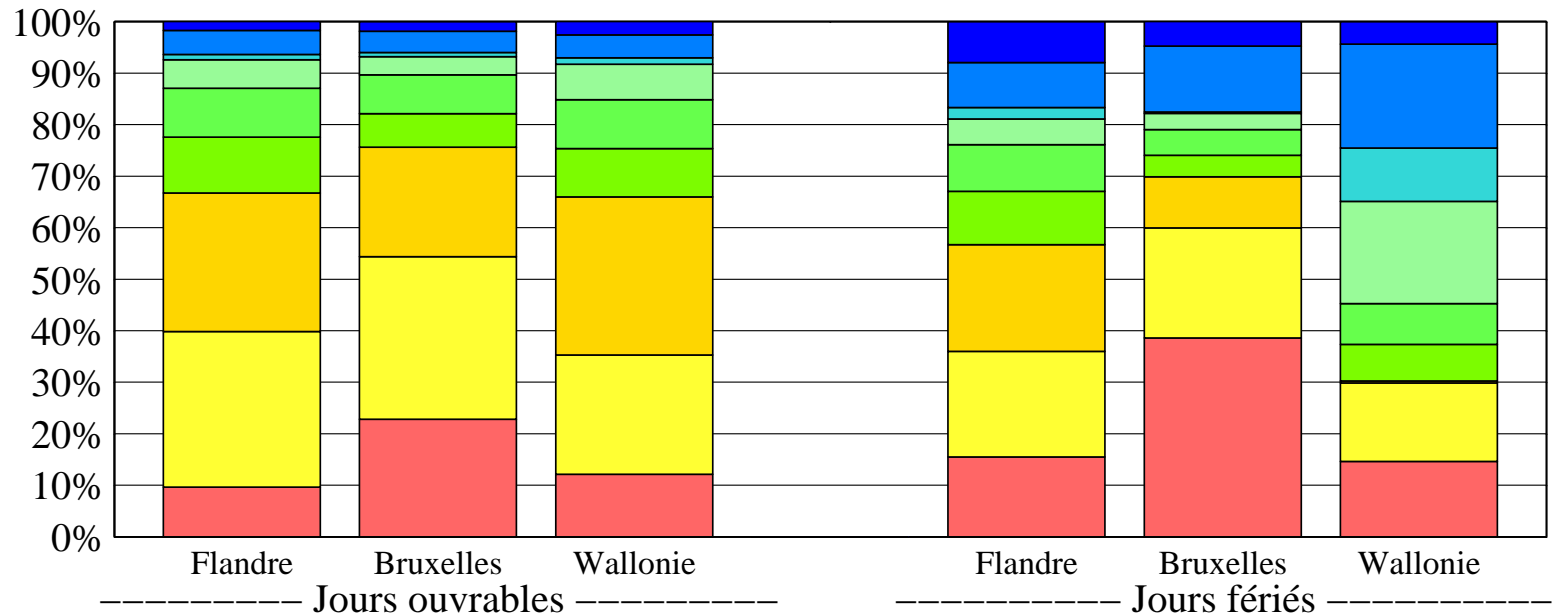


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 17

Travelling together?

Outline

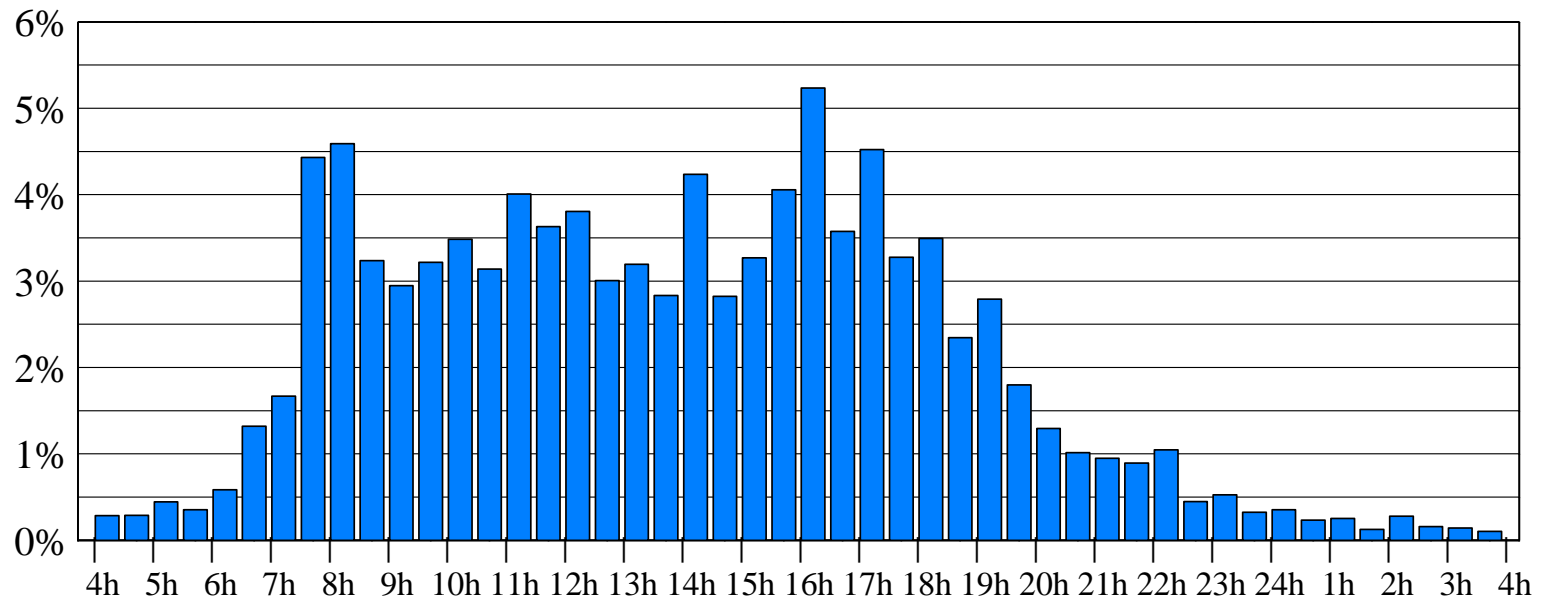
- Introduction
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Distribution of household trips according to membership and day type

- 2 parents + others
- 2 couple members
- 2 parents
- 1 parent + others
- 1 child
- 1 adult
- 1 parent
- 1 couple member
- 1 isolated

Mobility in the day (Flanders)

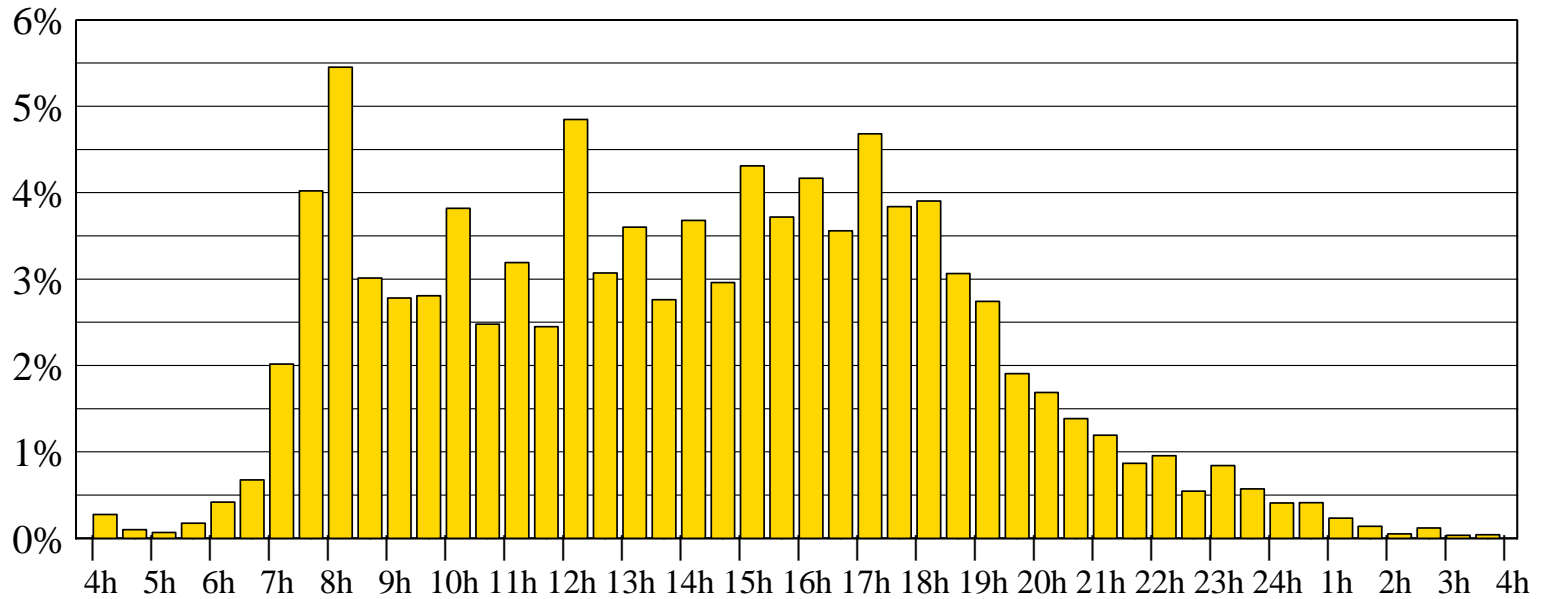


Distribution of trip departure times per hour on an average day in Flanders

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



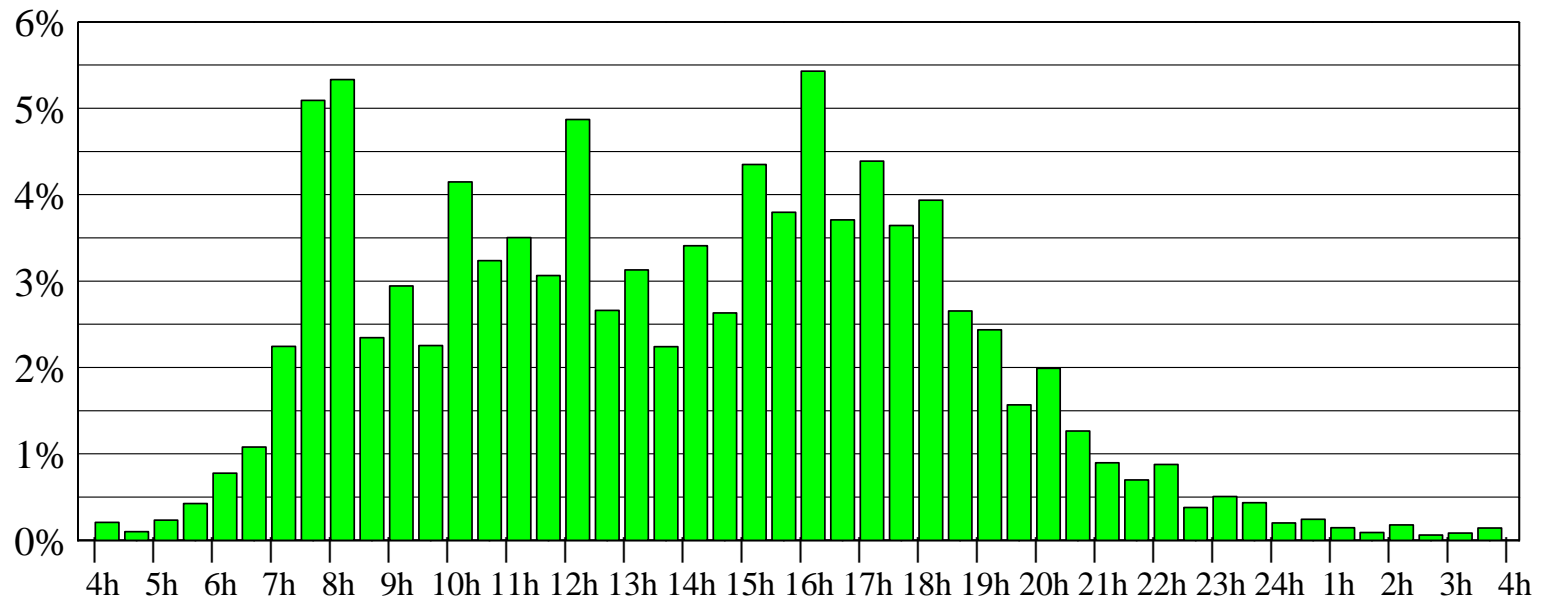
Mobility in the day (Brussels)



Distribution of trip departure times per hour
on an average day in Brussels

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Mobility in the day (Wallonia)



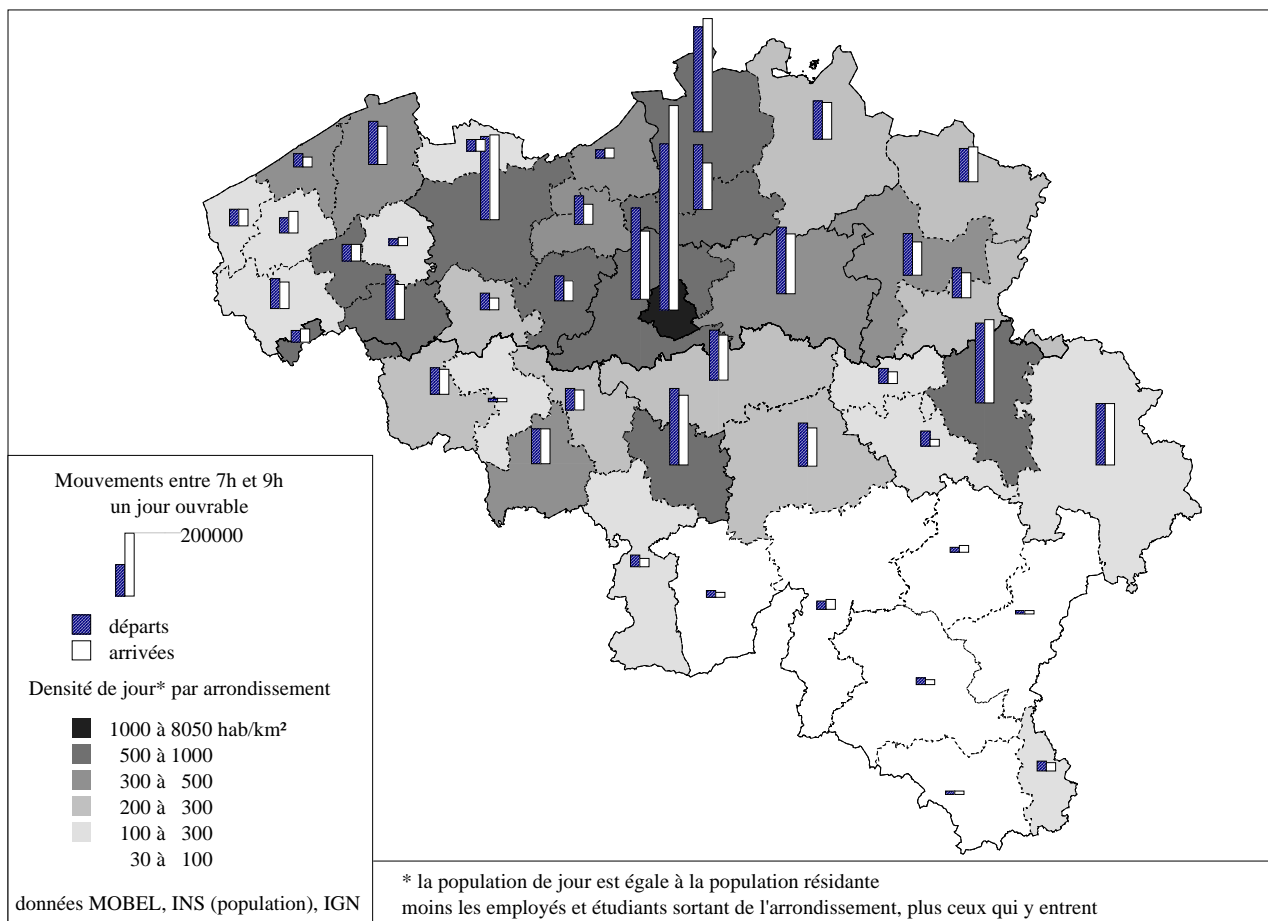
Distribution of trip departure times per hour
on an average day in Wallonia

