INSTITUTO SUPERIOR TÉCNICO
Universidade Técnica de Lisboa

USER'S NEEDS AND PREFERENCES

for planning and management of cycling network in Lisbon, a *starter city*

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XXIVth International Cycling History Conference
BACK TO THE FUTURE: A NEW CITY VELORUTION?

Lisbon, Portugal
**15 - 17 May 2013**

Lisbon

- 550.000 people
- High volume of traffic
  - from the periphery to the center
  - within the city
- City characteristics
  - Irregular terrain, with its "seven hills"
  - Various types of pavment
  - Presence of tram rails
  - Behaviour of car drivers (sense of unsafe circulation)

- No official data to confirm the cyclists evolution, although Census 2011 indicates a bicycle modal share of **0.2%**
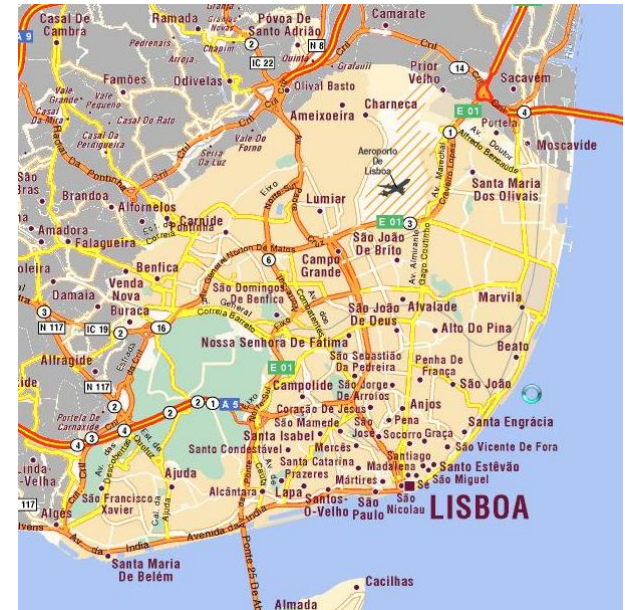
Lisbon

- Huge growth in recent years
- Municipal investment on cycle network and infrastructures
- Lack of data and information about the *de facto movements* of local cyclists
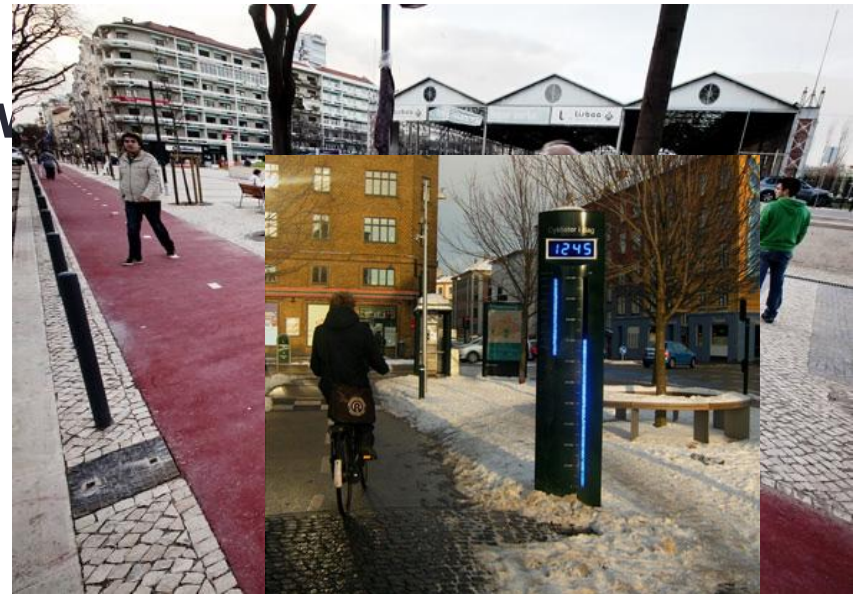
Survey on bicycle users

Lack of data and information

Survey on bicycle users

Socio-economic Profile	Level of experience
Bicycle	Route choice criteria
Urban cycling behaviour	Accidents and thefts
Community	Needs and suggestions

Online survey

- 28 questions
- 30 days

1072 participants

Profile

Profile

Owns a car

- No 26%
- Yes 74%

Level of urban cycling

- Begginner 17%
- Experient 39%
- Some experience 44%

What led you to start cycling ?

Pleasure of riding a bike	880
Mantaining fitness	670
Environmental issues	494
Faster travel time	419
Economical issues	309
Easy parking	295
Bicycle promotion information or events	286
Health	245
Friends	194
Lack of public transports	72
Fashion	12

