



Support study on data collection and analysis of active modes use and infrastructure in Europe

Appendix C – Country Reports

Written by
Country Researchers (as indicated in each country report)
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COWI



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Appendix C – Country Reports

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C.1 AUSTRIA

SEPTEMBER 2016
EUROPEAN COMMISSION
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ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – AUSTRIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
VCÖ	Verkehrsclub Österreich (Traffic and Mobility Organisation, Austria)
IFES	Institute for Empirical Social Studies

SUMMARY TABLE

National surveys				
	Fußverkehr in Zahlen (Foot traffic in numbers)		2012	
	Radverkehr in Zahlen (Cycling in numbers)		2012	
	Österreich Unterwegs (Austria on the Move)		ongoing	
City-level surveys				
	Continuous Mobility Survey		continuous	
	Study on quality of living		2013	
Walking: average daily distance travelled per person				
no data				
Walking: average number of trips per day				
	Number	Unit	Population	Year
Austria	no data			
Vienna	1.125	trips/day/person	unknown	2010-2014
Cycling: average daily distance travelled per person				
	Distance	Unit	Population	Year
Austria	0.7	pkm/day	unknown	2011
Vienna	no data			
Cycling: average number of trips per day				
no data				
Cycling: percentage of the population cycling in the country/city				
	Percentage	Definition		
Austria	24	at least once a week		
Vienna	21	at least once a week		
Statistics on cycling infrastructure (km), by type of infrastructure				
		Austria	Vienna	
	Cycle track	-	121	
	Cycle street	-	286	
	Bus and cycle lane	-	13	
	Contraflow cycling	-	219	
	Cycle lane	-	7	
	Advisory cycle lane	-	-	
	Total	13,707	1,222	

1 Context

Plenty of information is collected in Austria regarding walking and cycling. Among others, the Federal Ministry for Transport, Innovation and Technology has commissioned several data collection exercises related to walking and cycling. In 2012, two comprehensive statistical summaries on walking and cycling were published: *Fußverkehr in Zahlen* (Foot traffic in numbers) and *Radverkehr in Zahlen* (Cycling in numbers). The two reports present various statistical data from various sources on walking and cycling, including EU-wide comparisons. However, most of the questions do not match the content of this study.

In addition, there is currently a mobility survey being carried out *Österreich Unterwegs* (Austria on the Move)¹ with the objective to capture the mobility behaviour of all population groups in order to create a future-oriented basic data for traffic planning and mobility research in Austria. The survey phase is completed but results were not received by the date of publication of this report.

Regarding the city of Vienna, two studies have been commissioned in the past years: a continuous mobility survey by Public transport operator Wiener Linien and a study on the quality of living commissioned by the city of Vienna. Some information could be extracted from these two surveys.

The list of stakeholders contacted as part of this study is presented as Appendix C of the main report.

2 Challenges related to data collection

The challenges related to the data collection in the country could not be identified.

3 Active modes use

3.1 Walking

It was not possible to identify how walking was defined in the application of the surveys.