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 21

Departures and arrivals during the morning peak

Outline

- Introduction
- The households
- Socio-spatial aspects
- **Temporality**
- Trip purpose
- Modal choice
- Conclusions



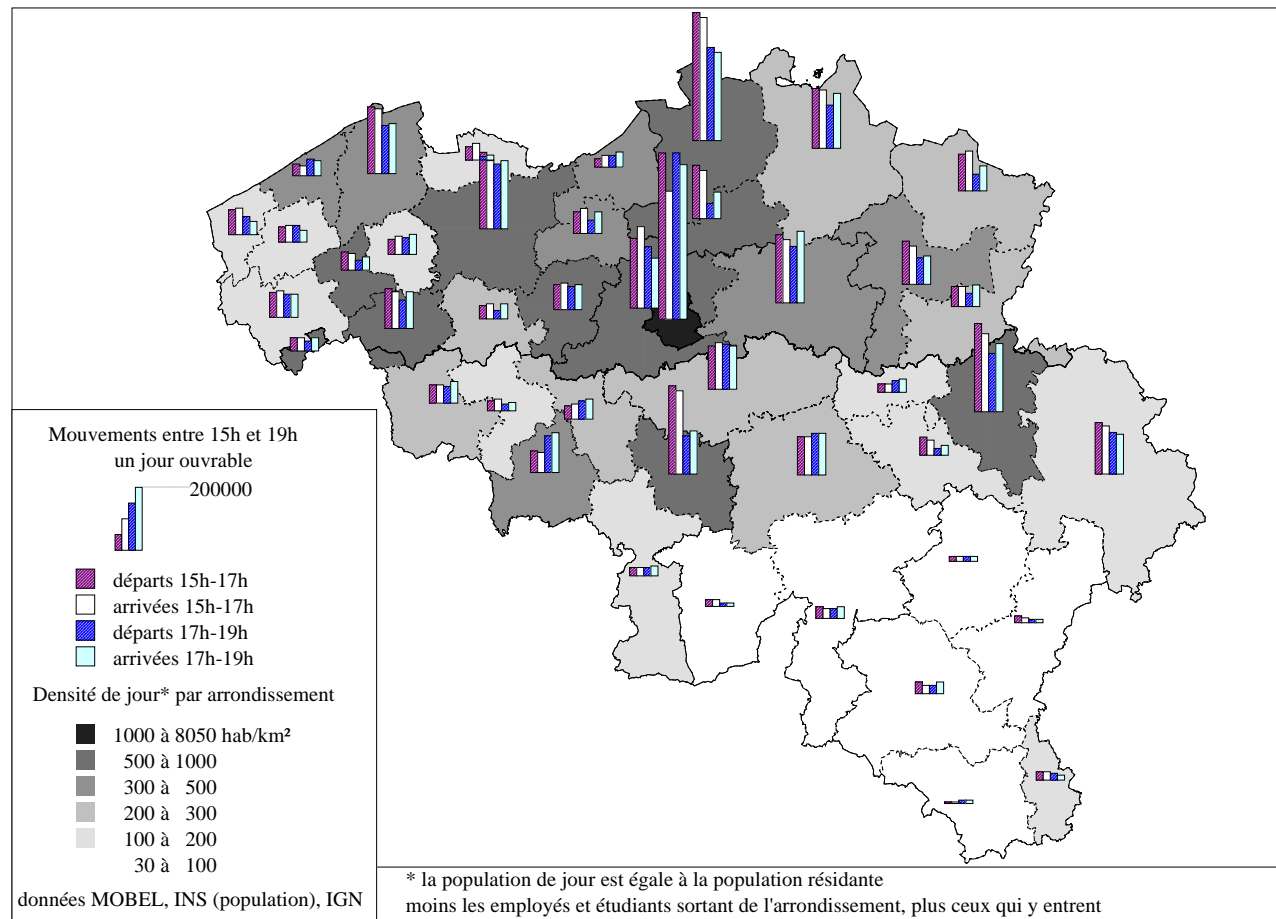
Distribution of the numbers of departures and arrivals per district during the morning peak

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 22

Departures and arrivals during the evening peak

Outline

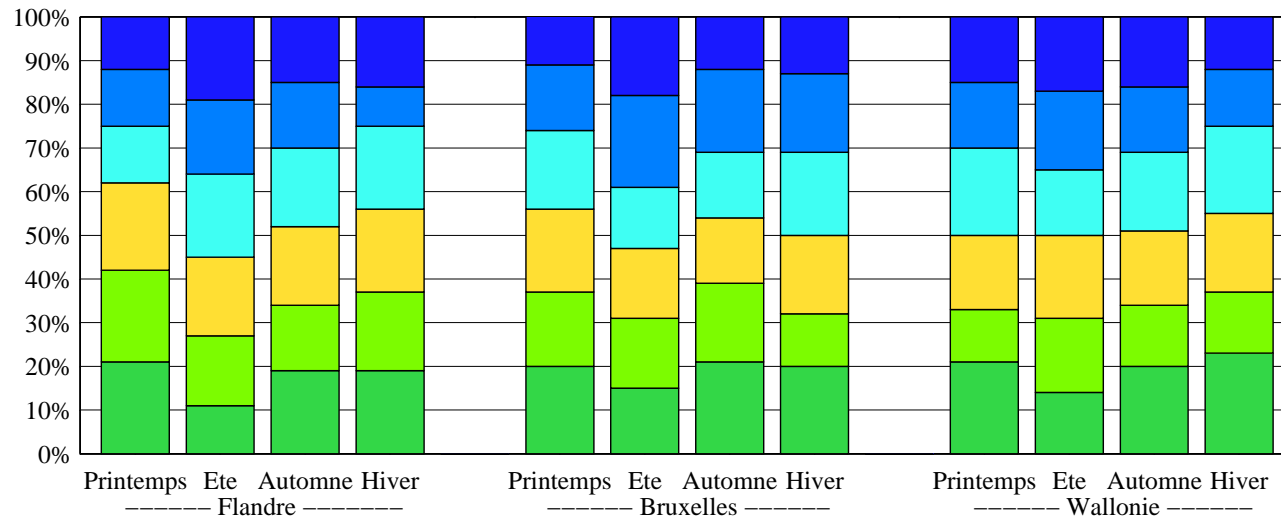
- Introduction
- The households
- Socio-spatial aspects
- **Temporality**
- Trip purpose
- Modal choice
- Conclusions



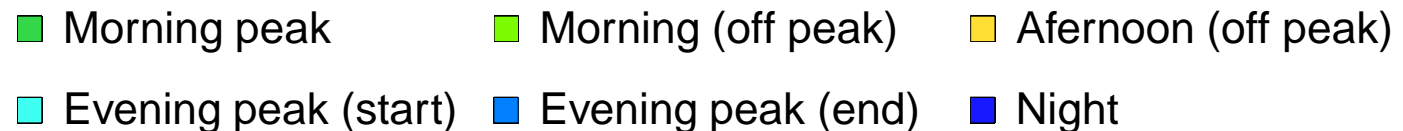
Distribution of the numbers of departures and arrivals per district during the evening peak

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 23

Travel times and seasons



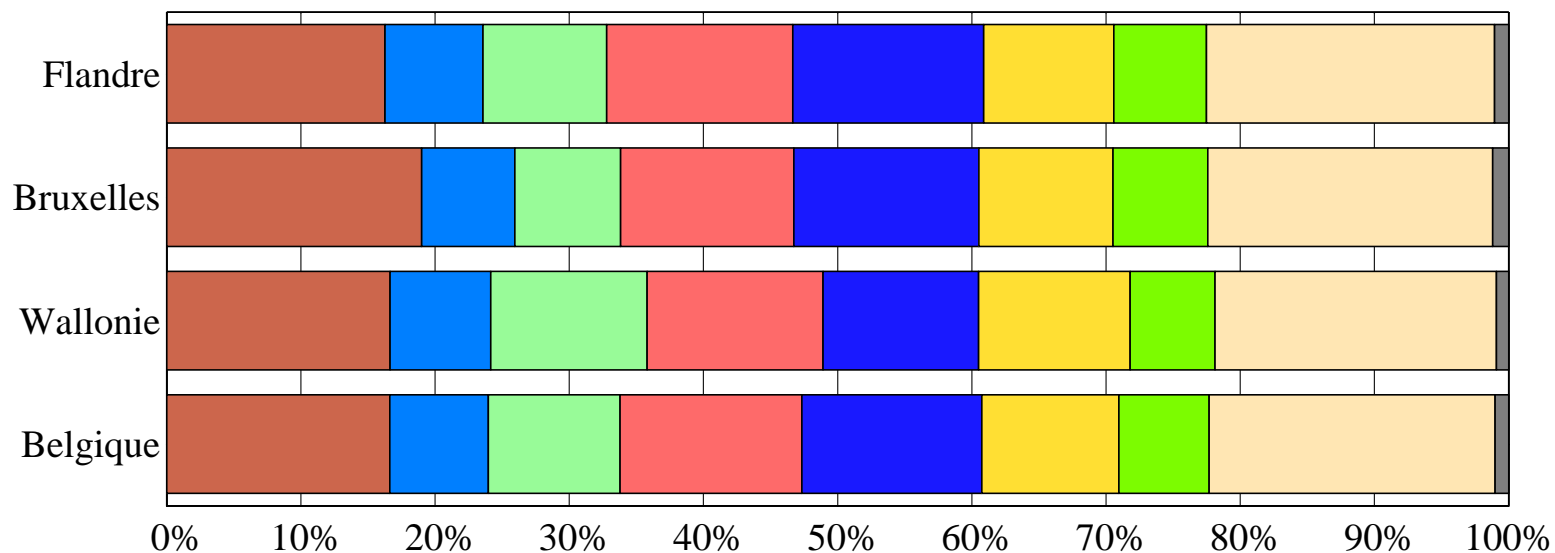
Distribution of time spent in different periods of the day according to the seasons evening peak



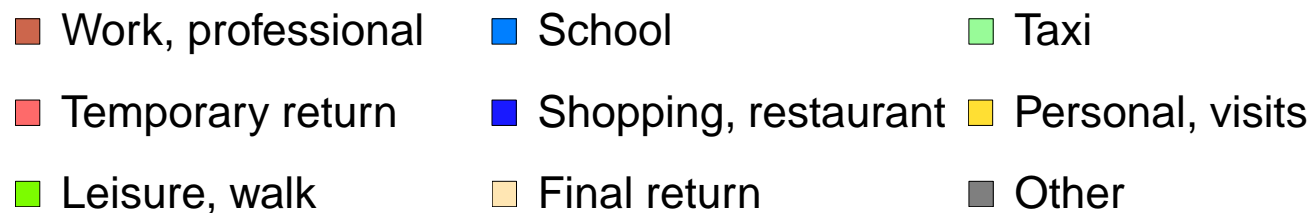
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Trip purposes (1)



Distribution of the number of trips according to purpose (working school day)

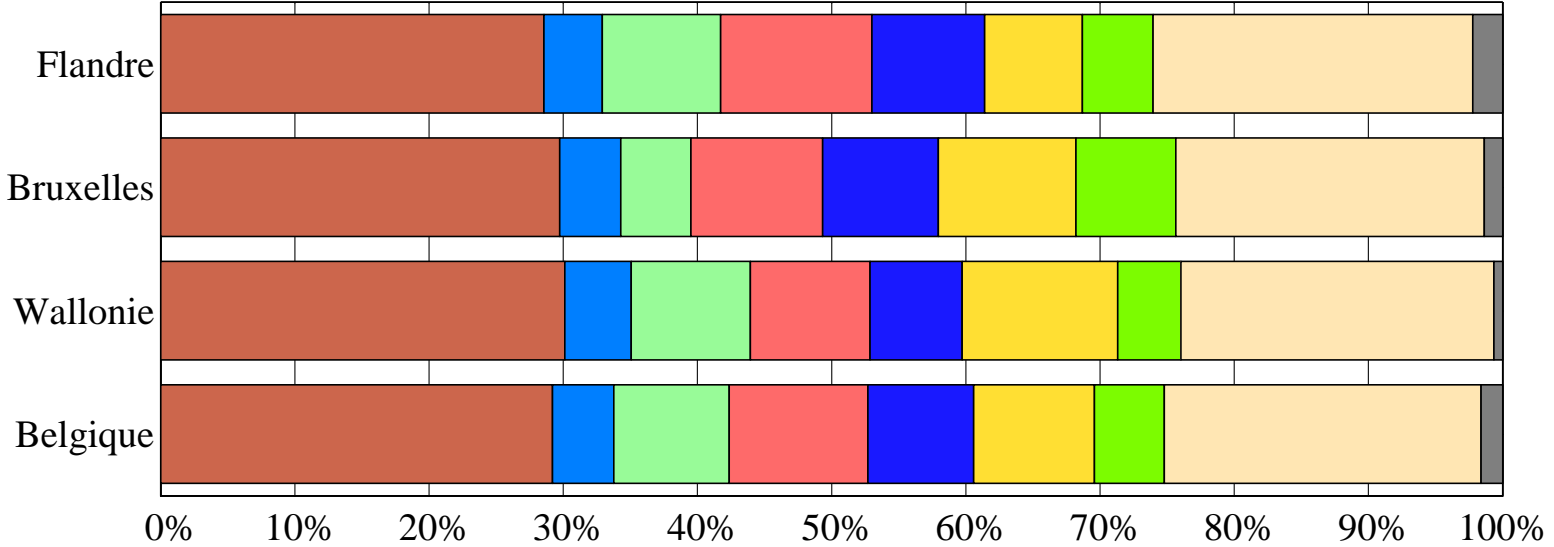


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Trip purposes (2)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - *Trip purpose*
 - Modal choice
 - Conclusions

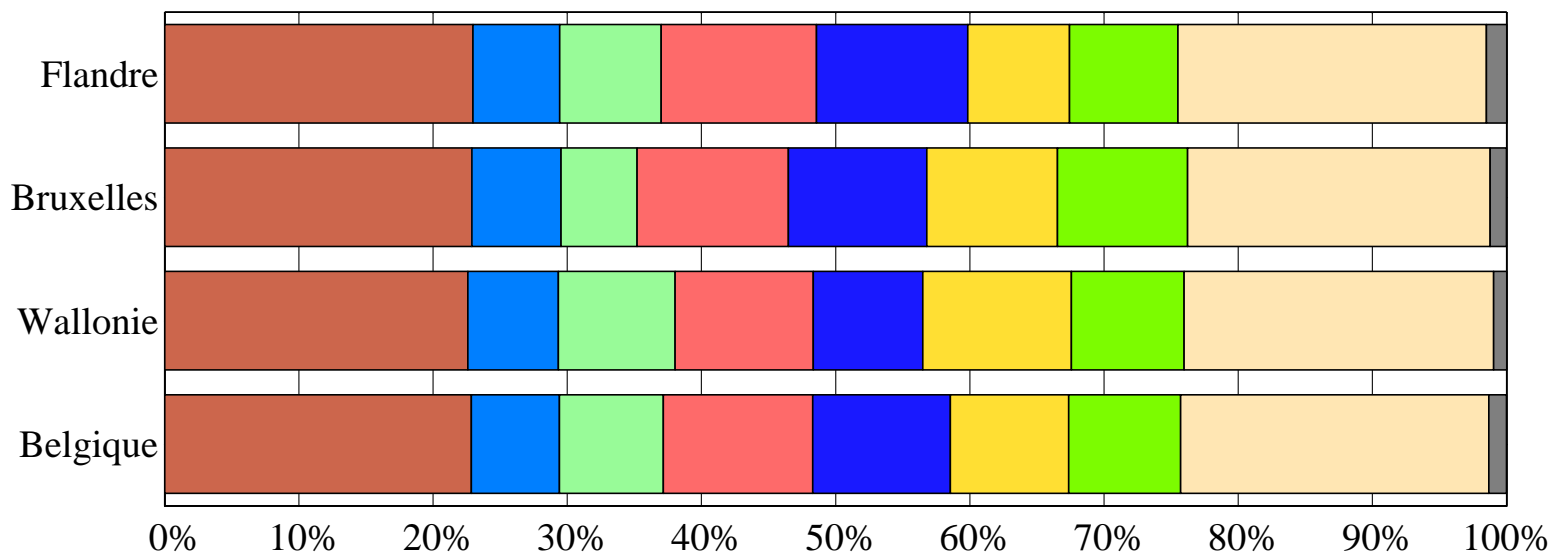


Distribution of trip distance according to purpose (working school day)