Cyclists

Number of cyclists   ● 2013 ?
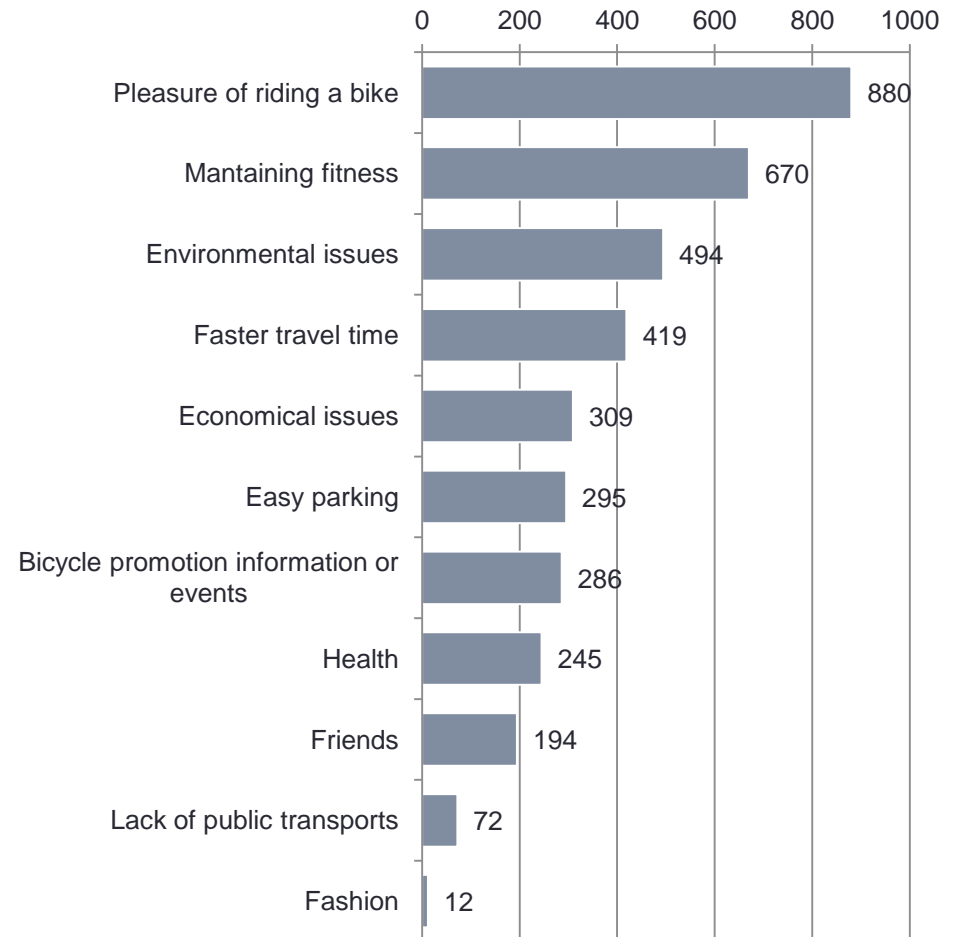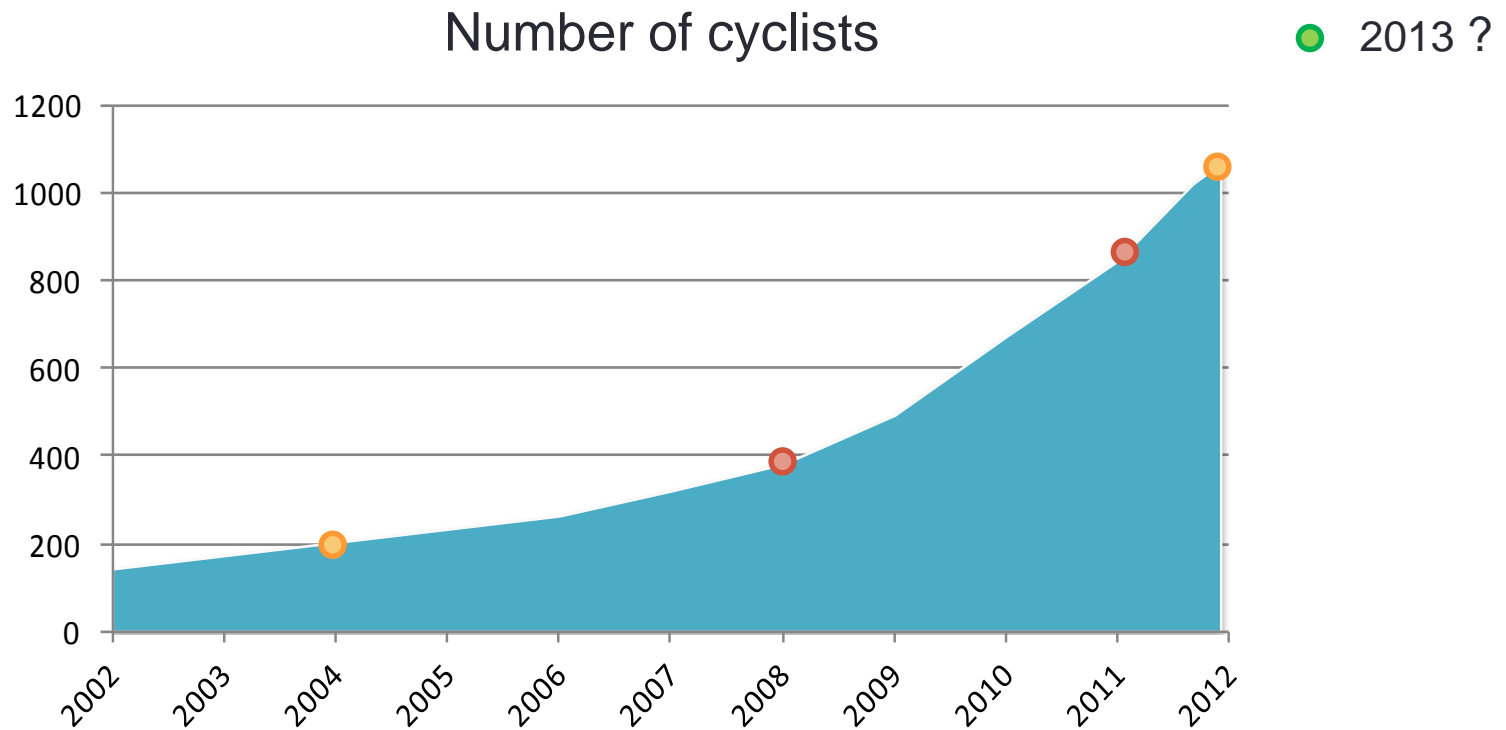
- More than duplicate beteen 2008-2011
- Fivefold between 2004-2012