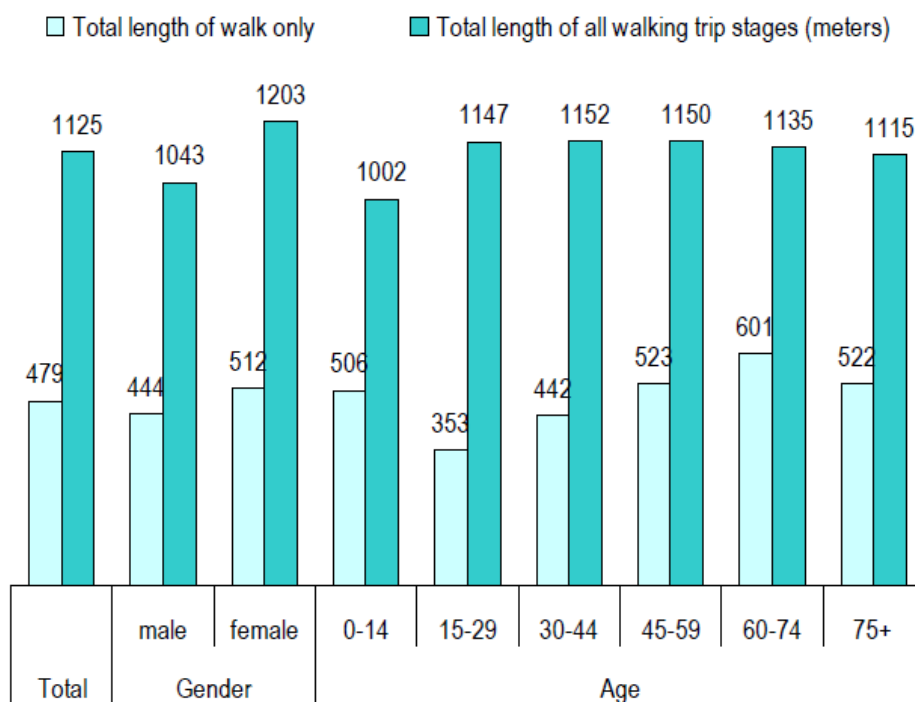
3.1.1 Statistics

Figure 1 illustrates the pkm per day for the years of 2010-2014 both as "walk only" and as part of multimodal trips².

¹ <https://www.oesterreich-unterwegs.at/index.php>

² These numbers are based on the following assumptions: 300 m per walk to and 300 m per walk from public transport and 100 m per try by car.

Figure 1 – Walking distance per person and day (in meters), walk only vs walking trip stages.



Source: Omnitrend, 2014

Figure 2 presents are more detailed walking behaviour, comparing different type of transport as main mode of a trip and of all kinds of modes included in a trip.

Figure 2 - Modal share by trip vs. stages

	Main mode on trip	Mode of transport on trip stages*
Walk	27,5%	56,0%
Bicycle	6,0%	2,7%
Car as driver/Motorcycle	20,1%	8,8%
Car as passenger	8,3%	3,8%
Public Transport	38,2%	28,6%
n	30960	70993

*assumptions referring to stages: 6 min per walk to and 6 min per walk from public transport and 2 min per trip by car

Source: Omnitrend, 2014

3.2 Cycling

The definition of cycling in the surveys could not be identified. Further, there is no clear indication of the country's cycling population. Available numbers suggest the following: 24 % of the population of Austria cycles at least once a week³ (2009), 8 % of Austria's population considers cycling its main mode of transport (2007)³.

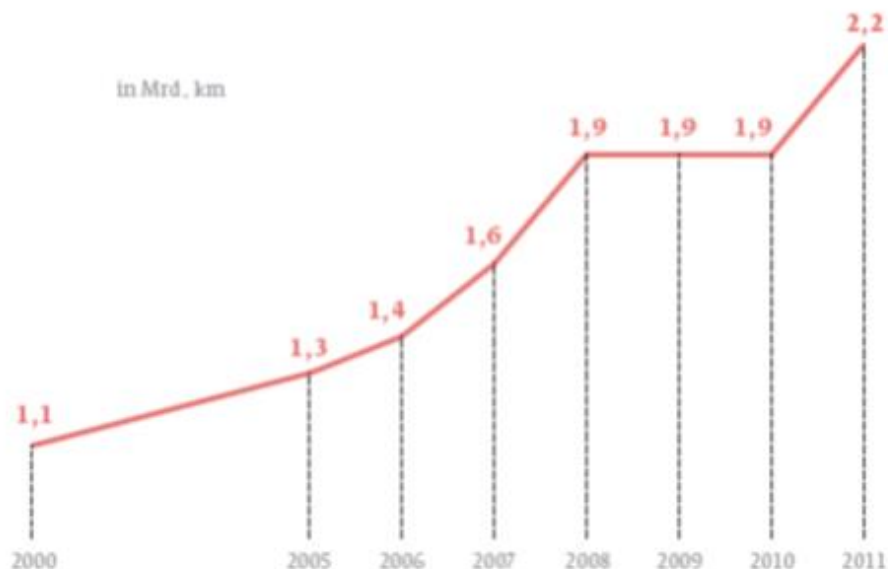
21 % of Vienna's population has cycled more than once a week in 2011³.