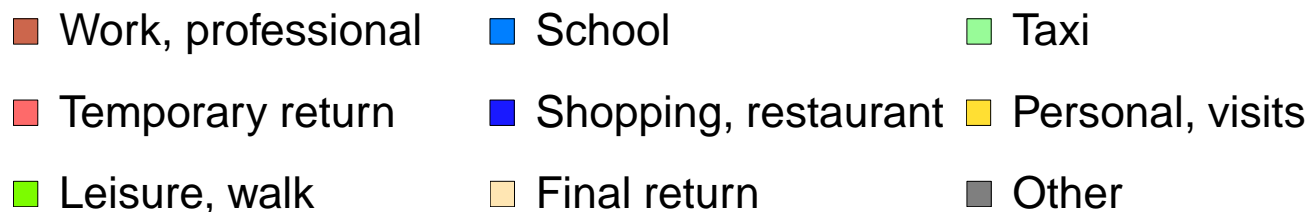
- Work, professional
- School
- Taxi
- Temporary return
- Shopping, restaurant
- Personal, visits
- Leisure, walk
- Final return
- Other



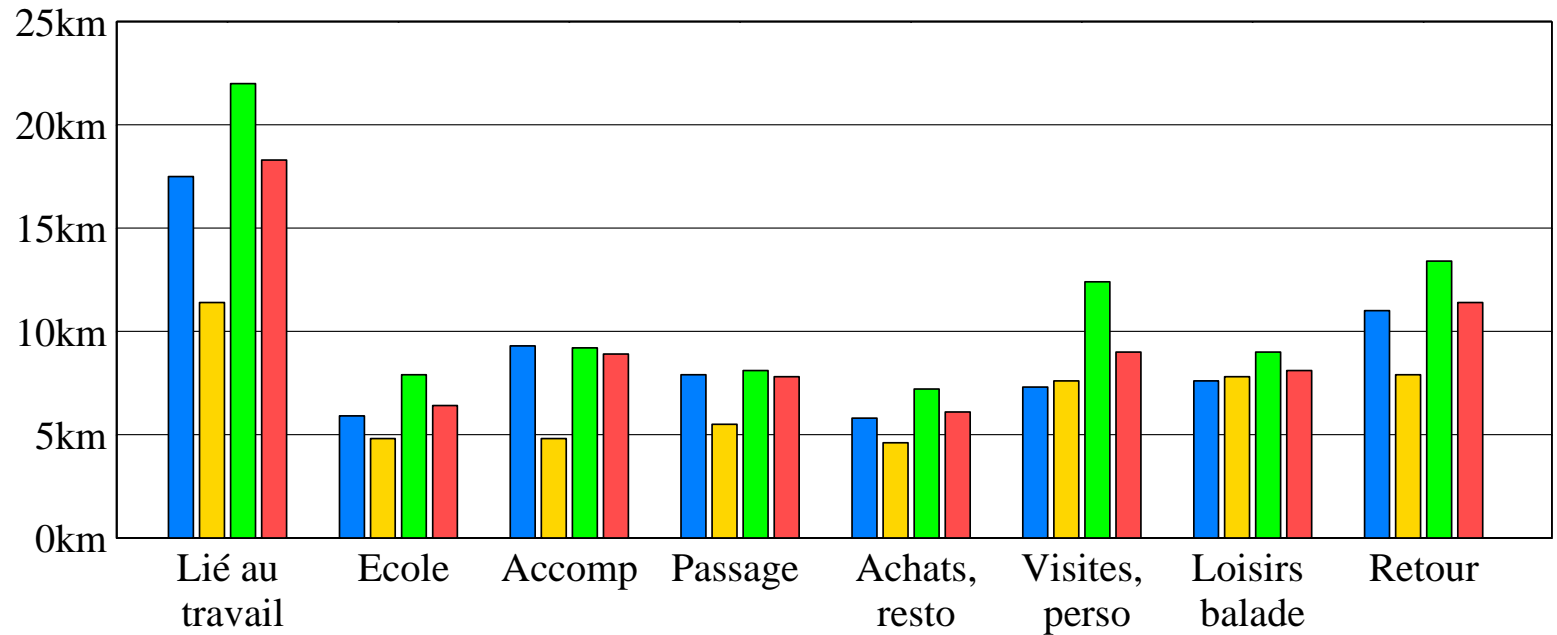
Trip purposes (3)



Distribution of trip duration according to purpose (working school day)



Trip purposes (4)



Average trip distance according to purpose
(working school day)

■ Flanders

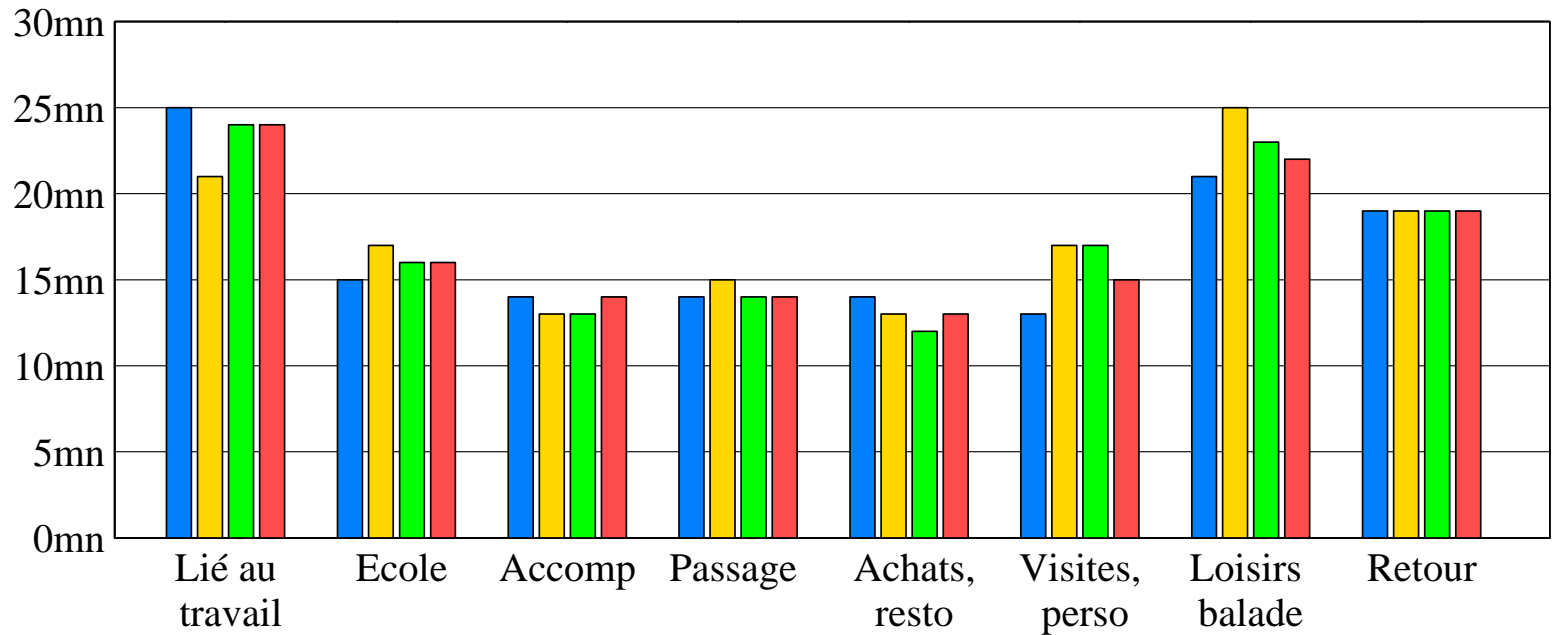
■ Brussels

■ Wallonia

■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Trip purposes (5)



Average trip duration according to purpose
(working school day)

■ Flanders

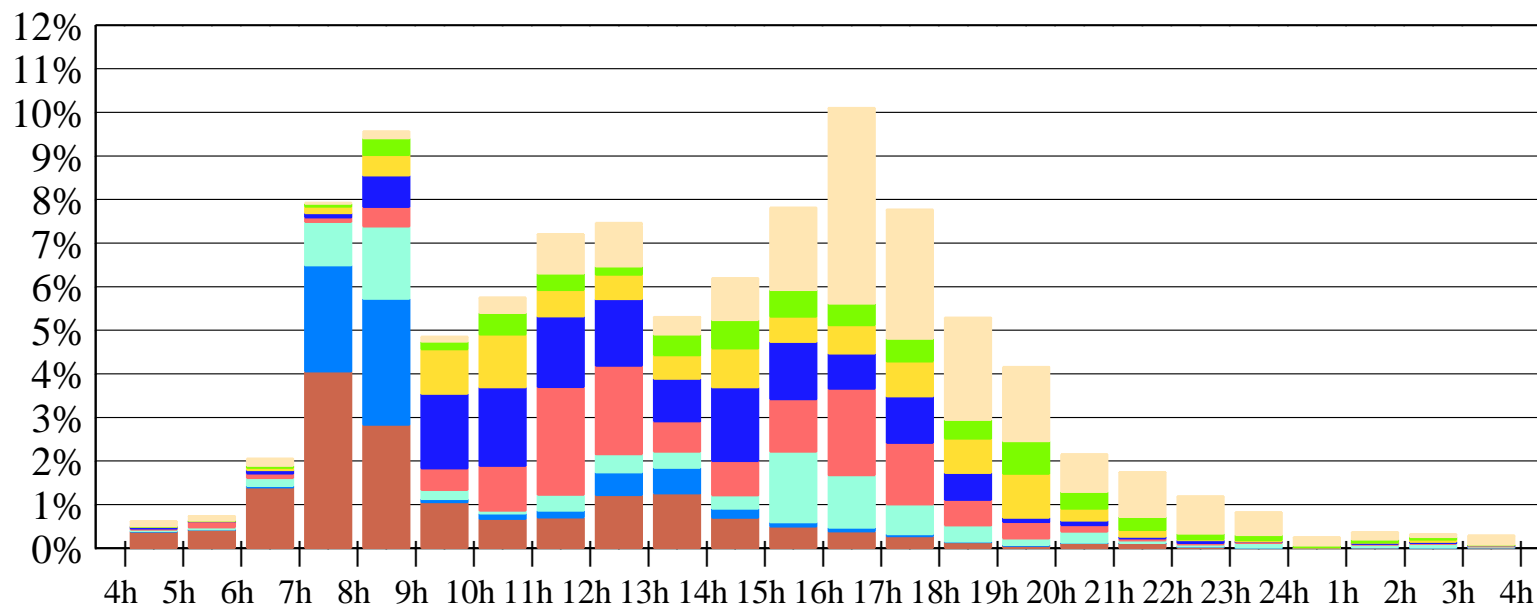
■ Brussels

■ Wallonia

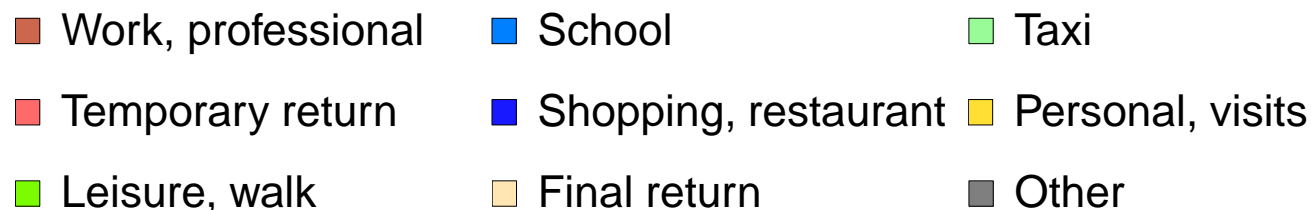
■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Trip purposes in time (Flanders)

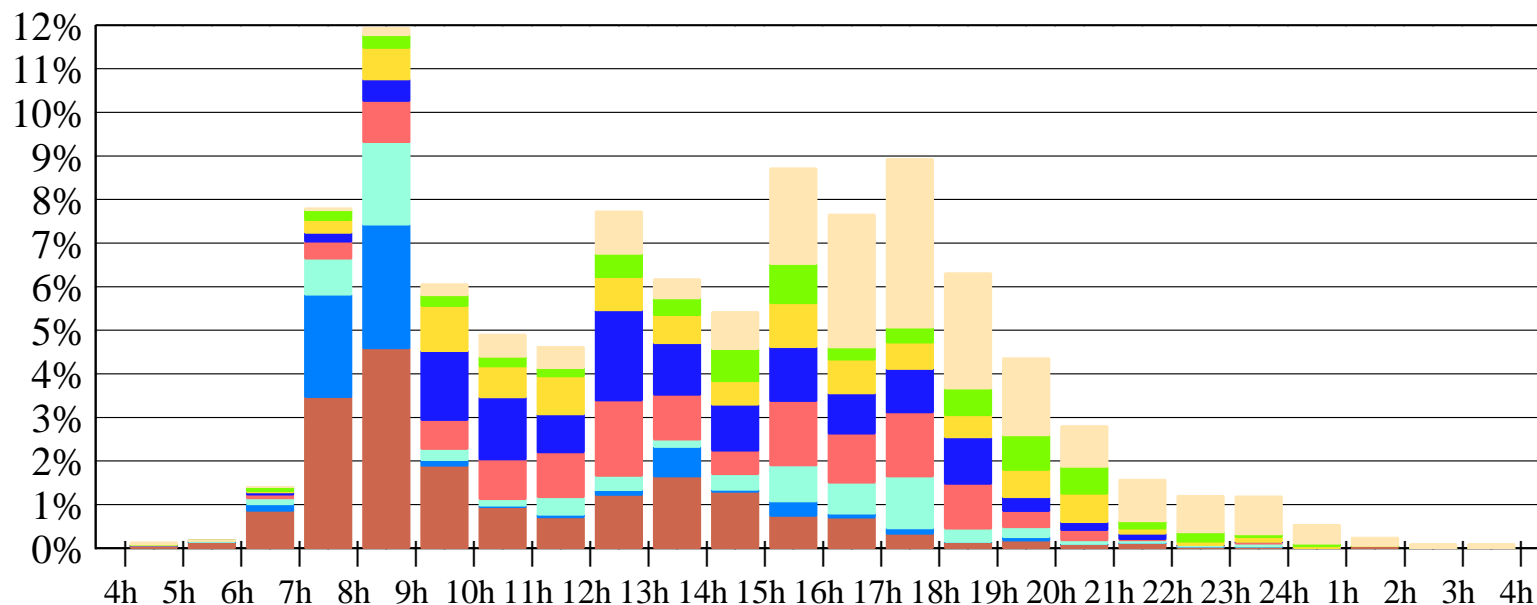


Distribution of trip purpose by departure time in Flanders

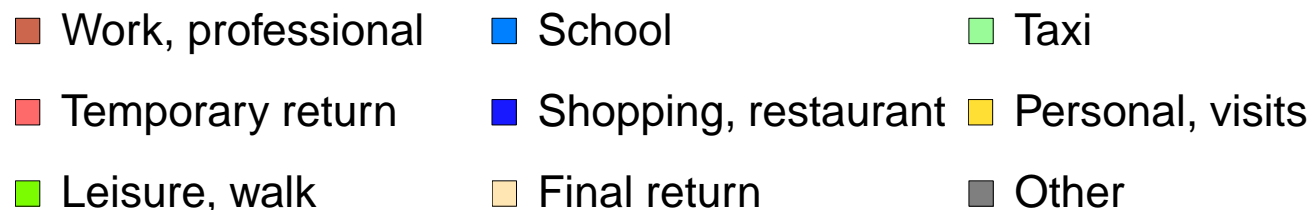


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 30

Trip purposes in time (Brussels)