Cyclists

Purposes and frequency

Type of bicycle

Type	Value
Mountain	374
City classic	134
Road	127
Folding	96
Hybrid	88
Other	73
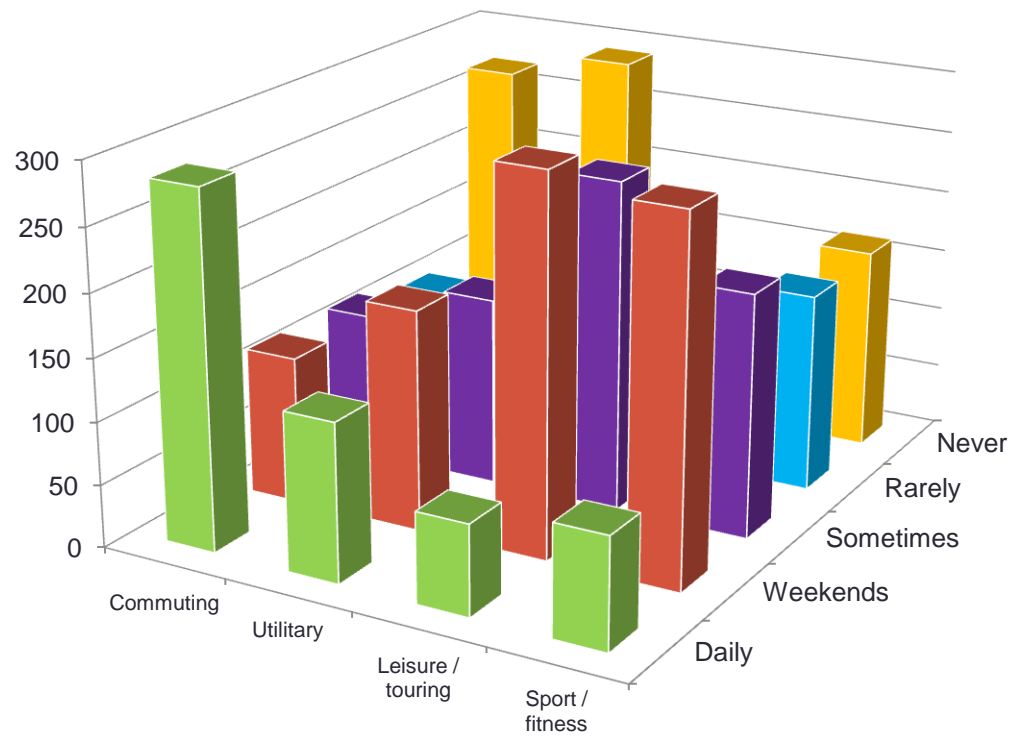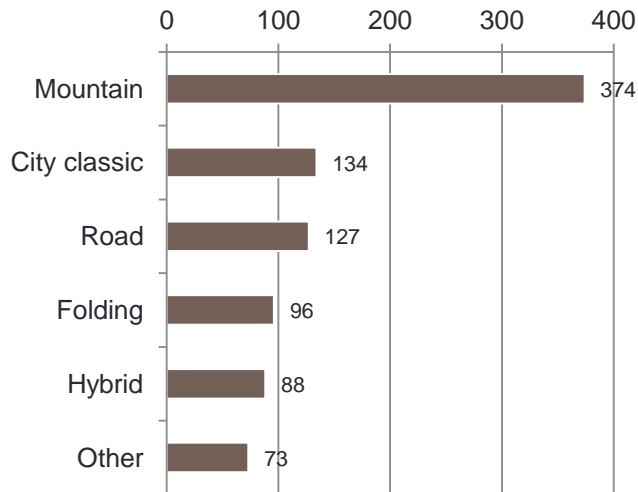
Single speed represents 3%

Electric, fixed gear and BMX represents about 1% each.

About 5% carries a kid

Storing the bike at night

Location	Value
Home	444
Attic / basement	30
Garage	272
Inside the building on shared areas	133
On the street, on parking	3
On the street - Other	10