³ Source: VCÖ, 2012 (as cited in "Der Radverkehr in Zahlen", 2013)

Statistics

Figure 3 illustrates the evolution of the total number of kilometres driven by bicycles in Austria in everyday life, i.e. presumably excluding professional cycling.

Figure 3 - Distance driven by bicycle in everyday life (2000-2011)



Source: VCÖ, 2012 (as cited in "Der Radverkehr in Zahlen", 2013)

Based on above number, the average daily distance travelled per person can be roughly determined as being 0.7 pkm/day in 2011⁴.

4 Infrastructure

According to the *Study on the quality of living (IFES, 2013)* commissioned by the city of Vienna, more than 86 % of Vienna's population are satisfied with Vienna's walking infrastructure. Around 61 % are satisfied with Vienna's cycling infrastructure.

4.1 Walking infrastructure

The city of Vienna has a dedicated pedestrianised area of 320,000 m².

4.2 Cycling infrastructure

A cycling master plan for 2015-2025 exists and it also deals with aspects of cycling infrastructure.

⁴ The total number of kilometres driven on bicycle in 2011 from figure 3, divided by the Austrian population and the number of days in a year.

Cycling infrastructure within Austria is estimated to have at least 13,707 km.

The length of Vienna's cycling infrastructure is indicated to have a length of 1,222 km. The following types of cycling infrastructure (and their estimated length) exist: Cycle tracks (121 km), Cycle streets (286 km), Bus and bicycle lanes (13 km), Contraflow cycling (219 km) and Cycle lanes (7 km).

5 Data collection methods

No primary source of data was available. All data presented in this country report stem from statistical summaries that use more than one source of data collection.

The main sources of information are the two publications of the Federal Ministry for Transport, Innovation and Technology *Fußverkehr in Zahlen* and *Radverkehr in Zahlen*. No background information on definitions or data collection methods is available at this point. Most of this information will be provided, once results of the mobility survey "Österreich unterwegs" will be processed and made available.

For the city of Vienna, two surveys – Continuous Mobility Survey and Study on quality of living (2013) - are known, but only the latter is available as primary data source. However, little information is available on data collection methods.

For the continuous Mobility Survey, 2,000 inhabitants of Vienna are interviewed via phone every year, based on a 24 hour travel diary,

The study on the quality of living in Vienna is carried out every 5 years by IFES, University of Vienna. For this survey 8,400 inhabitants of Vienna are interviewed via phone. The duration/length is based on self-estimation.

6 References

Schwab D., Strasser M., et al. (2012) *Fußverkehr in Zahlen*, Bundesministerium für Verkehr, Innovation und Technologie - BMVIT, Walk-space.at – der Österr.Verein für FußgängerInnen, 2012

Florian Matiasek et.al (2013), *Der Radverkehr in Zahlen*, Bundesministerium für Verkehr, Innovation und Technologie,

IFES (2013), *Lebensqualität in Wien*, University of Vienna

Omnitrend GmbH (2014), Mobility Survey, Wiener Linien

C.2 BELGIUM

SEPTEMBER 2016
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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
BELDAM	Belgian Daily Mobility Survey
UNECE	United Nations Economic Commission for Europe

SUMMARY TABLE

National surveys

Belgian Daily Mobility Survey (BELDAM) 2009-2010
Diagnostiek woon-werkverkeer 2014

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Belgium	1.127	pkm/day, reported	mobile	2010
Belgium	0.805	pkm/day, reported	total	2010
Belgium	1.415	pkm/day, estimated	mobile	2010
Belgium	1.011	pkm/day, estimated	total	2010
Brussels	1.658	pkm/day, reported	mobile	2010
Brussels	1.168	pkm/day, reported	total	2010
Brussels	2.206	pkm/day, estimated	mobile	2010
Brussels	1.555	pkm/day, estimated	total	2010

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Belgium	0.642	pkm/day, reported	mobile	2010
Belgium	0.459	pkm/day, reported	total	2010
Belgium	0.743	pkm/day, estimated	mobile	2010
Belgium	0.531	pkm/day, estimated	total	2010
Brussels	0.465	pkm/day, reported	mobile	2010
Brussels	0.328	pkm/day, reported	total	2010
Brussels	0.559	pkm/day, estimated	mobile	2010
Brussels	0.394	pkm/day, estimated	total	2010