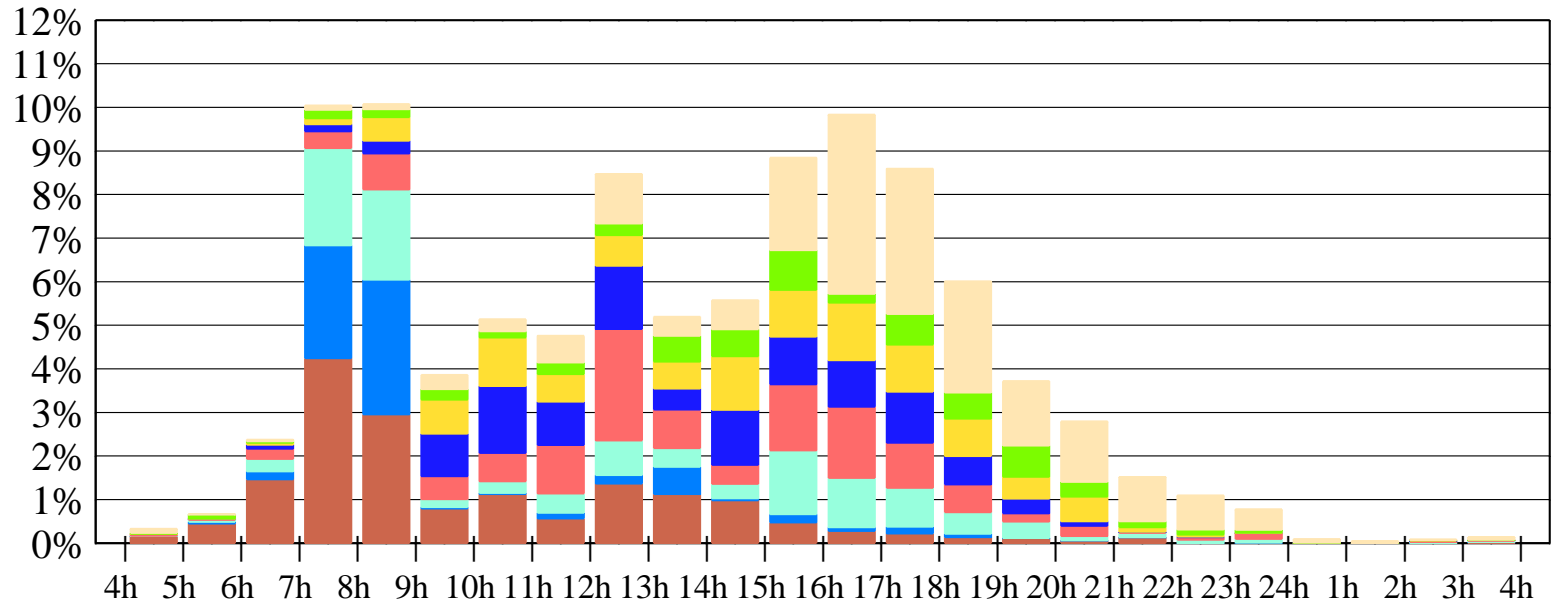
Distribution of trip purpose by departure time in Brussels



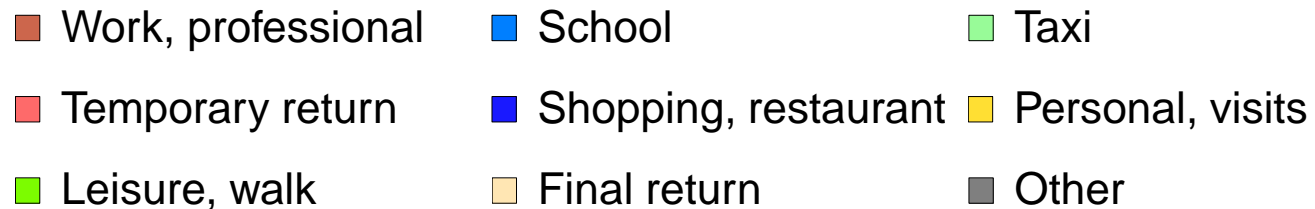
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 31



Trip purposes in time (Wallonia)



Distribution of trip purpose by departure time in Wallonia

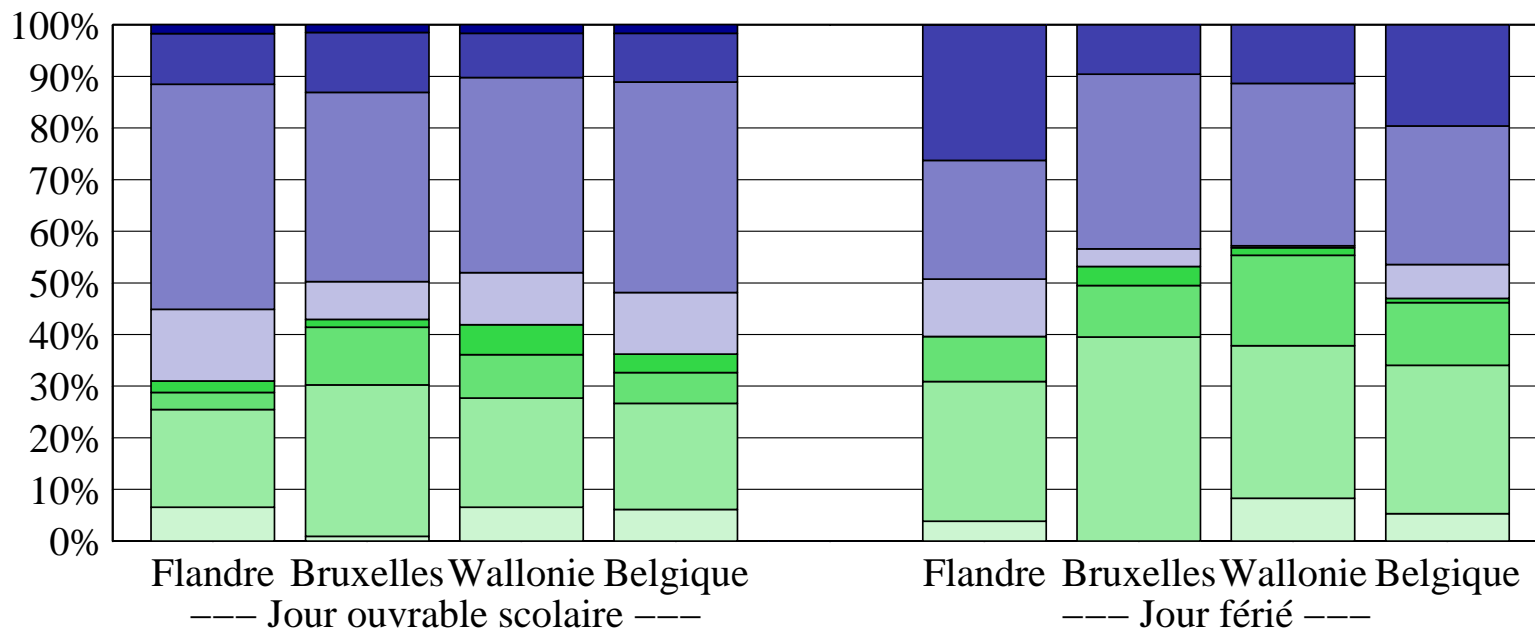


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Who drives whom?

Outline

- Introduction
- The households
- Socio-spatial aspects
- Temporality
- *Trip purpose*
- Modal choice
- Conclusions



Distribution of age and sex of accompanying persons according to day type



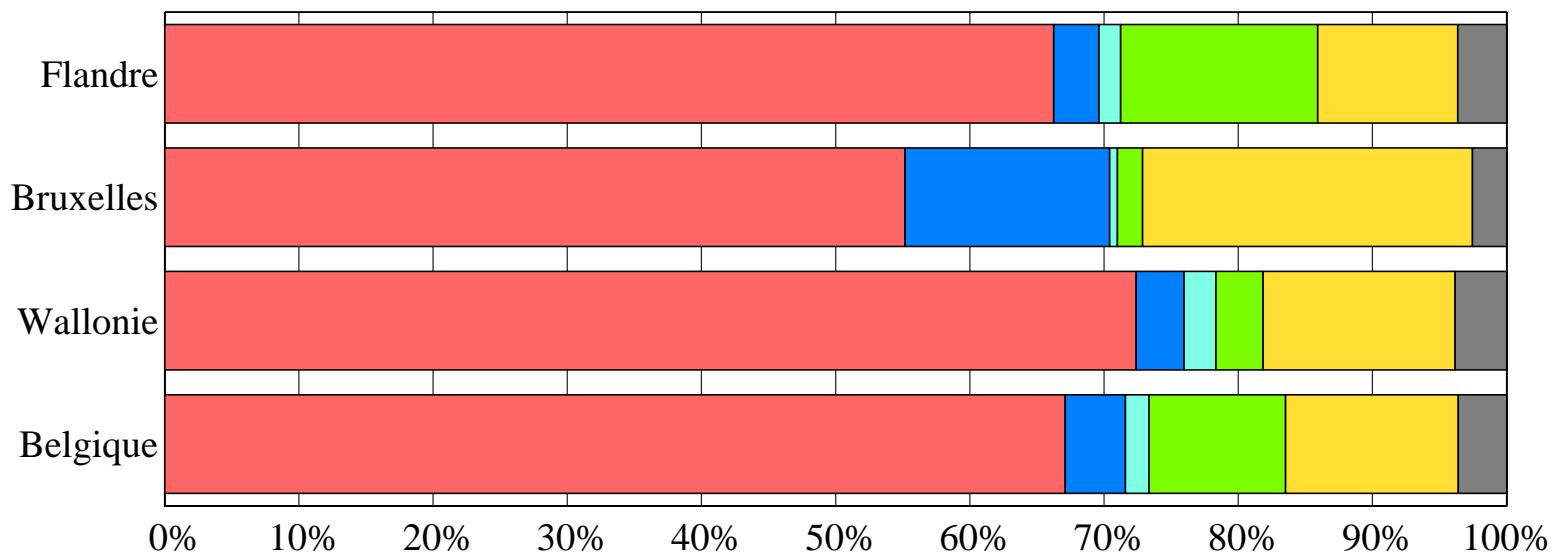
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 33



Modal choice (1)

Outline

- Introduction
- The households
- Socio-spatial aspects
- Temporality
- Trip purpose
- **Modal choice**
- Conclusions



Distribution of the number of trips according to mode
(working school day)

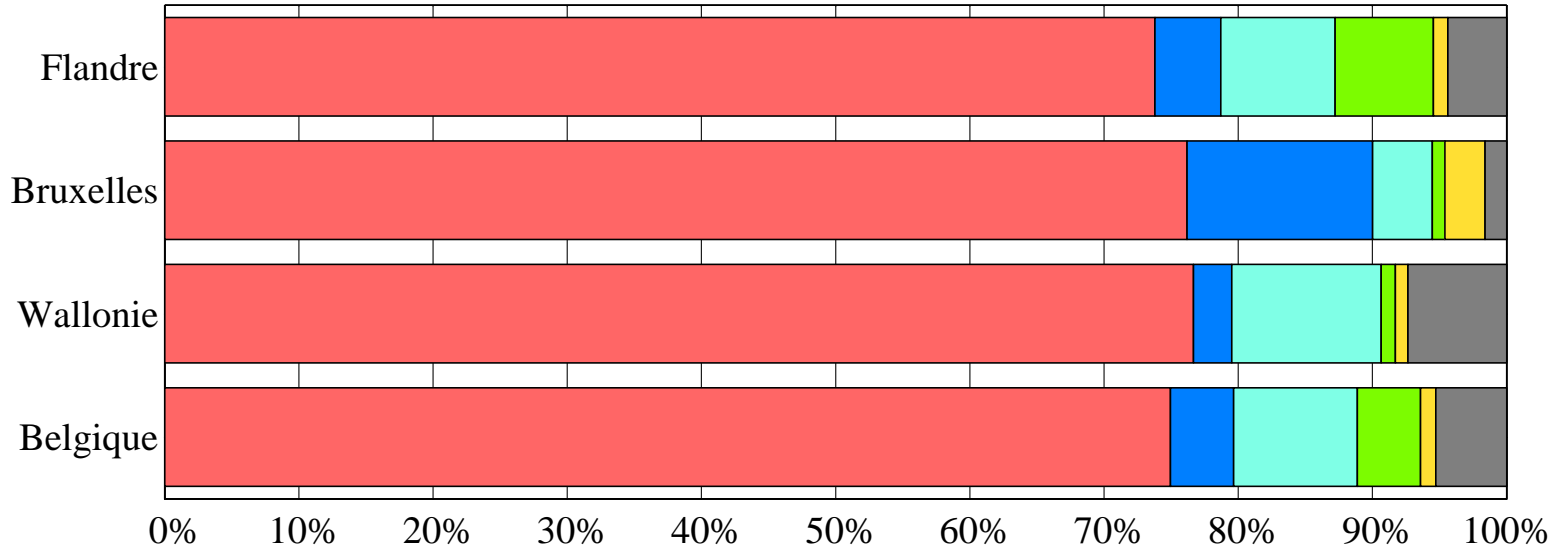


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 34



Modal choice (2)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Distribution of trip distances according to mode (working school day)

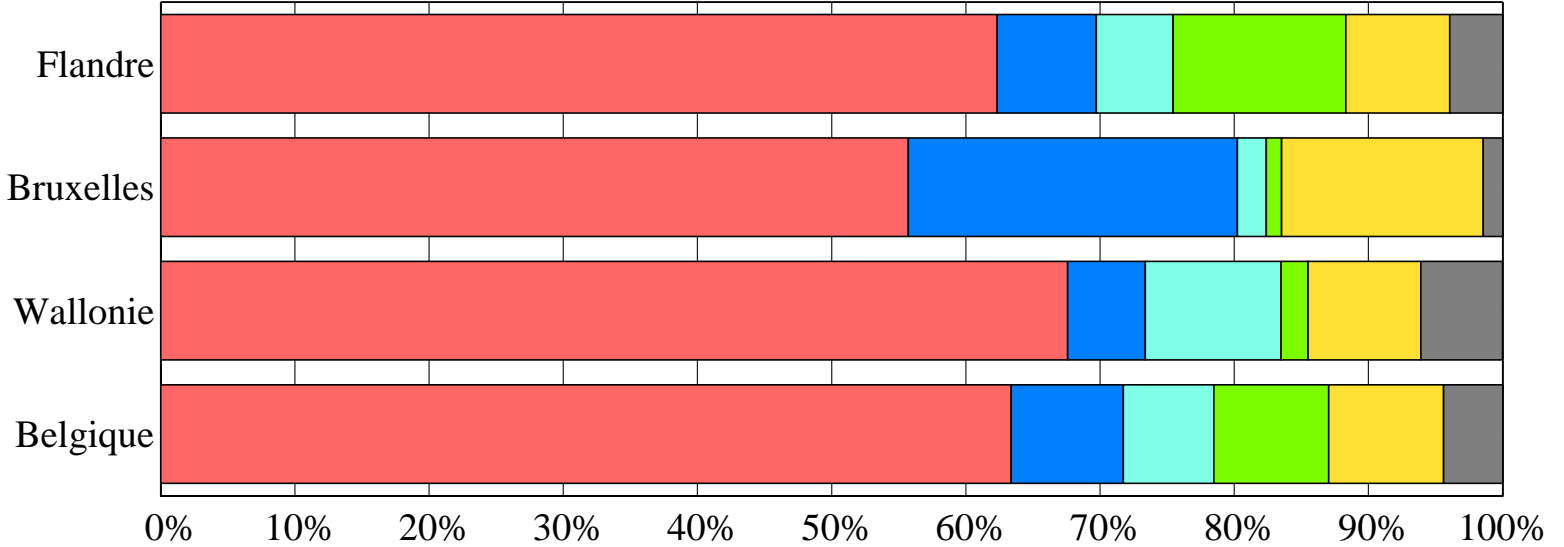
- Car
- Public transports
- Train
- Two wheels
- Walk
- Other