Helmet

No 49%
Yes 51%

Lights at night

No 21%
Yes 79%
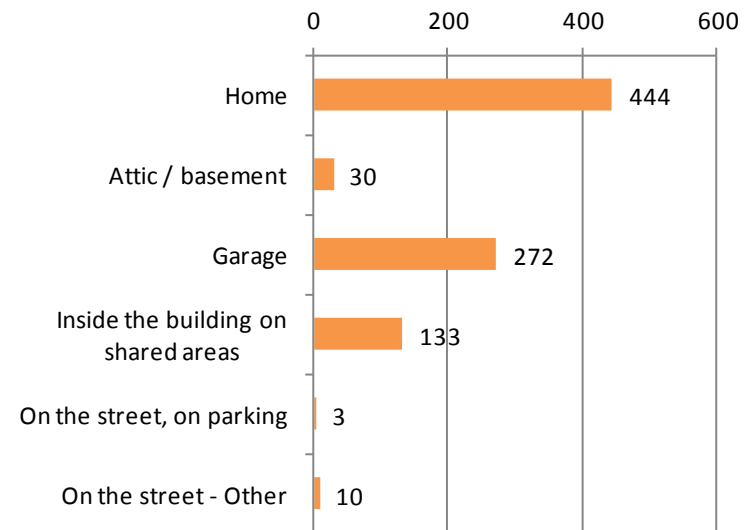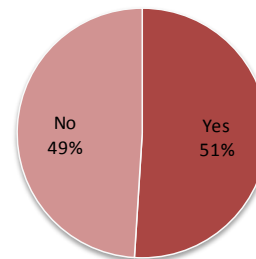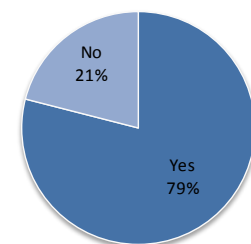
Accidents and thefts

Accident

Yes
21%

No
79%

Bike stolen

Yes
15%

No
85%

Open of a car door 4%
Another bicycle 1%
Mechanical issues 1%
Tram rails 6%
Meteorological conditions 7%
Pedestrians 8%
Obstacules on the road 8%
Imbalance for self-responsability 17%
Pavment conditions 25%
One or more cars 23%
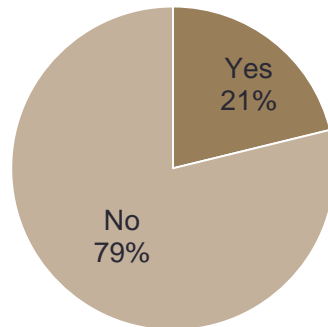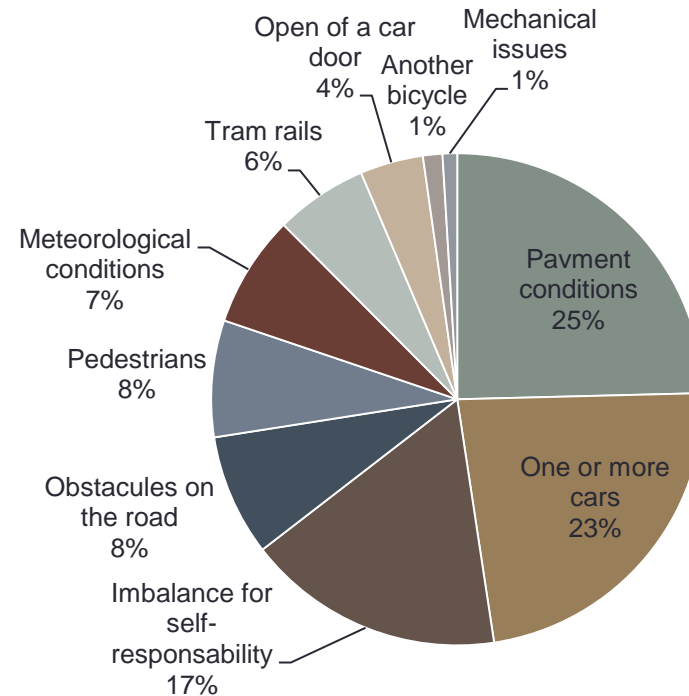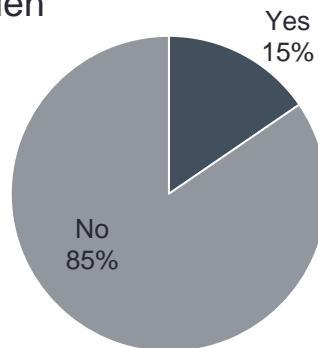
40% due physical conditions

- 30% avoids the route (or part) of the accident
- 72% avoids to park on the same place