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Belgium	13	at least five days per week
Belgium	30	at least one day per week
Belgium	44	at least one day per month
Belgium	61	at least one day per year
Brussels	13.6	at least once per week

Statistics on cycling infrastructure (km), by type of infrastructure

	Belgium	Brussels
Cycle track	-	100
Cycle street	-	4
Bus and cycle lane	-	7
Contraflow cycling	-	404
Cycle lane	-	46
Advisory cycle lane	-	37
Total	-	598

FOOTNOTES:

1) Statistics for mobile population are available in BELDAM

2) During BELDAM data cleaning, overestimations of walking were corrected by comparing the reported walking distances with the travel times. These corrected distances are referred to as 'estimated distance', as opposed to 'reported distances'. The official BELDAM statistics are calculated based on the cleaned up data, therefore the chosen distance for the 'average daily distances walked' and 'average daily distances cycled' statistics refer to 'estimated distance'.

3) Cycling at least once per year is considered the best fit for cycling population.

1 Context

The main source of statistics on walking and cycle use is the Belgian Daily Mobility Survey (BELDAM) survey. The previous survey (2009-2010) is currently being repeated, and has been adapted to Eurostat guidelines on Passenger Mobility Statistics.

A second source of statistics is the 'Diagnostiek woon-werkverkeer 2014'. This is based on a mandatory survey (every three years) for all employers of more than 100 employees, about the commuting mobility. The survey is filled in per site of at least 30 employees (more than 10.000 companies and almost 1.5 million employees, 33% of the workforce in 2011). The data consist of:

- › Internal survey per company on
 - › main mode of transport for commuting of employees, per municipality of residence
 - › feeder modes of transport
- › number of bike parking
- › measures in place and potentially thinkable measures to promote cycling (km reimbursement, safe parking,...)
- › mobility obstacles related to cycling (road safety, security, image of cycling, no showers, no parking possible)

A third source is the 2011 census, which includes a few questions about daily mobility habits but nothing about walking and cycling:

- › How many time a week (0, 1, 2, 3 or more) do you normally combine this trip with the following activities:
 - › To:
 - › Shopping
 - › bring child to school or day-care
 - › other activity
 - › Return:
 - › Shopping
 - › bring child to school or day-care
 - › other activity

Traffic counts (walking and/or cycling) are conducted by local authorities. The results are not published at national level.

Infrastructure guidelines are available per region, not at national level. Walking and cycling infrastructure statistics are available at regional and local level; they are not published at national level.

The list of stakeholders contacted as part of this study is presented as Appendix C of the main report.

2 Challenges related to data collection

EU action

The PEP Partnership on Promotion of Cycling (UNECE) initiated the development by 2019 of a pan-European Master Plan for Cycling Promotion, supported by guidelines and tools to assist in the development of cycling promotion policies at the national level (PEP, 2016). One of the ongoing tasks includes:

- › Define a minimum set of indicators necessary to monitor the status of cycling;
- › Provide an overview of existing data sources and methodologies used for collecting this data;
- › Provide an overview of the current values of these indicators;
- › Recommendations to survey these indicators.

Belgium is in charge of collecting data on active mode use in Europe, as part of the PEP.

3 Active modes use

The following table illustrates the statistics that can be calculated based on the BELDAM micro-data:

Table 1. Reported pkm/day (mobile population only), reported pkm/day (entire population), estimated pkm/day (mobile population only), estimated pkm/day (entire population). For Belgium and Brussels, walking and cycling. Courtesy of Eric Cornelis

Distance parcourue par jour calculée uniquement pour les personnes mobiles (suivant distances rapportées)

	Marche	Vélo
Belgique	1,127	0,642
Bruxelles	1,658	0,465

en km

Distance parcourue par jour calculée pour tous les répondants y compris les immobiles (suivant distances rapportées)

	Marche	Vélo
Belgique	0,805	0,459
Bruxelles	1,168	0,328

en km

Distance parcourue par jour calculée uniquement pour les personnes mobiles (suivant distances estimées)

	Marche	Vélo
Belgique	1,415	0,743
Bruxelles	2,206	0,559

en km

Distance parcourue par jour calculée pour tous les répondants y compris les immobiles (suivant distances estimées)

