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Sevilla: a successful experience of promotion of urban cycling in the south of Europe

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SIBUS (University of Sevilla)
“A Contramano” - ECF

What is SIBUS?

- Integrated Bike-System of the University of Sevilla (SIBUS)
 - Parking facilities in closed and open areas (2.389 parking places: 1/36 US members)
 - Long term bike sharing system (400 bikes)
 - Educational activities (courses, workshops...)
 - Web: <http://bicicletas.us.es>
 - Research group
 - University
 - The City area

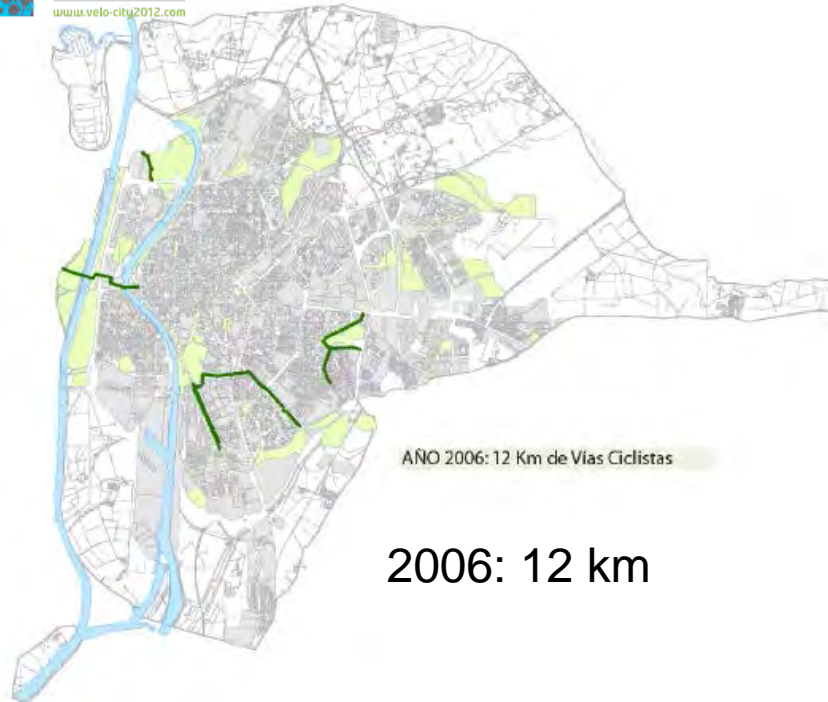
Goals

- To evaluate the use of the bike as a mode of transport in Sevilla (700.000 hab., central area)
- To evaluate the profile (gender...) of urban cyclists and the motivation of trips.
- To evaluate the use of the public bike system
- To evaluate the evolution of the use of the bike
- To evaluate environmental and health benefits.
- To evaluate the main characteristics of the process and to obtain practical conclusions.

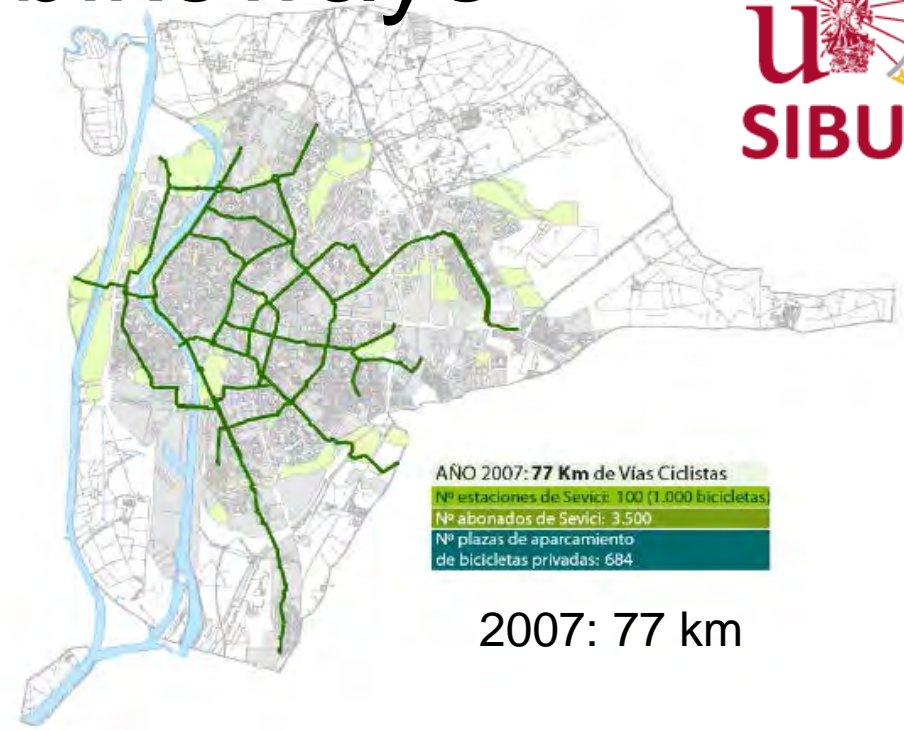
Methodology

- Direct counting of bikes in 22 relevant points in the city (both public and private bikes).
- Indirect estimation of modal share
- Direct polls to cyclists in the street
- Estimation of CO₂-equiv emissions from previous data.
- Estimation of health benefits using HEAT:
<http://www.heatwalkingcycling.org/>