Route choice criteria
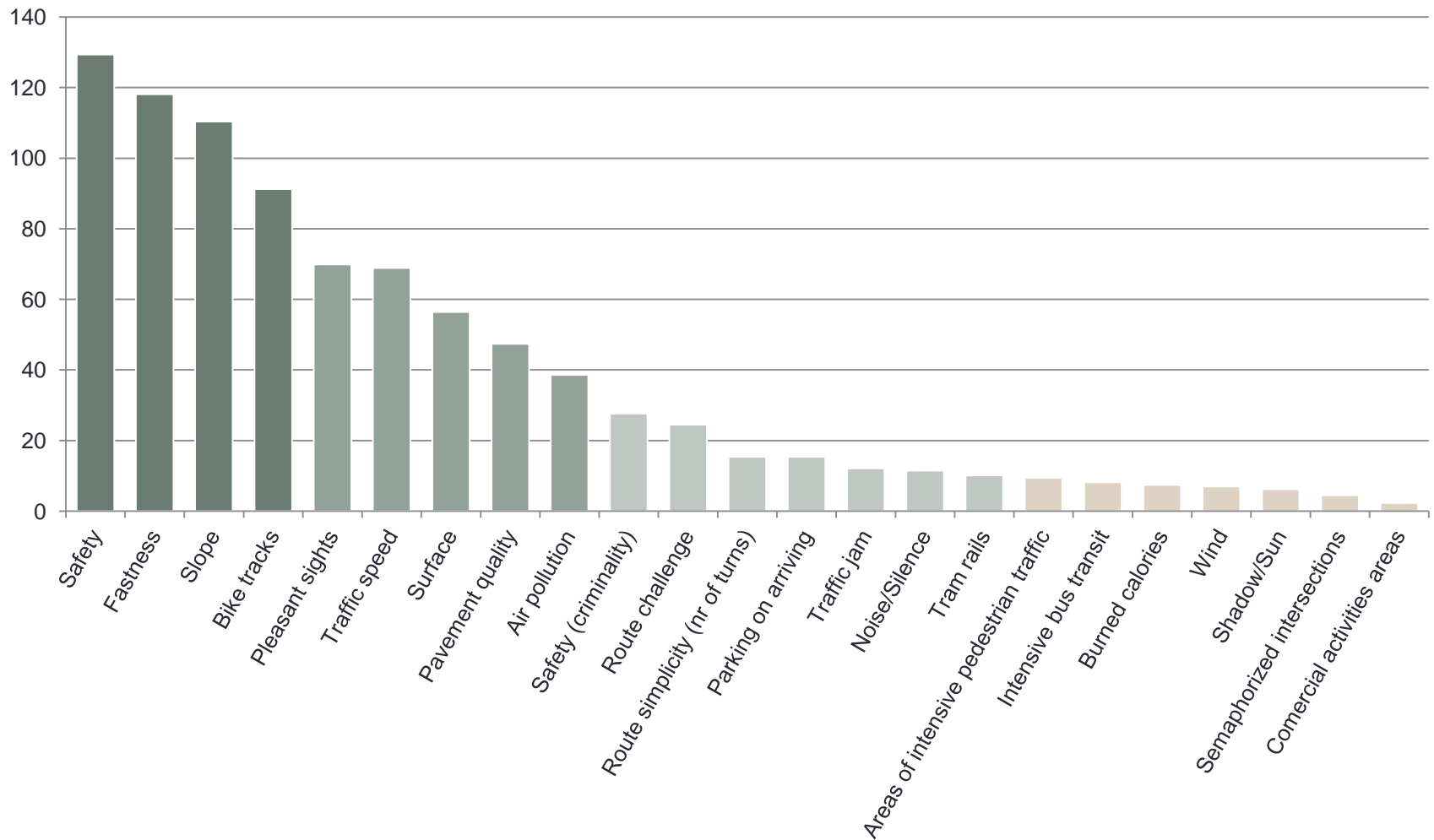
Bicycle users profiles

Multivariated and cluster analysis

| User profile and characteristics | ⟷ | Route choice patterns |

| Starter | Weekend sportist | Commuter |
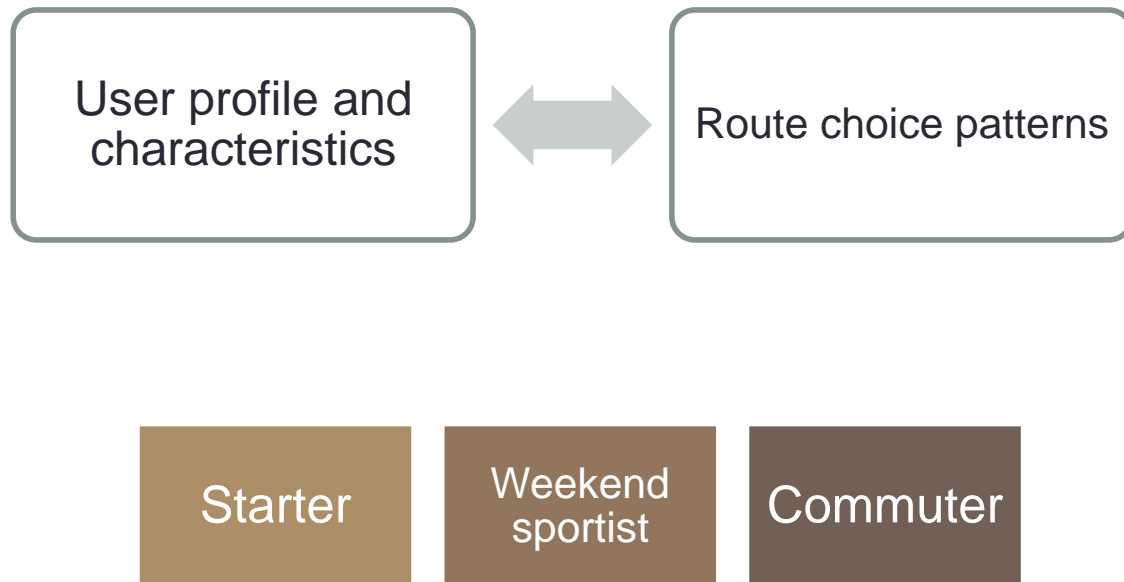
Bicycle users profiles