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Modal choice (3)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Distribution of trip durations according to mode (working school day)

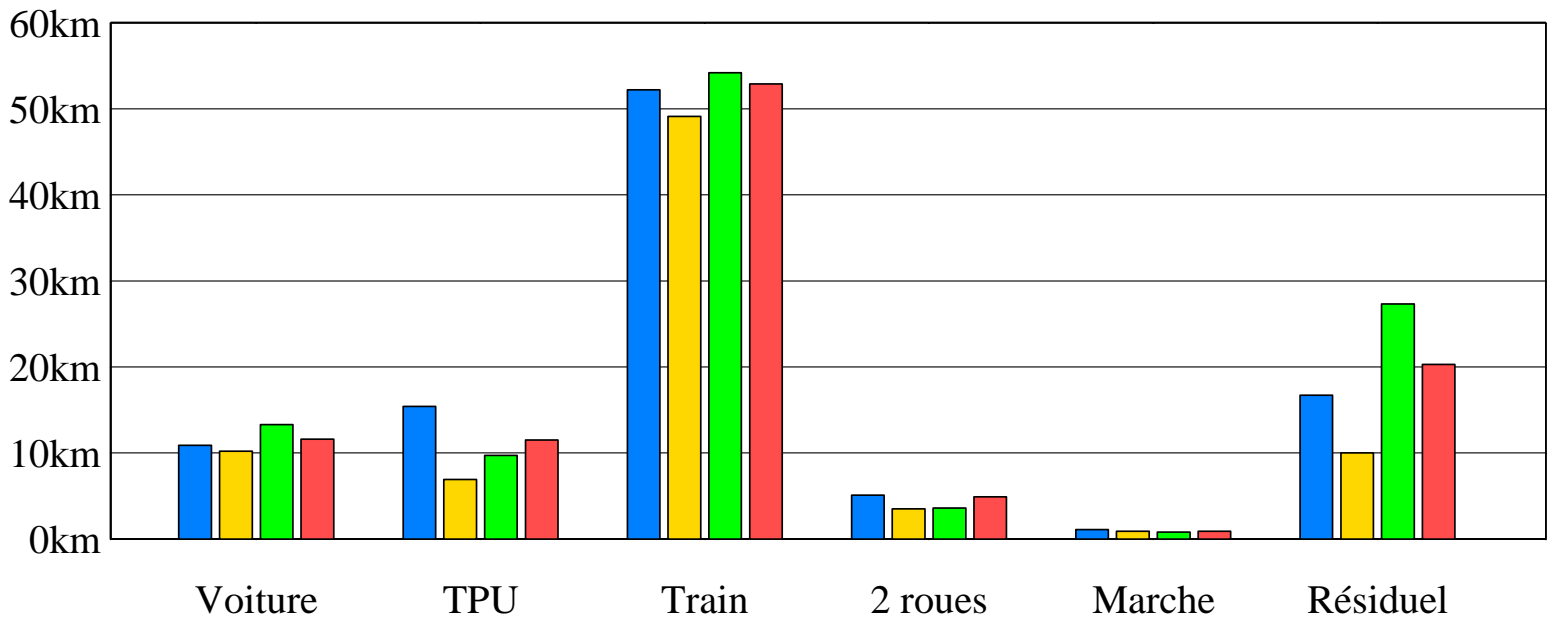
- Car
- Public transports
- Train
- Two wheels
- Walk
- Other

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 36



Modal choice (4)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Average trip distance according to mode
(working school day)

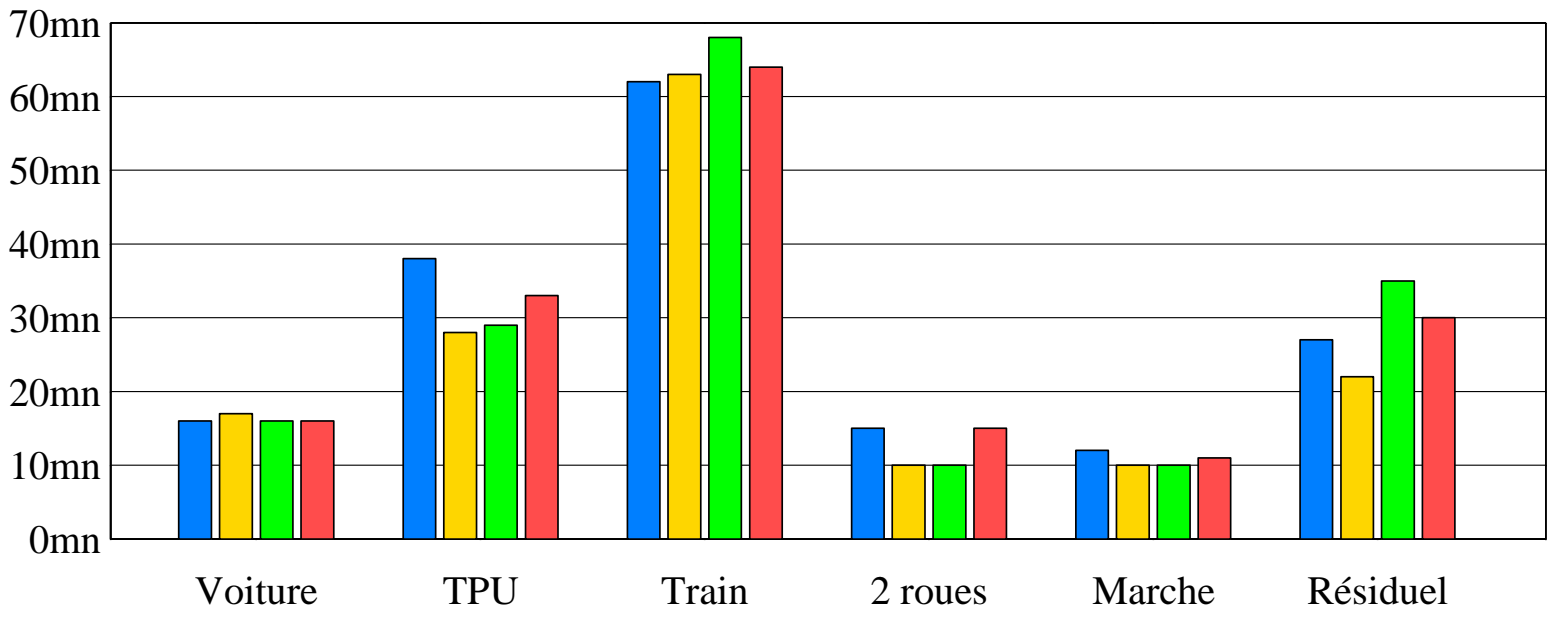
■ Flanders ■ Brussels ■ Wallonia ■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 37



Modal choice (5)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Average trip duration according to mode
(working school day)

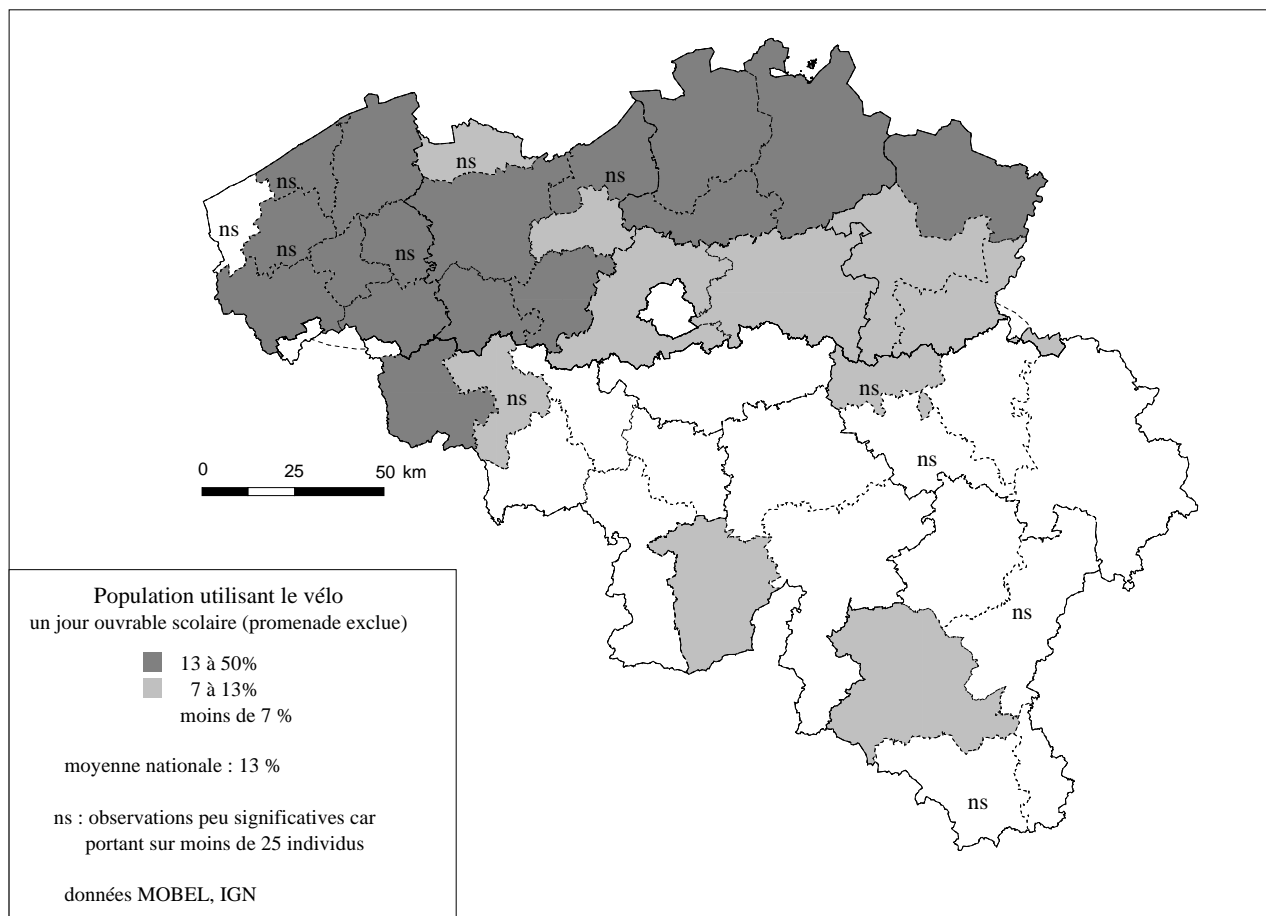
■ Flanders ■ Brussels ■ Wallonia ■ Belgium

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 38

Cycling is mostly in Flanders

Outline

- Introduction
- The households
- Socio-spatial aspects
- Temporality
- Trip purpose
- *Modal choice*
- Conclusions



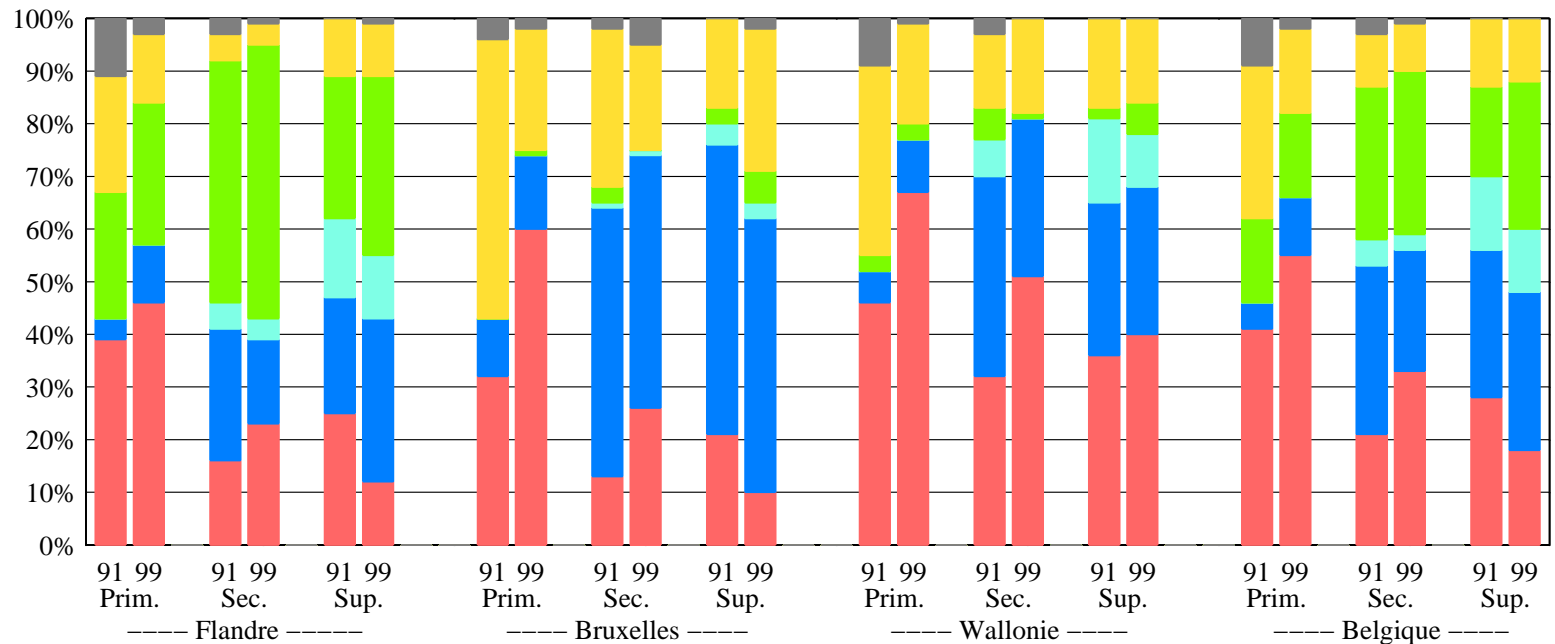
Proportion of individuals cycling, per district

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 39

Transport mode to school

Outline

- Introduction
- The households
- Socio-spatial aspects
- Temporality
- Trip purpose
- *Modal choice*
- Conclusions



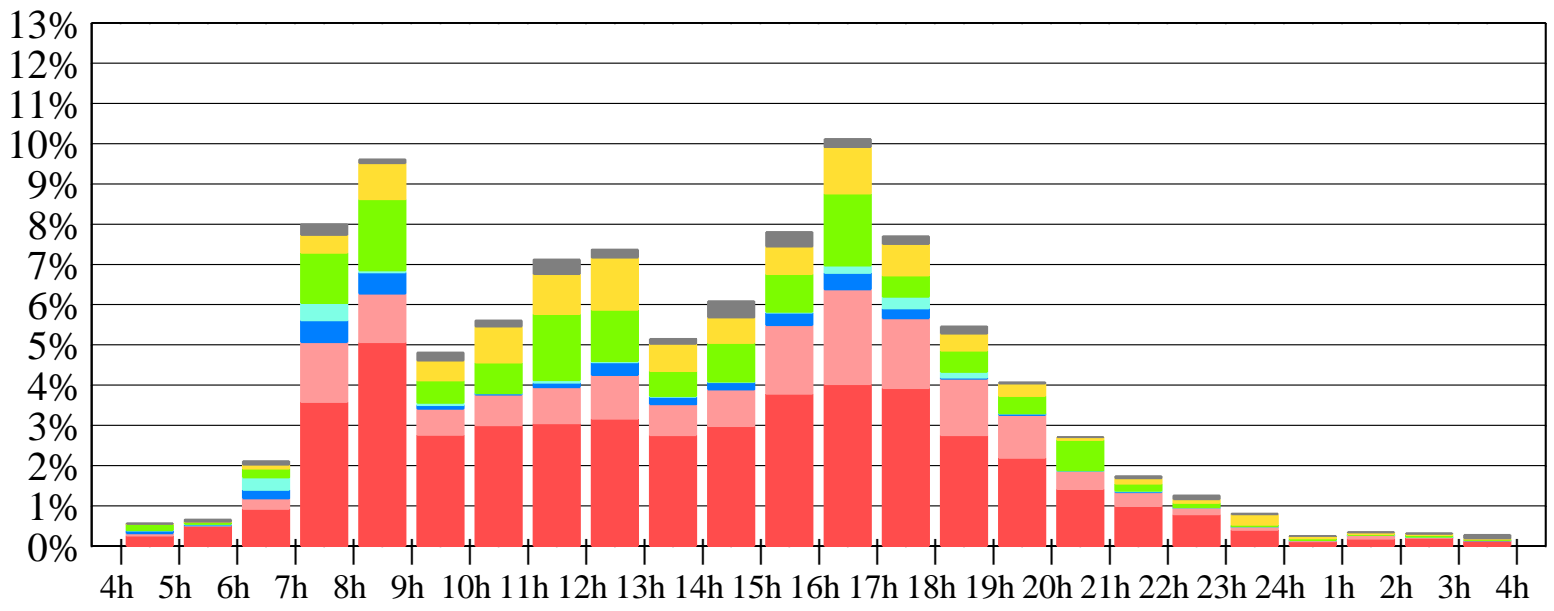
Evolution of the mode of transport to school between 1991 and 1999