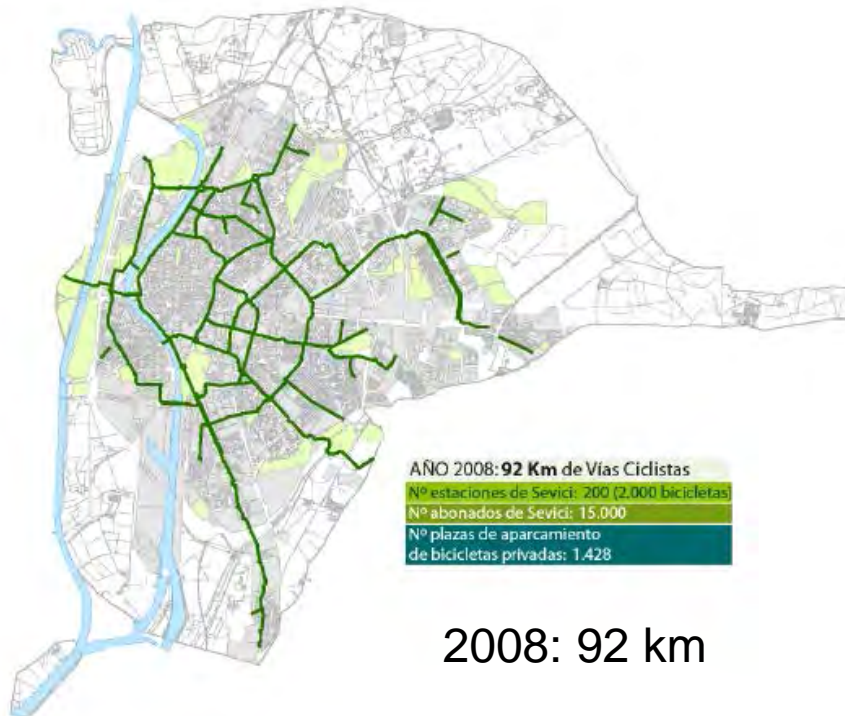
Evolution of bikeways



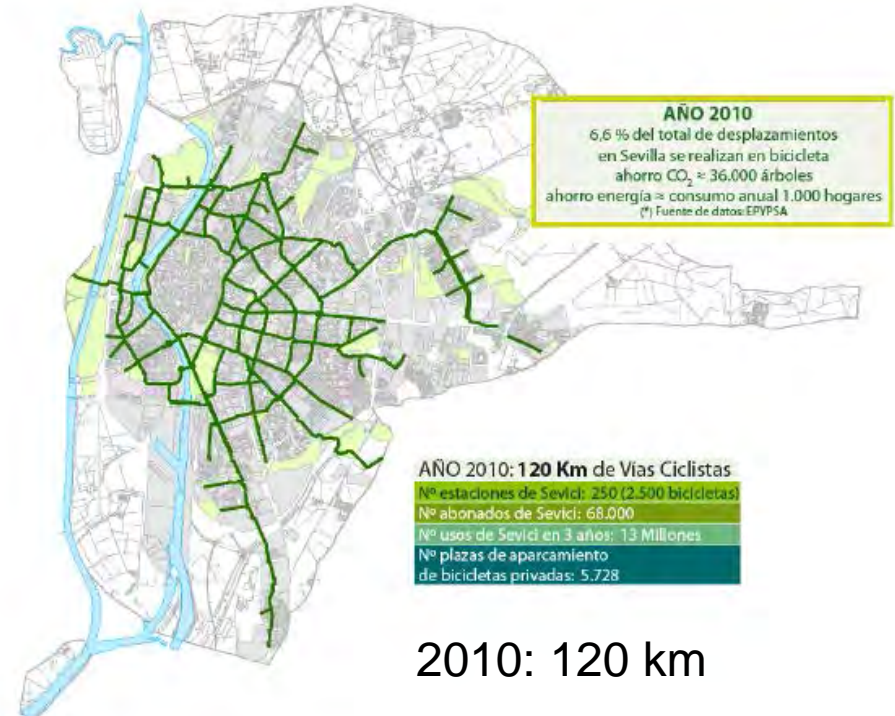
2006: 12 km



2007: 77 km



2008: 92 km



2010: 120 km

AÑO 2010
6,6 % del total de desplazamientos en Sevilla se realizan en bicicleta
ahorro CO₂ ≈ 36.000 árboles
ahorro energía ≈ consumo anual 1.000 hogares
(*) Fuente de datos: EPVPSA