Starter

Bicycle users profiles

Weekend sportist

Bicycle users profiles

Commuter

Route preferences
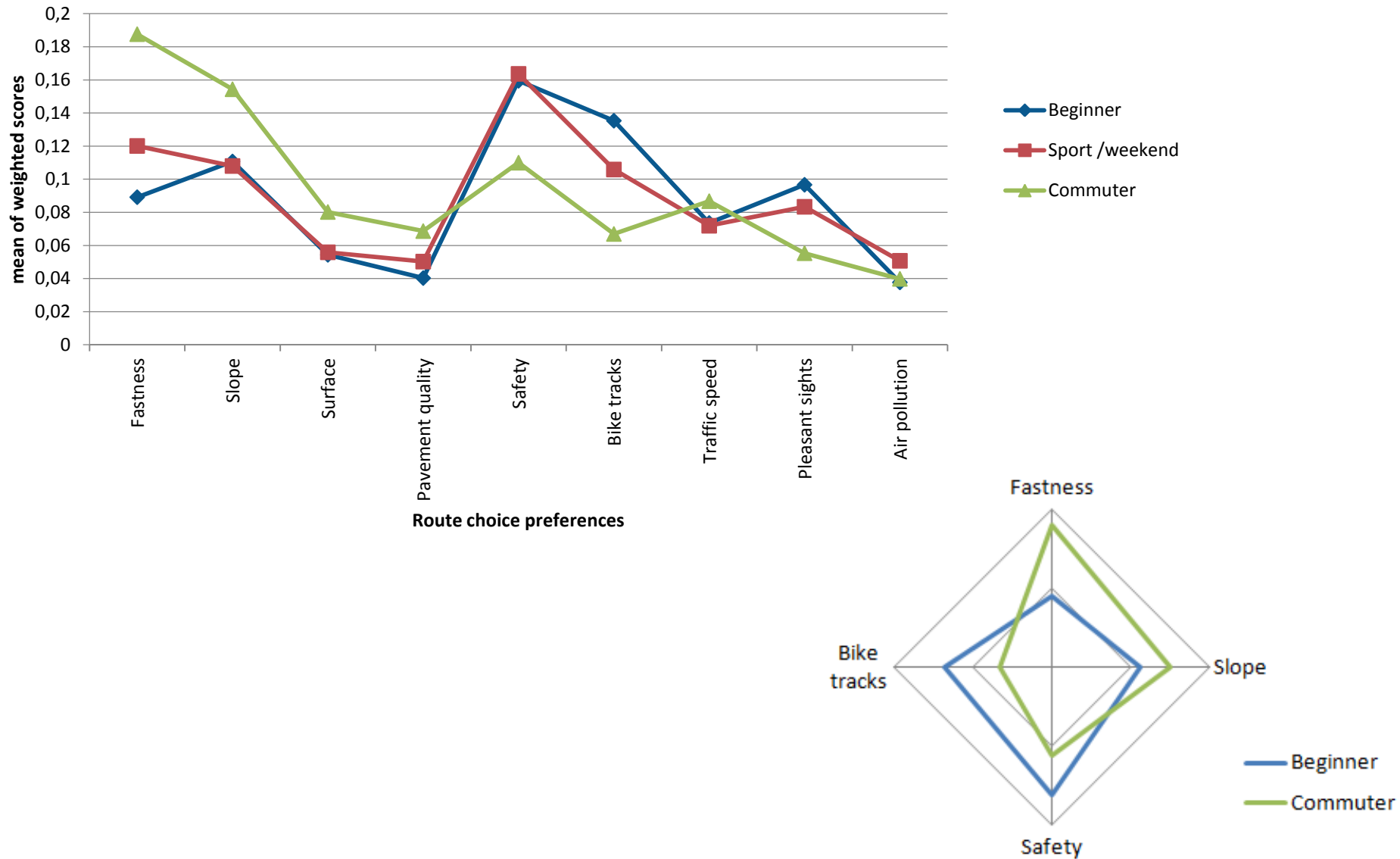
Urban behaviour

Where to ride

Starter — Sidewalk 34%, Road 66%
Sport — Sidewalk 21%, Road 79%
Commuter — Sidewalk 10%, Road 90%

Healmet wear

Starter — No 43%, Yes 57%
Sport — No 26%, Yes 74%
Commuter — No 14%, Yes 86%

Bicycle accident

Starter — No 14%, Yes 86%
Sport — No 17%, Yes 83%
Commuter — No 33%, Yes 67%
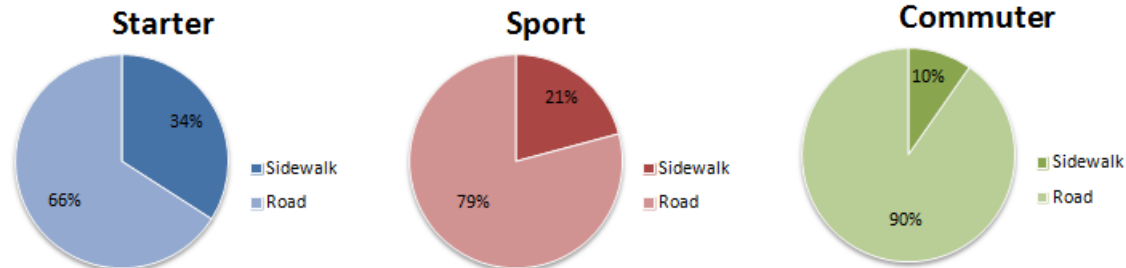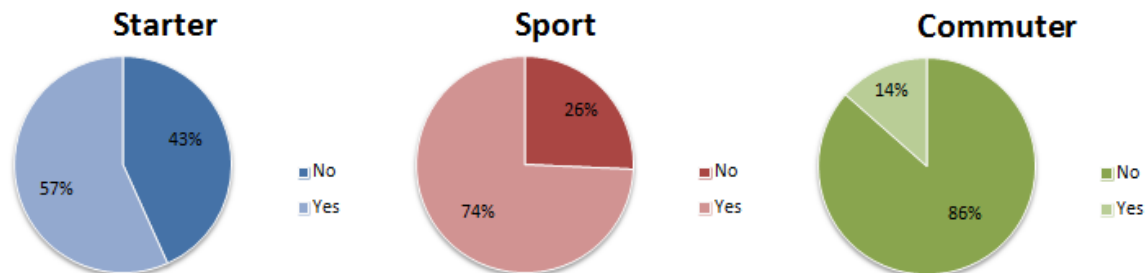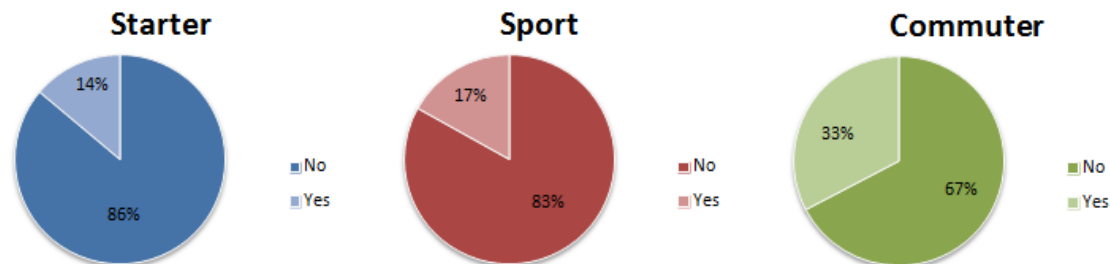
Urban behaviour