	Marche	Vélo
Belgique	1,011	0,531
Bruxelles	1,555	0,394

en km

Source : BELDAM 2010, cf. « La mobilité en Belgique en 2010 : résultats de l'enquête BELDAM », E. Cornelis et al., 350 p., SPF Mobilité & Transports, Bruxelles, 2012

These, however, are not published as standard statistics (BELDAM, 2010). During BELDAM data cleaning, overestimations of walking were corrected by comparing the reported walking distances with the travel times. These corrected distances are referred to as 'estimated distance' as opposed to 'reported distances'. The official BELDAM statistics are calculated based on the cleaned data, therefore the chosen distance for the 'average daily distances walked' and 'average daily distances cycled' statistics refer to 'estimated distance'. Some caution is therefore suggested when interpreting the walking distance statistics (BELDAM, 2010, p17).

3.1 Walking

Definition

There is no definition of walking. The BELDAM questionnaire asks for travel distance and travel time per trip stage, waiting time is counted as part of the mode used.

Statistics

The walking statistics are published as % of the population that usually cycles with a certain frequency

Table 2. Published walking statistics from BELDAM

	Flandre	Wallonie	Bruxelles	Belgique
au moins 5 jours par semaine	32%	40%	60%	37%
1 à quelques jours par semaine	29%	25%	23%	28%
1 à quelques jours par mois	17%	14%	6%	15%
1 à quelques jours par an	7%	6%	2%	6%
jamais	14%	15%	9%	14%
<i>Base</i>	<i>3990</i>	<i>7971</i>	<i>3710</i>	<i>15671</i>

3.2 Cycling

Definition

There is no definition of cycling.

Statistics

The cycling statistics are published as % of the population that usually cycles with a certain frequency

Table 3. Published cycling statistics from BELDAM

	Flandre	Wallonie	Bruxelles	Belgique
au moins 5 jours par semaine	20%	4%	5%	13%
1 à quelques jours par semaine	24%	7%	9%	17%
1 à quelques jours par mois	16%	11%	10%	14%
1 à quelques jours par an	16%	20%	16%	17%
jamais	24%	58%	59%	39%
<i>Base</i>	<i>3990</i>	<i>7971</i>	<i>3710</i>	<i>15671</i>

4 Infrastructure

Generally, there is not much information available about the kilometres of pedestrians streets and cycles lanes in the country. These are regional and local competences. Information can be obtained in some cities if there is a wish for this, as illustrated for Brussels (Table 4)

Table 4. Cycling infrastructure in Brussels

Cycling infrastructure	Length
Cycle track	100 km
Cycle street	4 km
Bus and bicycle lane	7 km

Contraflow cycling	404 km
Cycle lane	46 km
Advisory cycle lane	37 km

Figure 1. Cycling infrastructure data on Brussels (courtesy sprb.brussels)

5 Data collection methods

5.1 Beldam NTS

The total population is included, but because the sampling is based on households, the 'collective households' such as monasteries, prisons, communes, are not included. The sampling is based on the number of households. In each household, the trips by household members older than 5 years are recorded.

Survey method used:

- › Postal 13%
- › Mixed method 30%
- › Face-to-face 17%
- › Non-response: 32%
- › Not clear: 8%

In urban areas, more face-to-face surveys were conducted to improve the response from immigrant households, less educated people.

Per household, 1 reference day between December 2009 and December 2010 is recorded. The reference days of all households are spread over the year and days of the week to account for seasonality.

The questionnaire explains the trip stages, but does not include definitions of walking and cycling.