Typologies

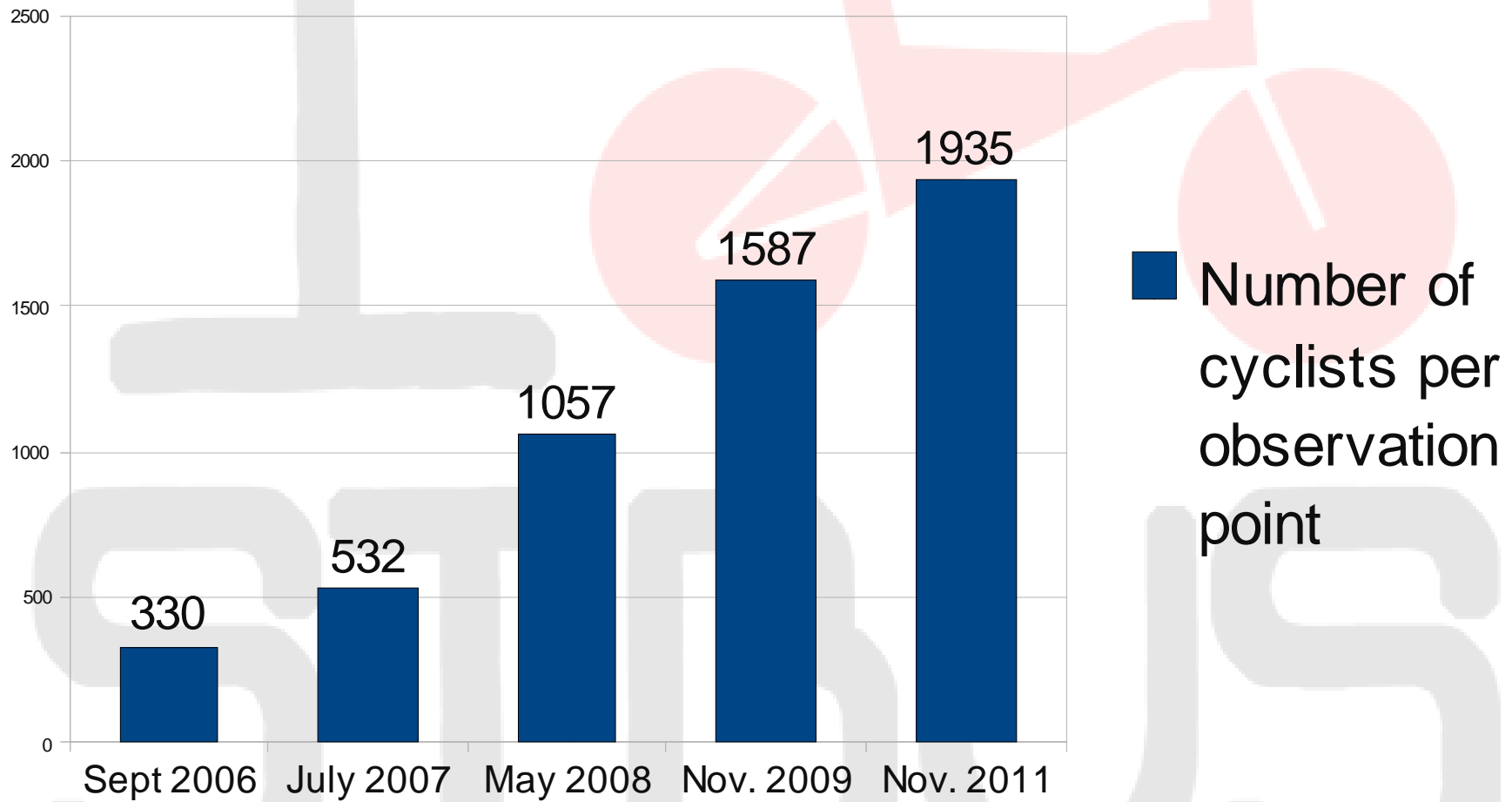


Public bike-sharing system

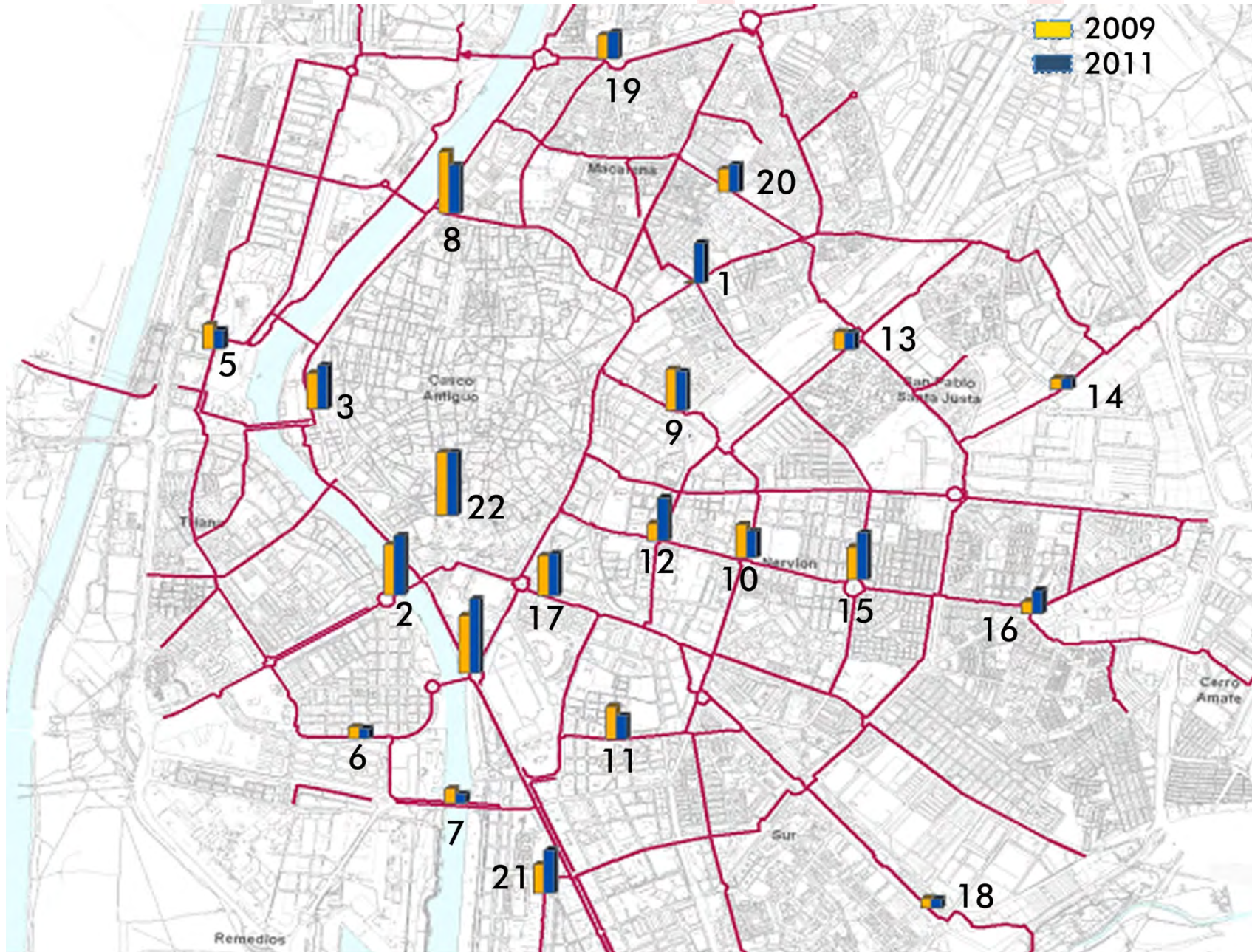


- 260 stations
- 2.600 bikes
- 51.397 associates
- 20.000 trips per day approx.
- > 7 uses per day per bike (labour day).