Stop on the red lights
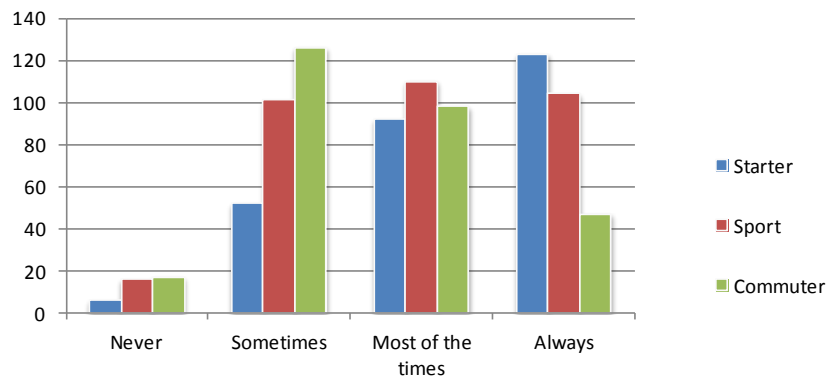
Use street on the opposite direction
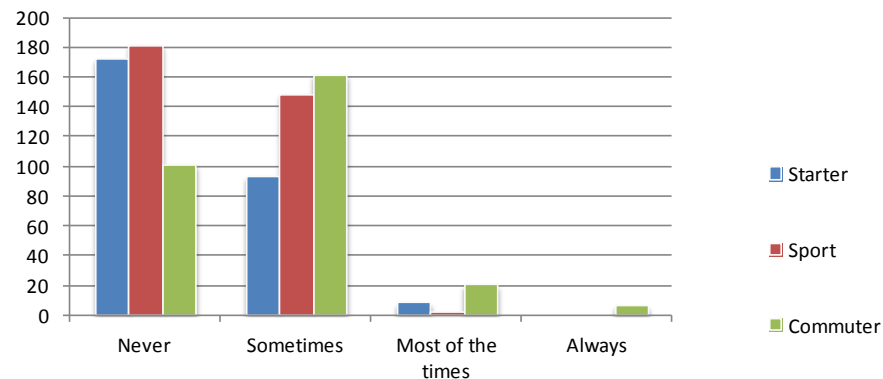
Use the cycle tracks
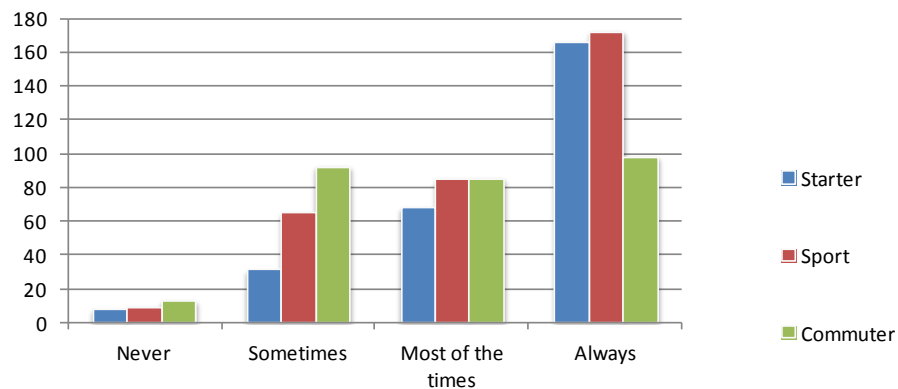
Use the BUS lanes
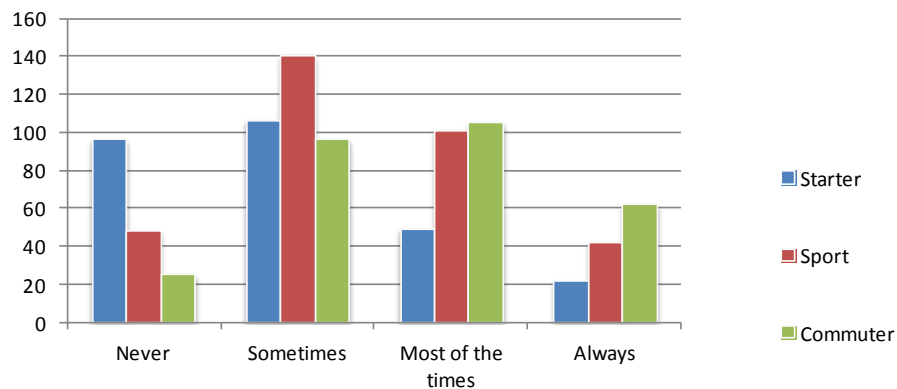
Community