EERST :		5	min te voet			km	5	0	0	m	
DAN (1) :		4	5	min			5	0		m	
autobestuurder	te voet		trein		bus De Lijn		ander :				
autopassagier	motor/bromf		tram		bus MIVB						
taxi	fiets		metro		bus TEC						
DAN (2) :		1	2	min			1	0		m	
autobestuurder	te voet		trein		bus De Lijn		ander :				
autopassagier	motor/bromf		tram		bus MIVB						
taxi	fiets		metro		bus TEC						
DAN (3) :				min						m	
autobestuurder	te voet		trein		bus De Lijn		ander :				
autopassagier	motor/bromf		tram		bus MIVB						
taxi	fiets		metro		bus TEC						
TEN SLOTTE		4		min te voet					4	0	0

Wandelen, de hond uitlaten of een fietstochtje zonder echte bestemming zijn ook verplaatsingen. (Bv. : verplaatsing 6)

5.2 National Census

The questions in the census are related to trips to work or school:

- › How many times a day do you go from your normal place of stay and your work or school, and back? (1x, 2x or more)
- › How many days a week do you make this trip (both ways)?
- › Which transport mode(s) do you mostly use for this trip? (walk, bicycle, motorcycle, scooter, transport organized by the employer or school, car (passenger), car (driver),)
- › What is the distance (one way) in km?
- › What were your departure and arrival times of your last normal trip
 - To: departure (h, min) arrival (h, min)
 - Return: departure (h, min) arrival (h, min)
- › How many time a week (0, 1, 2, 3 or more) do you normally combine this trip with the following activities
 - To:
 - shopping
 - bring child to school or day-care
 - other activity
 - Return:
 - shopping
 - bring child to school or day-care
 - other activity

However, published national statistics on walking and cycling based on the census could not be found.

6 Brussels

An over sampling is performed in Beldam to produce statistics for the Brussels Agglomeration. These are reported for different spatial zones:



	Région de Bruxelles-Capitale	Anneau 1 ^{ère} Périphérie	Anneau 2 ^{ème} Périphérie	La périphérie	Zone d'étude Iris 1	Zone d'étude Iris 2
Zones	1	2	3	2 + 3	1 + 2	1 + 2 + 3
Communes	19	33	83	116	52	135

Figure 2. Transport zones for Brussels (Beldam)

Indicators on walking and cycling are published by *Bruxellesmobilité/mobielbrussel* in the *Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale* (Brussels-Region Mobility Observatory) (Lebrun et. Al. 2013). Based on Beldam, the share of people walking regularly is 80,7% and cycling regularly is 13,6%.

Irisnet publishes real-time information, including useful information for cyclists and pedestrians. The data are open, and available upon request. They are not currently used to produce active modes statistics.

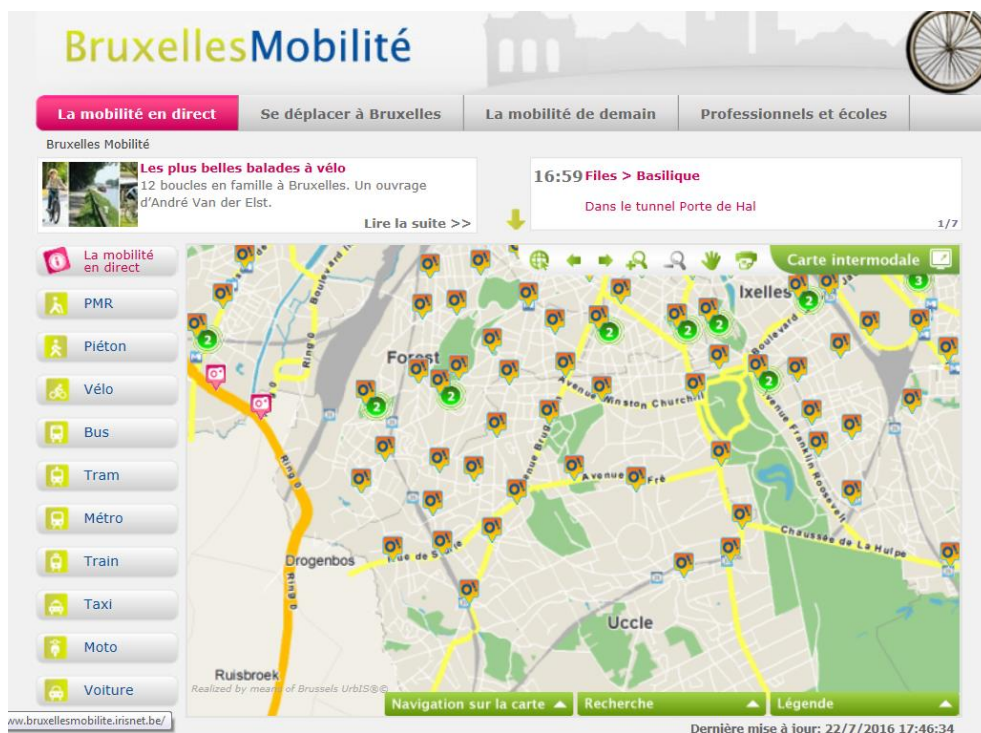


Figure 3. Real-time information in Irisnet. <http://www.bruxellesmobilité.irisnet.be/>

Cycling counts (Figure 4) and pedestrian counts (Figure 5) are published by the Brussels Mobility observatory.