Evolution of traffic intensity

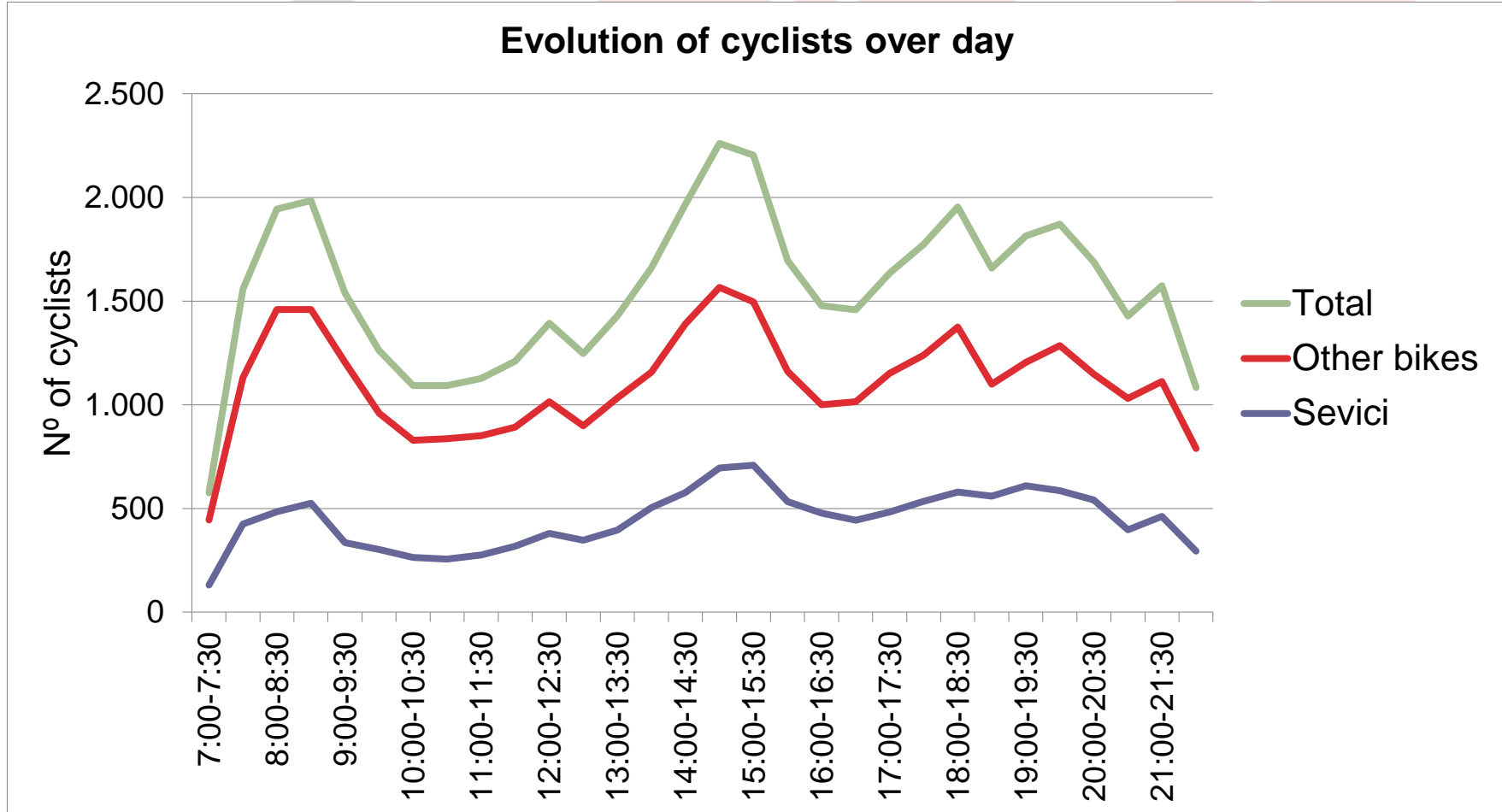


Evolution 2009 – 2011 (+20-10%)



Other details

- Public bikes / Private bikes: 28,77% / 71,23%
- Gender: male 67,92% / female 32,08%



Modal share Nov. 2007