Modal choice in time (Flanders)

- Outline**
- Introduction
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 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Distribution of mode choice by departure time in Flanders

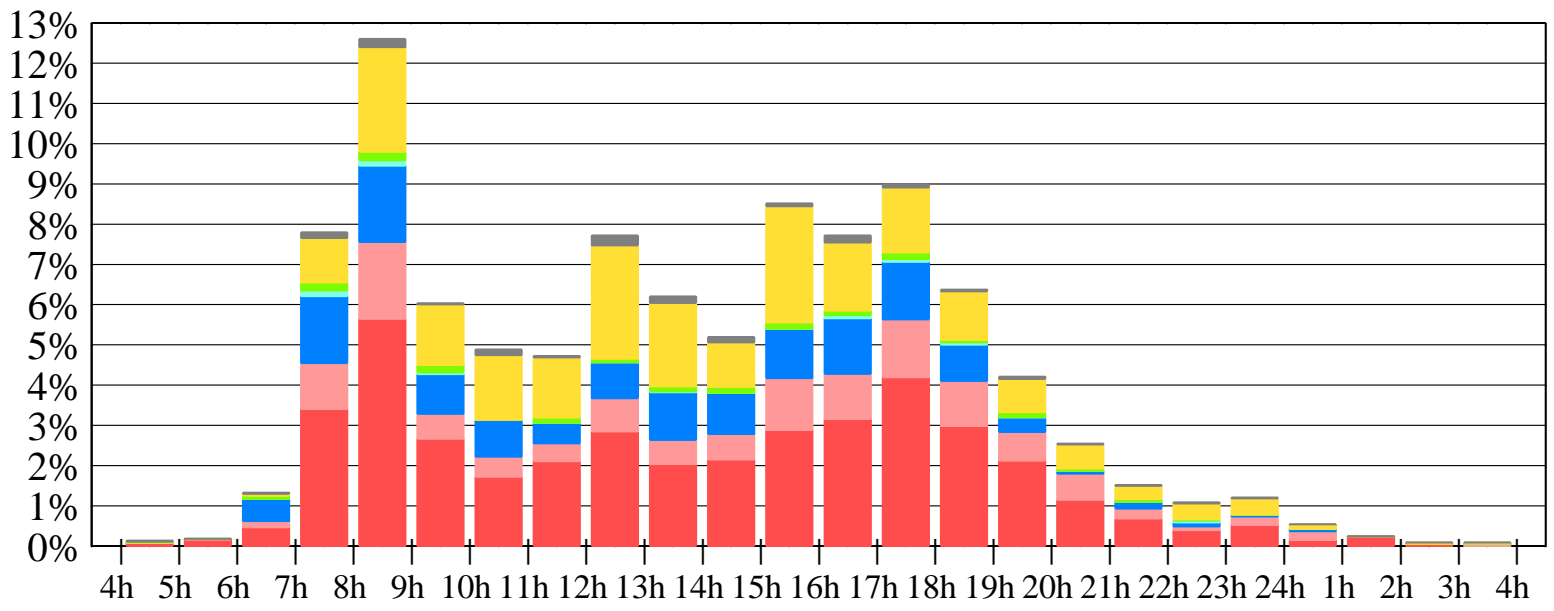
- Car
- Public transports
- Train
- Two wheels
- Walk
- Other

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 41



Modal choice in time (Brussels)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



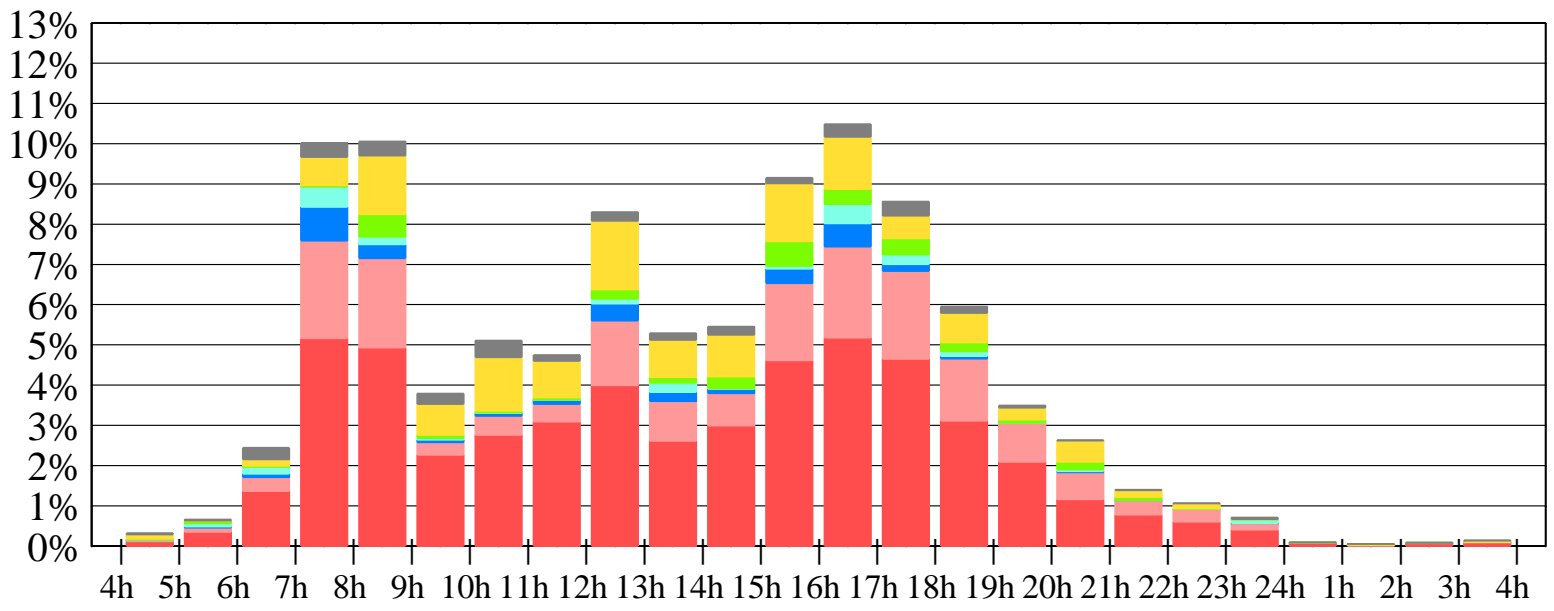
Distribution of mode choice by departure time in Brussels

- Car
- Public transports
- Train
- Two wheels
- Walk
- Other

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 42



Modal choice in time (Wallonia)



Distribution of mode choice by departure time in Wallonia

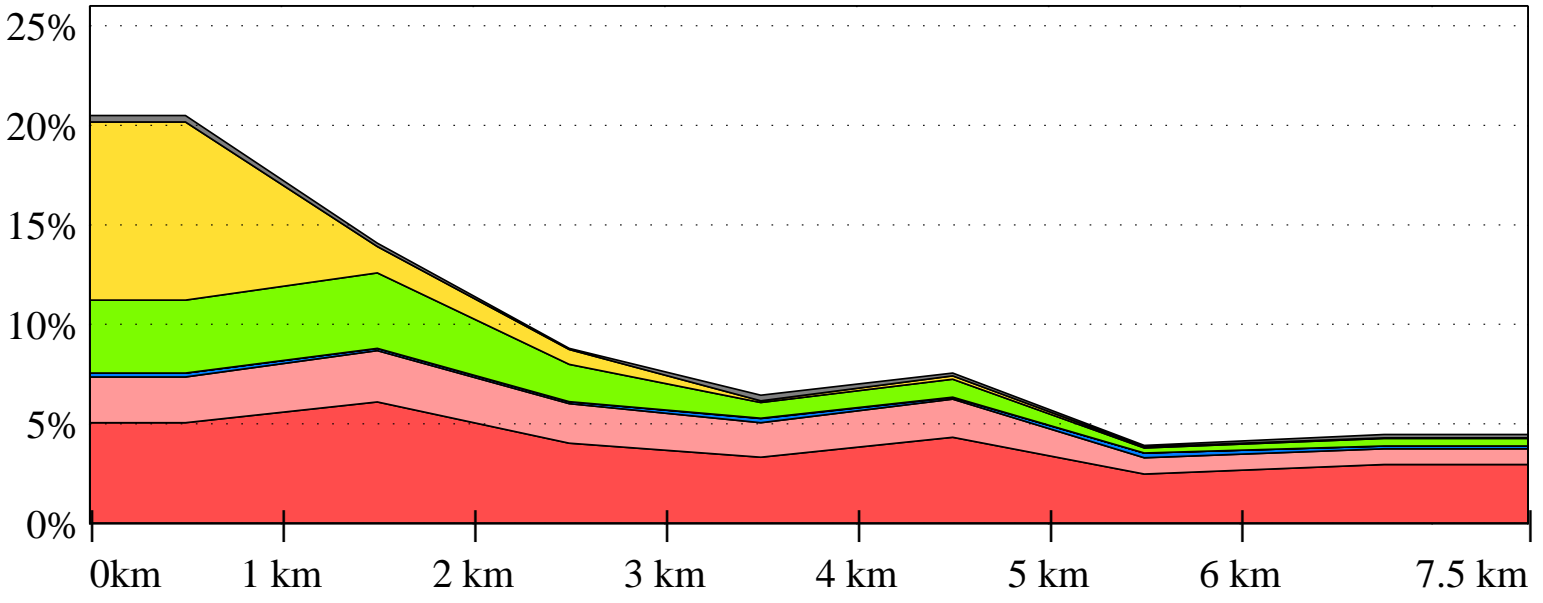


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 43



Modal choice for short trips (Flanders)

- Outline**
- Introduction
 - The households
 - Socio-spatial aspects
 - Temporality
 - Trip purpose
 - **Modal choice**
 - Conclusions



Distribution of mode choice for short trips in Flanders

- Car (driver)
- Car (passenger)
- Public Transports
- Two wheels
- Walk
- Other

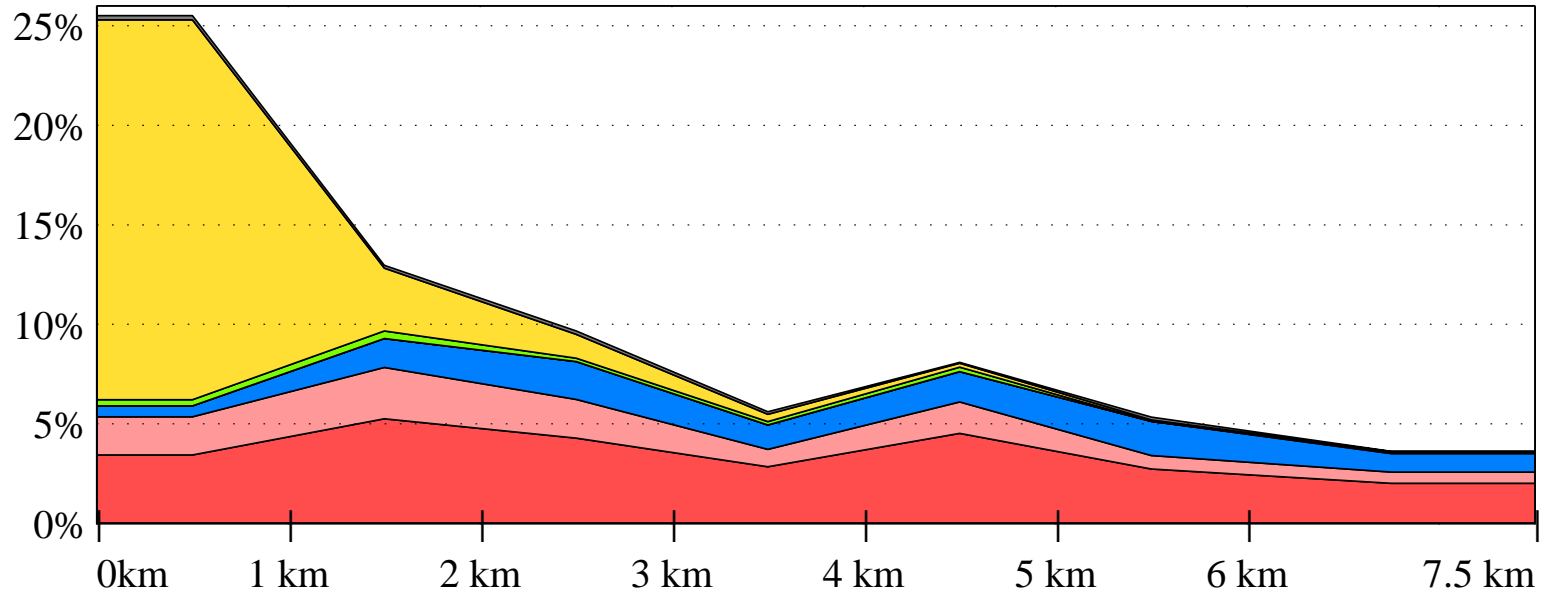
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 44



Modal choice for short trips (Brussels)

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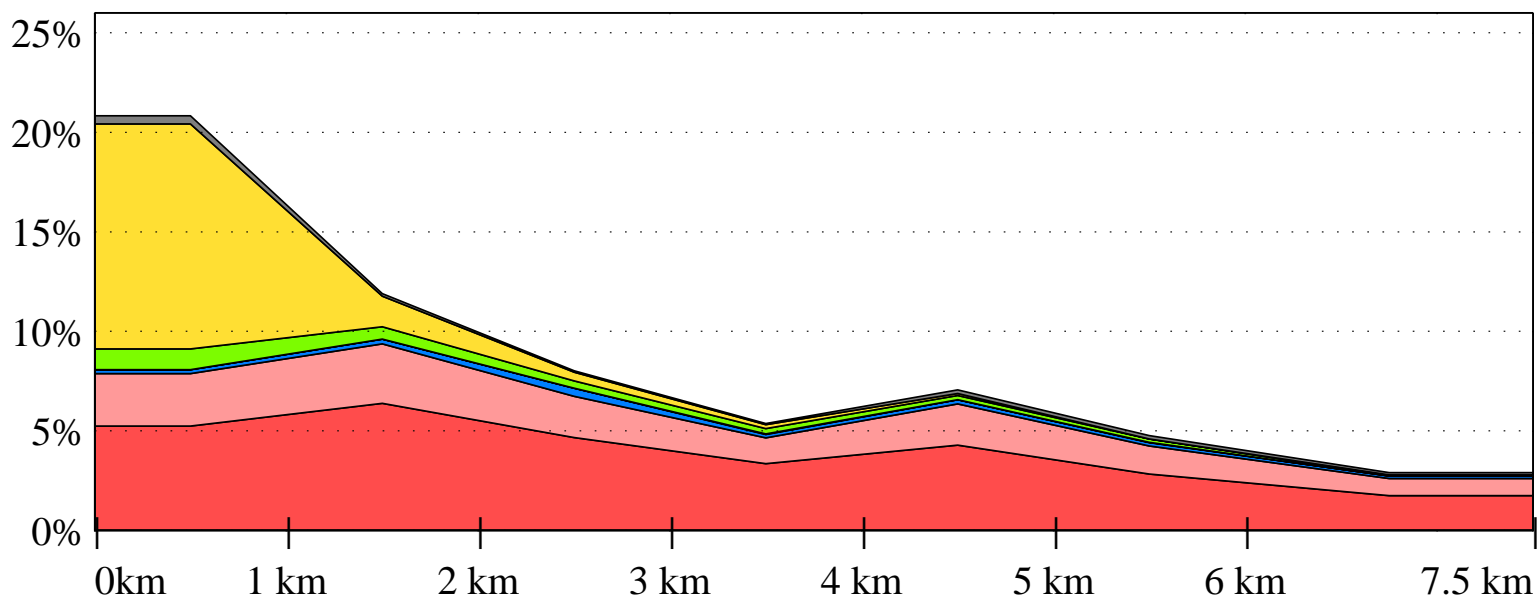
Distribution of mode choice for short trips in Brussels