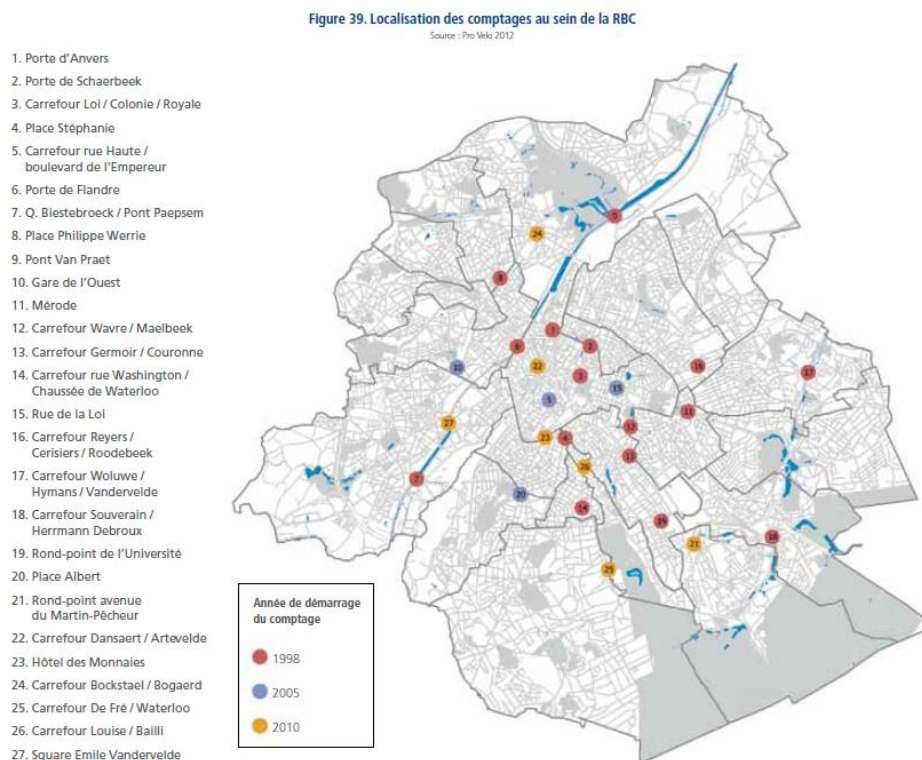


Figure 4. Cycling count points in Brussels (Cahiers Mobilité, 2013)

Tableau 51. Flux piétons dans les quartiers commerçants de Bruxelles

Source : Atium 2012

Quartier	Adresse	Moyenne Mobile 2010	Quartier	Adresse	Moyenne Mobile 2010
Congrès	Rue Royale, 23	4.129,3	Karrevelde	Chaussée de Gand, 377	4.248,7
Saint-Géry	Rue Jules Van Praet, 18	5861,7	Saint-Gilles Nord	Chaussée de Waterloo, 70	11.242,0
Dansaert	Rue Antoine Dansaert, 31	8.118,7	Saint-Gilles Sud	Chaussée d'Alseberg, 1	7.811,0
Grand-Place	Rue du Marché aux Herbes, 64	16.463,3	Bockstael	Rue Marie-Christine, 212	13.745,0
Marolles	Rue Blaes, 175	6.299,3	Molenbeek Centre	Chaussée de Gand, 113	10.093,3
Midi	Boulevard Lemonnier, 41	6.632,3	Jette	Rue Léopold I, 474	7.665,0
Mont des Arts	Rue Ravenstein, 18	6.625,7	Ninove	Chaussée de Ninove, 417	4.300,3
Neuve	Rue Neuve, 22	50.396,7	Flagey	Place Flagey, 18	6.177,0
Sablon	Place du Grand Sablon, 11	4.665,3	Brabant	Rue de Brabant, 55	24.324,7
Saint-Jacques	Rue du Midi, 84	9.105,7	Cureghem	Chaussée de Mons, 156	9.009,7
Vismet	Rue de Laeken, 146	3.954,7	Saint-Josse	Chaussée de Louvain, 56	9.268,0
Louise	Goulet Louise	19.603,0	Helmet	Rue Richard Vandevelde, 17	6.821,7
Saint-Guildon	Rue Paul Janson, 12	10.447,0	La Chasse	Avenue des Casernes, 5	9.627,7
Porte de Namur	Chaussée d'Ixelles, 15-18	31.236,7	Saint-Denis	Chaussée de Bruxelles, 33	2.910,7