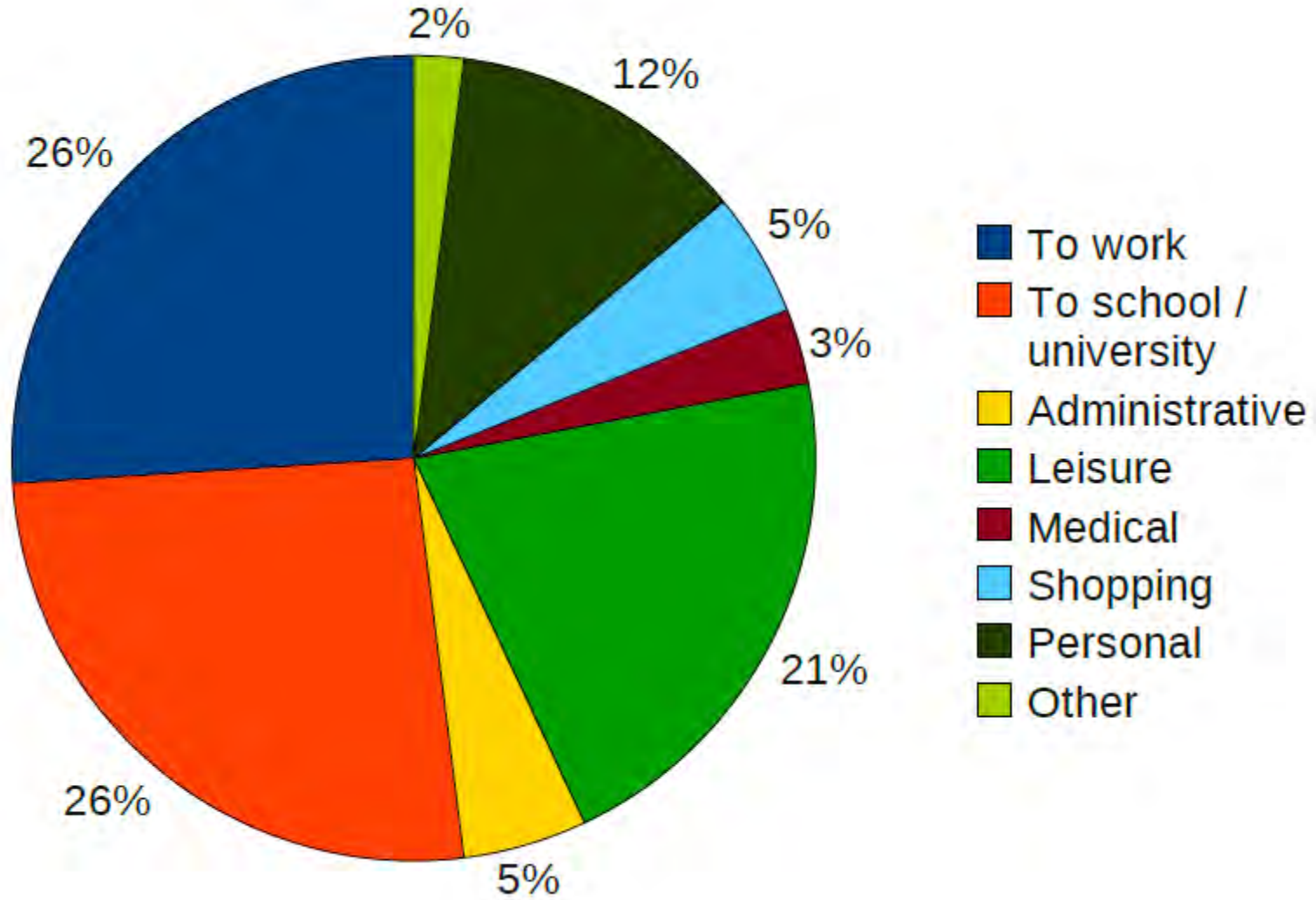
Pedestrians	475.120	36,5%	
<u>Bikes</u>	<u>41.744</u>	<u>3,2%</u>	<u>5,0%</u>
Public Transp.	254.463	19,5%	30,7%
Motorbike	59.033	4,5%	7,1%
Car	473.021	36,3%	57,1%
TOTAL	1.303.381 (828.261)	100%	100%