- Car (driver)
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- Public Transports
- Two wheels
- Walk
- Other

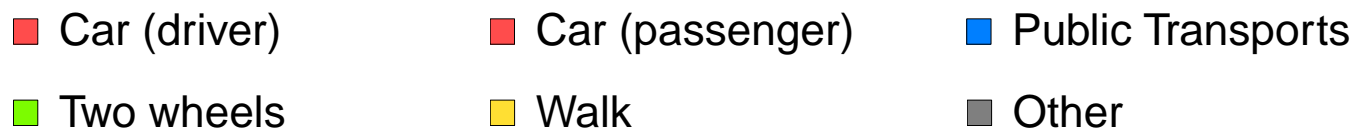
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Modal choice for short trips (Wallonia)



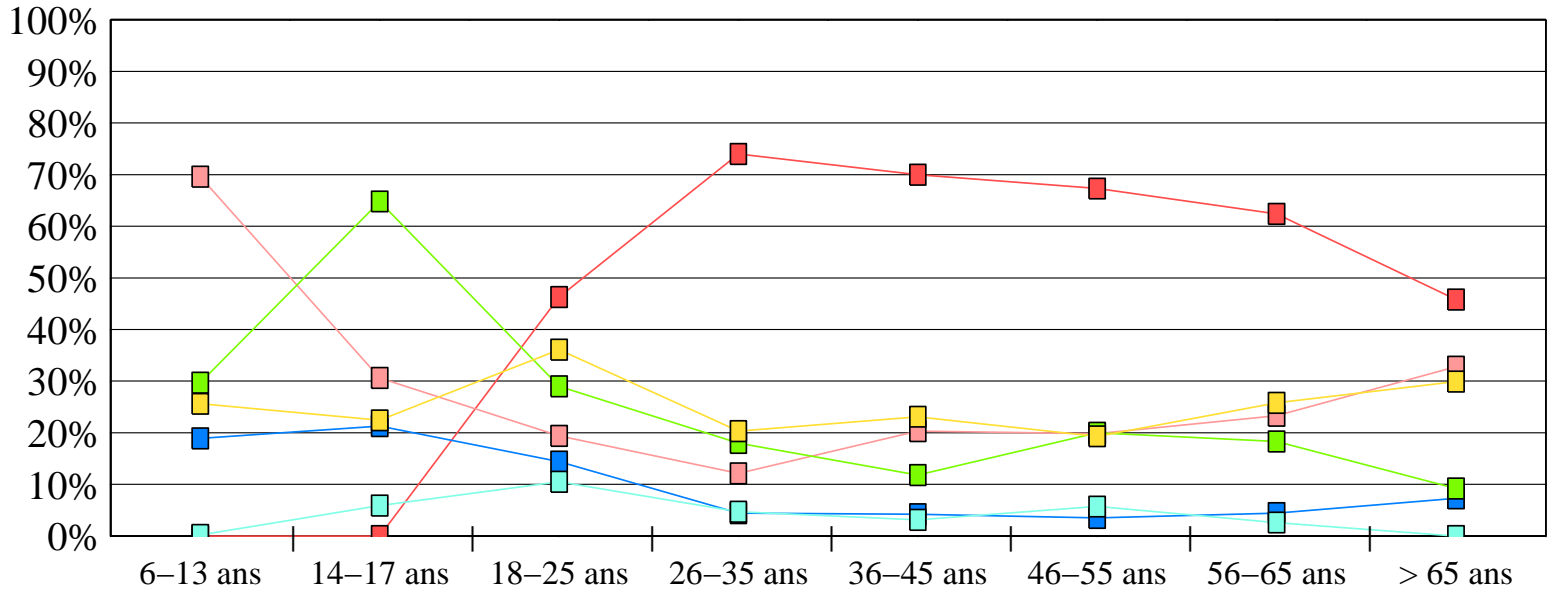
Distribution of mode choice for short trips in Wallonia



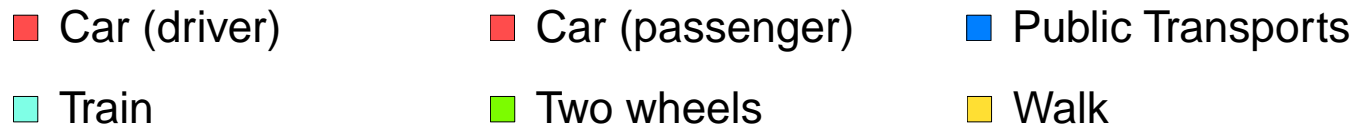
ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 46



Modal choice and age (Flanders)



Distribution of mode choice according to age in Flanders

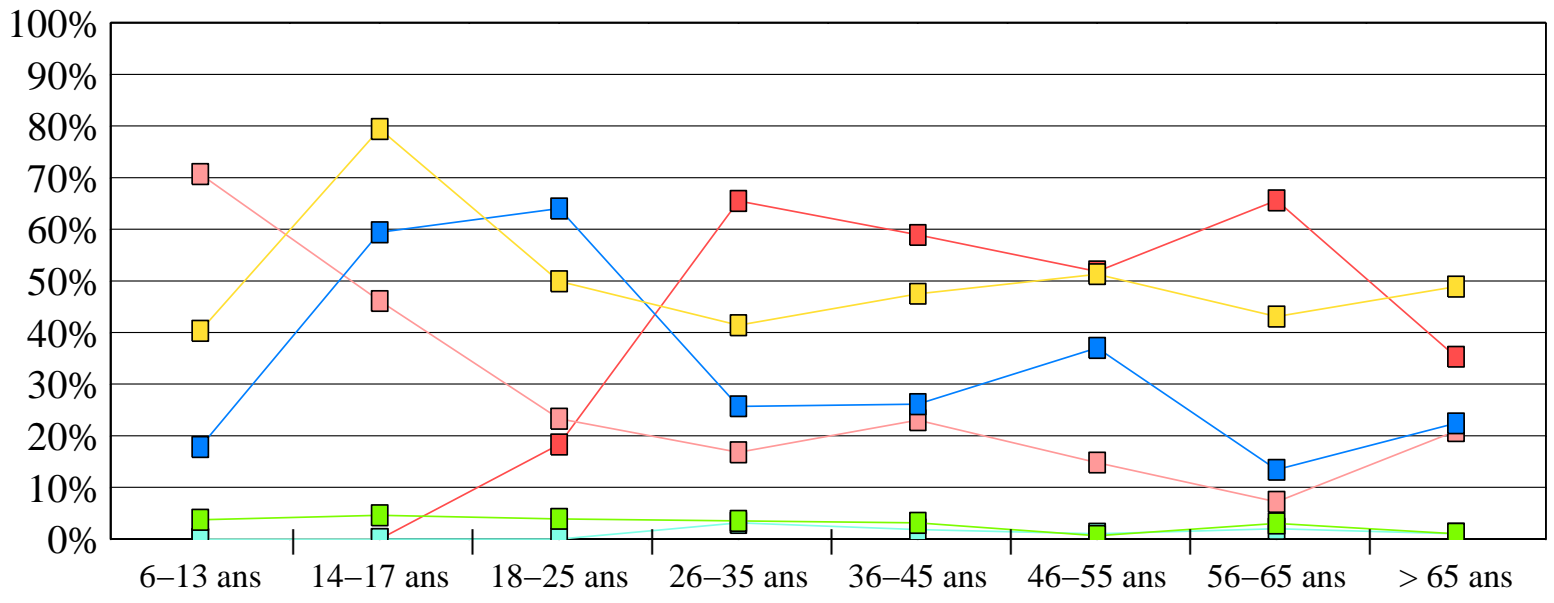


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Modal choice and age (Brussels)

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Distribution of mode choice according to age in Brussels

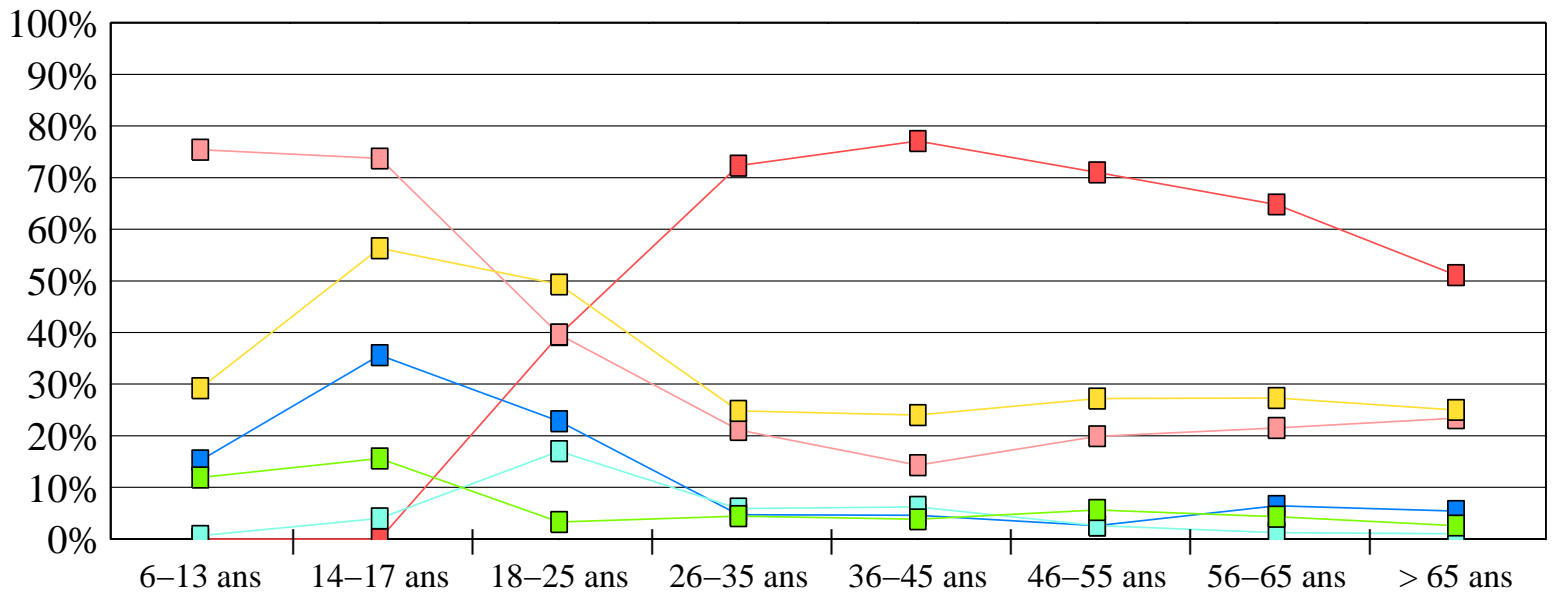
- Car (driver)
- Car (passenger)
- Public Transports
- Train
- Two wheels
- Walk

ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 48



Modal choice and age (Wallonia)

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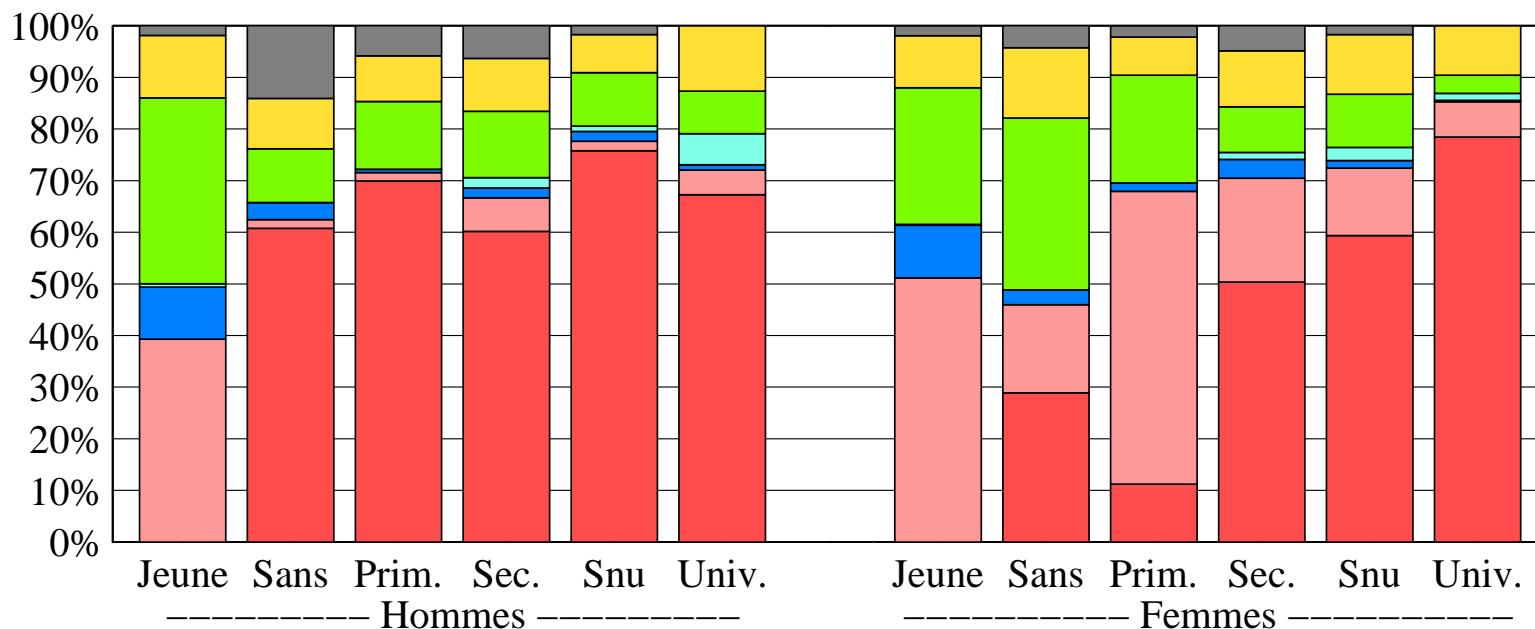


Distribution of mode choice according to age in Wallonia

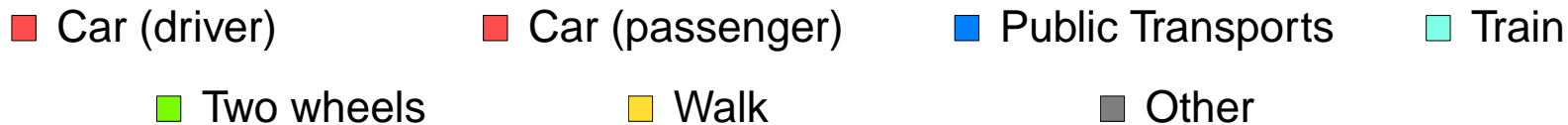
- Car (driver)
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ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Modal choice and formal education (Flanders)