	Advocacy organization	Internet forum / mailing list	Social network	Event participation
Yes	22 %	32 %	46 %	40 %
No	78 %	68 %	54 %	60 %

22% Organizations, **46%** social network
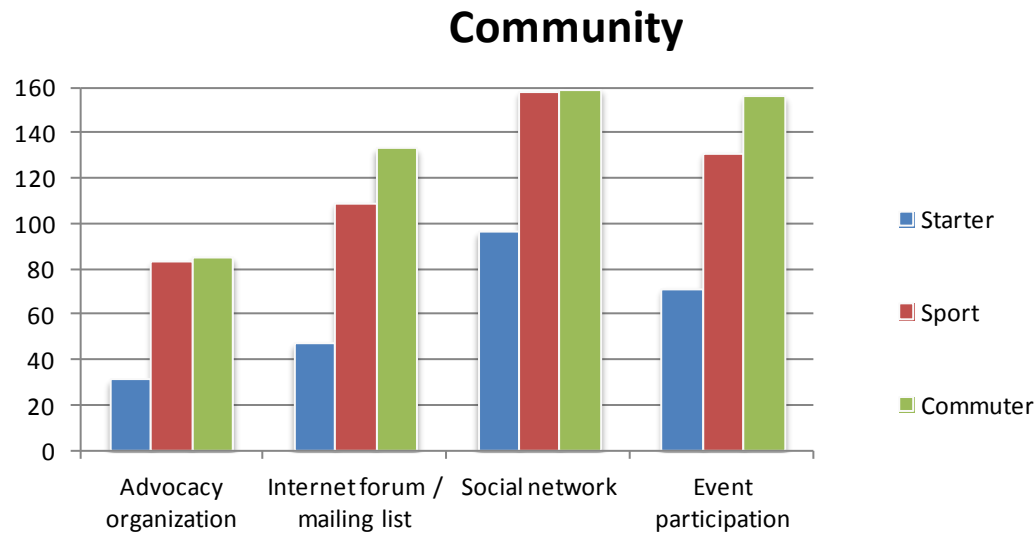
Needs and suggestions

Policies and measures for bicycle promotion and better accessibility

Left chart:

Measure	%
More cycle tracks	33%
Improve cycle tracks	5%
More and improved cycle tracks	14%
Introduce cycle lanes	6%
More cycling tracks or lanes	7%
Shared lanes BUS+Bici	8%
Parking	23%
Remove tram rails	2%
Improve pavment conditions	8%
Public elevators	1%
Traffic calming	10%
Conditioning / supervise cars	8%
Awareness of motorists	21%
Chagne highway code (better for cyclists)	9%
Bicycle promotion	12%
Signage / Information	6%
Showers on destination	4%
Better accessibility and articulation with public…	16%
Awareness of pedestrians	7%
Bicycle sharing system	6%

Right chart:

Category	%
Cyclin infrastructures	73%
Cycling facilities	35%
Traffic calming, highway code, car restriction, motorist awarness	48%
Bcycle promotion	23%
Publit transports articulation	16%
Awareness of pedestrians	7%
Bicycle sharing system	6%

Conclusions

- Contribution for Lisbon bicycle users characterization

- Updated information on bicycle usage and users profile

  - 3 distinct profiles

  - Concern about safety

Future?

- Cycling networkg and infrastructures planned / adapted for different bicycle users

- Information system tool as a solution for lack of data for planning and managment of cycling networks and it's infrastructures

- Data collecting for monotorizing and decision support

THANK YOU

User's needs and preferences for planning and management of cycling network in Lisbon, a *starter city*

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3 Profiles

Beginner	Sport / weekend	Commuter
• Young (μ= 32,7 ; δ=10,33) • Any gender • Beginner • Uses the bike for less than 2 years • Weekend trips for touring and sport • Cheap bicycles • Mountain and city bikes • Safety is the most important criterion • Prefers bike lanes and streets with pleasant sights • Rides on sidewalk and on the road • Respects traffic lights • Group with fewer proposals of policies and measures for better accessibility	• Middle age (μ= 36,06 ; δ=9,47) • Male • Owns a car and a great part lives outside Lisbon • Weekend trips for touring and sport • Mountain and road bikes • Expensive bikes • Safety is the most important criterion • Fastness, pleasant sights and air pollution are important criteria • Wears a helmet • Rides with confidence	• Young (μ= 31,71 ; δ=7,59) • Lives in Lisbon • Daily bike commuter • Experienced • Road, mountain, hybrid, folding and city bikes • Fastness and slope are the most important criteria • Gives a lot of importance to type and pavement conditions • Rides on the road • Does not wear a helmet • Does not claim for bike lanes • Rides on opposite direction and on BUS lane, when they exist • A third already suffered a bicycle accident in urban traffic • A quarter had already a bike stolen • Group with more proposals of policies and measures for better accessibility • Group most connected to cyclists community