Modal share Nov. 2011 (estimated)

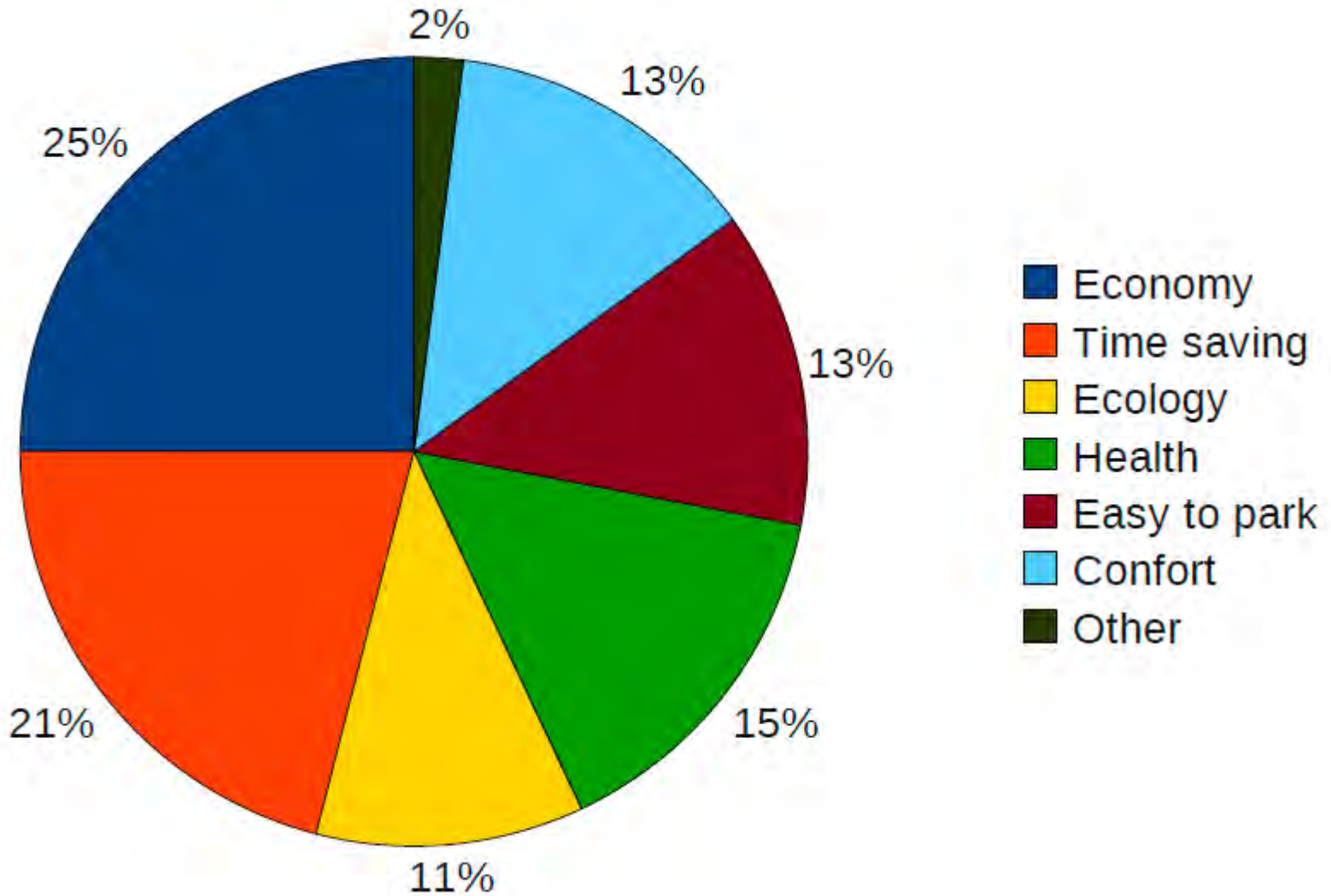
- Bike trips estimated from percent of public bike trips (27,77%), and total public bike trips: 20.877