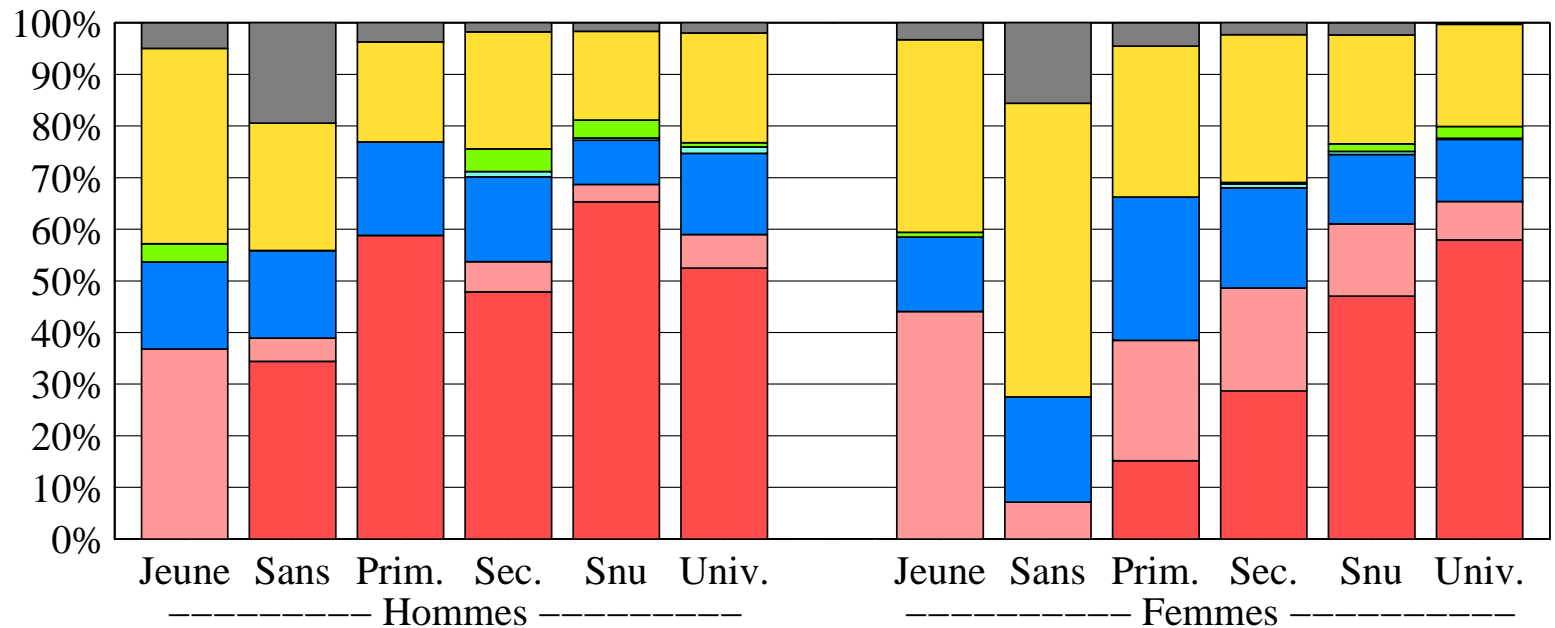


Distribution of mode choice according to school degree in Flanders

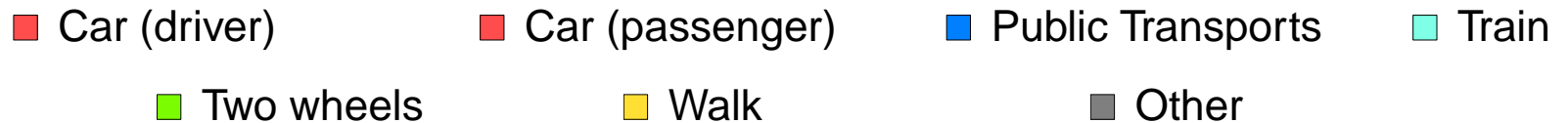


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002. 50

Modal choice and formal education (Brussels)

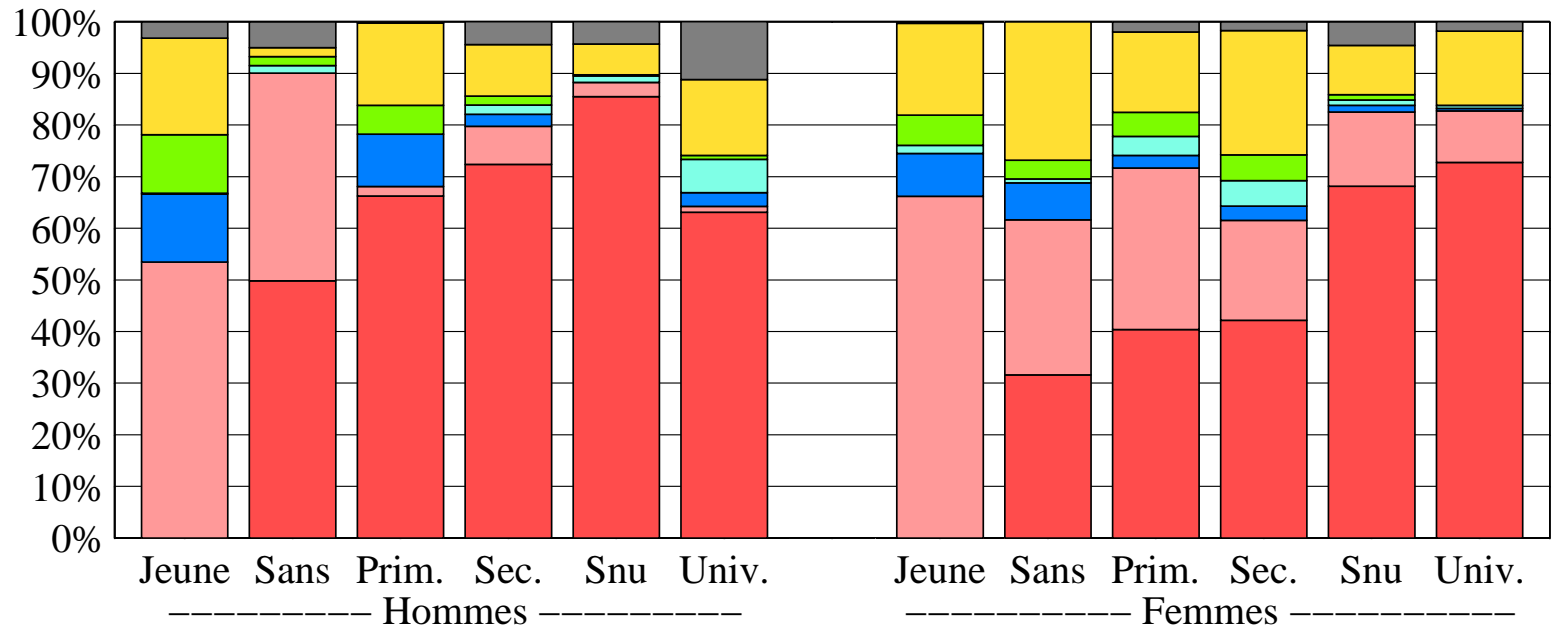


Distribution of mode choice according to school degree in Brussels

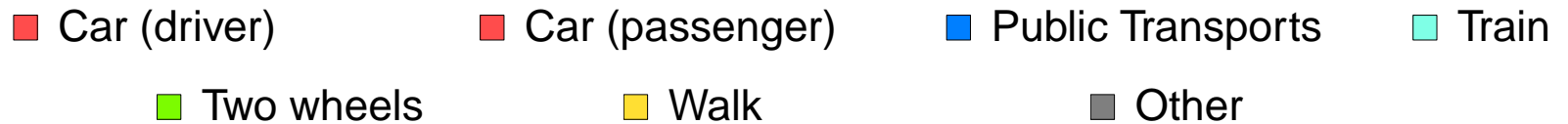


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.

Modal choice and formal education (Wallonia)



Distribution of mode choice according to school degree in Wallonia

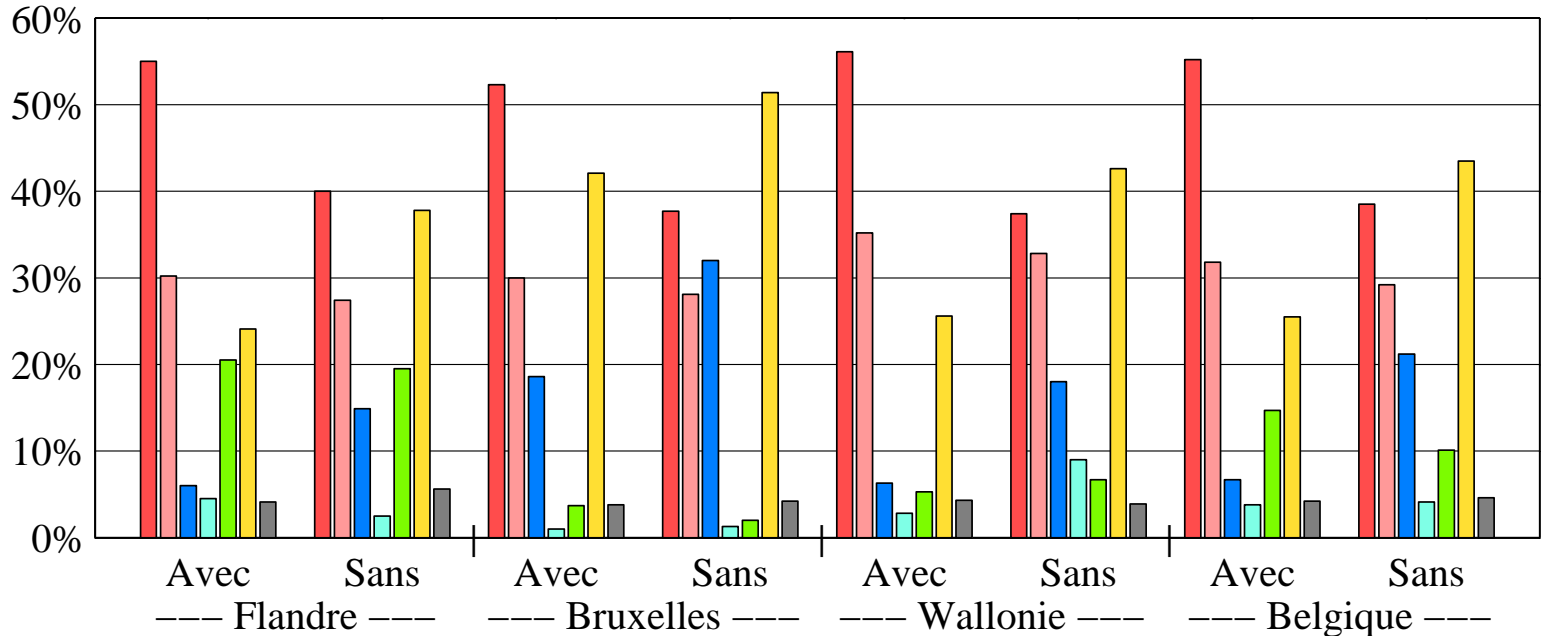


ex: J.P. Hubert, Ph. Toint, "La mobilité quotidienne des Belges", P. U. Namur, 2002.



Modal choice and garage ownership

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 - **Modal choice**
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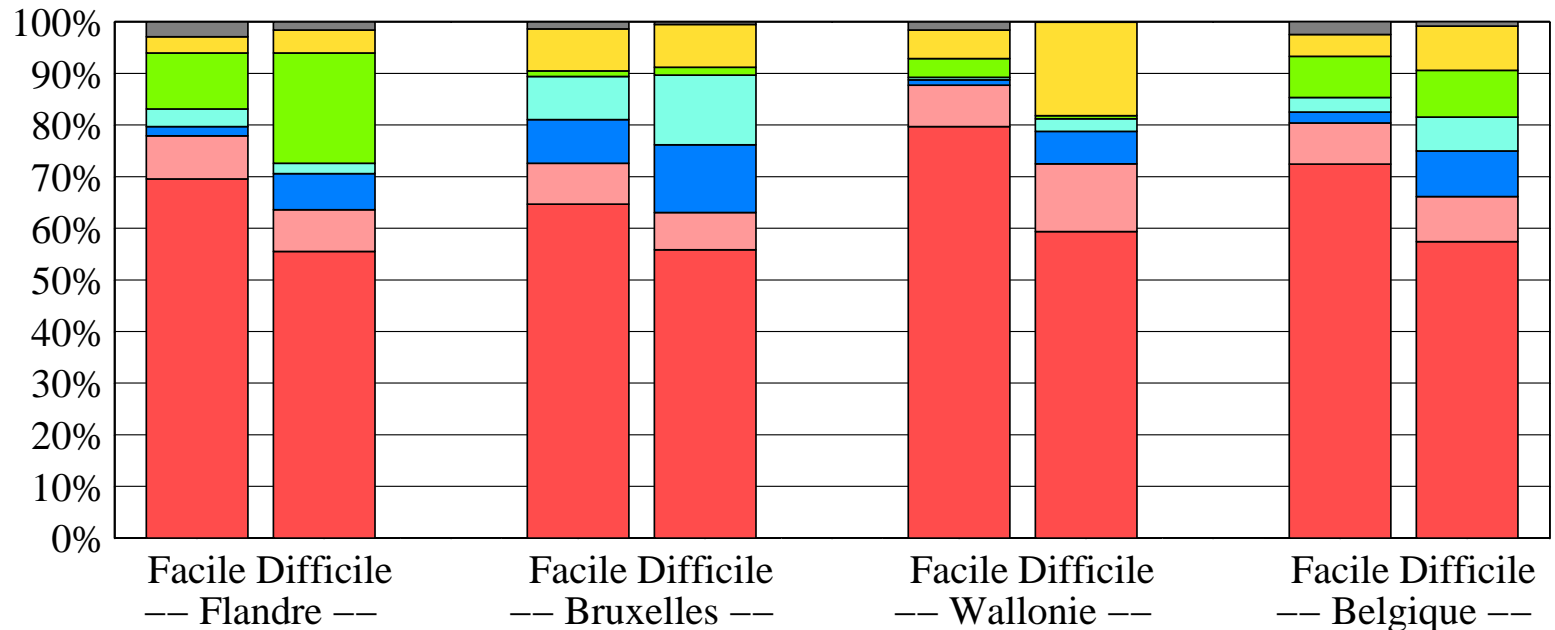
Proportion of individuals using different modes depending on availability of a garage at home

- Car (driver)
- Car (passenger)
- Public Transports
- Train
- Two wheels
- Walk
- Other

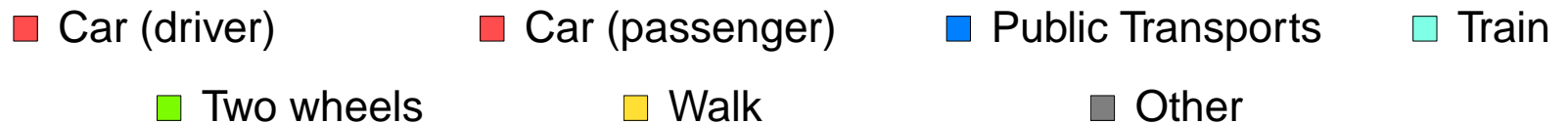
Modal choice and parking facility

Outline

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- *Modal choice*
- Conclusions



Modal choice for home-work trips (and back)
depending on parking facilities at work





A few tentative conclusions

Outline

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A few tentative conclusions

- Flanders much more different from Brussels than from Wallonia

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A few tentative conclusions

- Flanders much more different from Brussels than from Wallonia
- Some differences explained by the impact of population density

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A few tentative conclusions

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- Other impacts more cultural

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A few tentative conclusions

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- Some differences explained by the impact of population density
- Other impacts more cultural
- Differences more apparent in modal choice

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A few tentative conclusions

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- Some differences explained by the impact of population density
- Other impacts more cultural
- Differences more apparent in modal choice

Thank you for your interest and attention