Pedestrians	475.120 (?)	36,8%	
<u>Bikes</u>	<u>72.570</u>	<u>5,6%</u>	<u>8,9%</u>
Public Transp.	283.489	22,0%	34,8%
Motorbike	65.000	5,0%	8,0%
Car	393.553	30,5%	48,3%
TOTAL	1.289.732 (814.612)	100%	100%

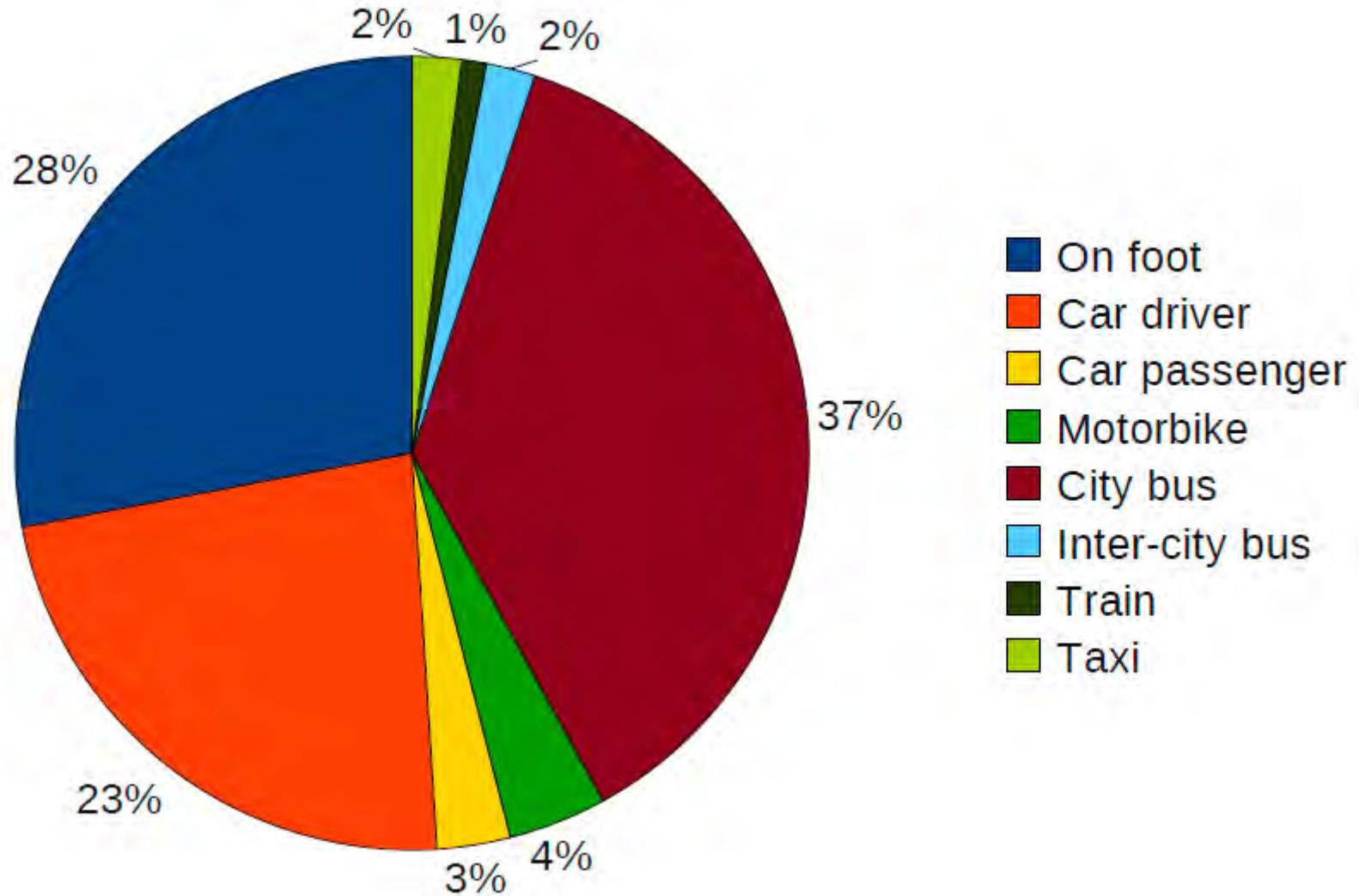
Trip motivations



Reasons for choosing bike

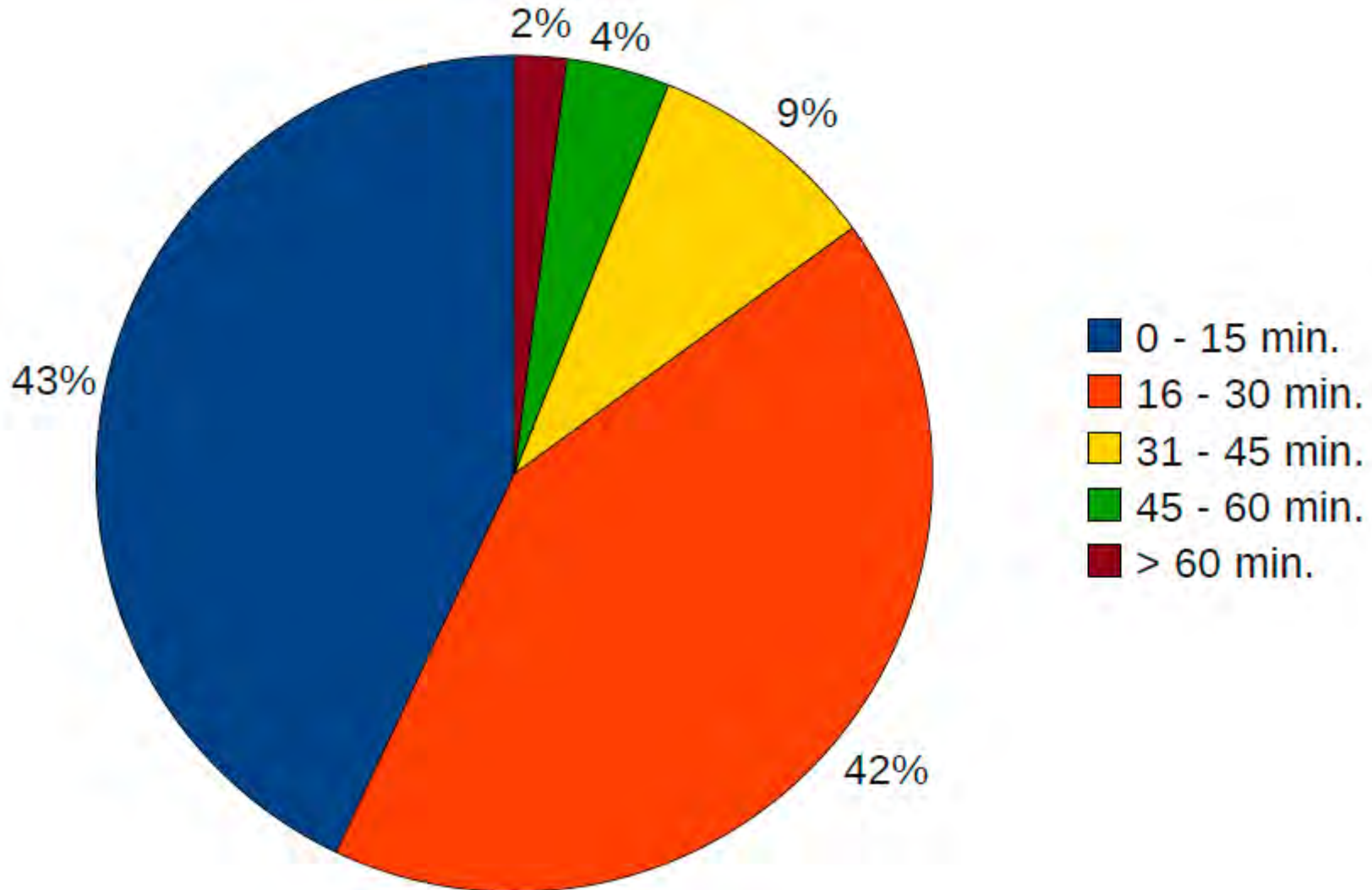


Previous mode



Travel time

(estimated average distance 5,1 km)



CO₂-eq. Savings

http://www.ecf.com/wp-content/uploads/ECF_CO2_WEB.pdf

- Trips: 72.570 trips per labour day without rain
- Average distance: 5,1 km
- Effective days per year: 235
- Substitution:
 - Car 28%
 - Public transport 40%
 - Motorbike 4%
- Total CO₂-eq. Savings: **8.633,9 Tm·CO₂eq / year**
- Total fuel savings: **27.151 barrels of crude oil / year**

Health benefits

<http://www.heatwalkingcycling.org/>

- Population that stands to benefit (daily users) 50.799
- Protective benefit (relative risk of death among cyclists): 22%
- Lives saved (per year): 24,17
- Standard value of a statistical life in Europe (program value): 1.574.000 euros
- Present value of mean annual benefit (discount rate of 5% for future benefits, taking inflation into account): 20.638.000 euros (cost of bikeways network: 35.000.000 euros)

What we have “learned”?

- Make a network, not isolated cycleways (Of course!).
- Make your network fast: people will feel it is useful
- Make your cycleways visible and easy to recognize
- Make your cycleways safe: protect the cycleways against traffic.
- Two-ways better than one one-way (at the beginning)
- If there are parking lanes, put your cycleways between parked cars and pedestrians. Make easy the access to cars.
- Bike-sharing systems are a complement of the cycling network. But not conversely.
- It helps to have a unified management of the bike program.
- Consensus with urban cycling associations is very important!!

Strengths and weakness

- Strengths:
 - Amazing increase of urban cycling (~ x 6).
 - Bike became very popular (30% of people uses it).
 - Infrastructure very difficult to remove (physically and politically).
- Weakness:
 - We are an exception surrounded by nothing.
 - There is not yet a clear political consensus.
 - Conflicts with pedestrians.



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