Remarque : pour chaque quartier commerçant, c'est le point de comptage présentant la moyenne mobile la plus élevée qui est présenté ici.

Figure 5. Results of pedestrian counts in Brussels (Cahiers Mobilité, 2013)

7 References

Websites:

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C.3 BULGARIA

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – BULGARIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
NSI	National Statistical Institute
NGO	Non-governmental organisation

SUMMARY TABLE

City-level surveys		
Counting of cyclists' flows in Sofia-city, Bulgaria		2015
Walking: average daily distance travelled per person		
<i>no data</i>		
Walking: average number of trips per day		
<i>no data</i>		
Cycling: average daily distance travelled per person		
<i>no data</i>		
Cycling: average number of trips per day		
<i>no data</i>		
Cycling: percentage of the population cycling in the country/city		
<i>no data</i>		
Statistics on cycling infrastructure (km), by type of infrastructure		
	Sofia	Plovdiv
Total	60	60

1 Context

Information regarding active modes use and infrastructure is not publicly available on a national level in Bulgaria. Most of the initiatives are coming from a city level.

For example, the Sofia Municipality transport policy aims to create an environment which stimulates the safe walking infrastructure. However, walking infrastructure does not seem a priority compared to cycling.

In 2012, the Sofia Municipality also published a staged plan for improving cycling¹ and in general, other large cities in Bulgaria such as Plovdiv are progressing well with the development of cycling infrastructure. For instance, the Municipality of Plovdiv has carried out a feasibility study regarding the development, implementation and maintenance of management system of public transport - "Design and construction of bike lanes". The name of the project is "Modernization and development of sustainable urban transport in the city of Plovdiv" under the Operational Program "Regional Development 2007-2013".

Sofia and Plovdiv are the two largest cities in Bulgaria. The development of walking and cycling infrastructure is crucial for reducing emissions, providing additional opportunities for movement, which in turn minimize congestion, as well as providing new opportunities for easier, more convenient, healthier and cheaper transport.

Presently, a NGO based in Sofia – the “Bike Evolution Association” and the National Statistical Institute have responded to a limited number of questions.

The list of stakeholders contacted is presented as Appendix C of the main report.

2 Challenges related to data collection

Friendliness

The pedestrian traffic is not secured with a well-maintained and attractive infrastructure. Specifically, the friendliness of the walking infrastructure is negatively impacted by 1) an insufficient width of sidewalks, often occupied by restaurants and shops; 2) poor condition of pavements, unevenness of shafts twisted curbs, unsafe sidewalks untreated and unclean elements of landscaping 3) not well developed footpaths; 4) inadequate parked cars on the sidewalks (Mott MacDonald Ltd, 2011).

A positive development can be seen supporting cycling especially in the two major cities in Bulgaria, Sofia and Plovdiv. However, the majority of the residents and cyclists are not yet feeling safe and comfortable on a bike, due to various reasons including underdeveloped biking infrastructure and risks of accidents. In addition, building a cycling culture of a city society could require a long time (Mott MacDonald Ltd, 2011).

¹ https://www.sofiatraffic.bg/media/uploads/sofia_bike_plan_2012-2017-2012.10.01-with_text_draft.pdf

Difficulties	<p>It is difficult to obtain comparable statistics both on a national and on a city level in Bulgaria. For example, the Bulgarian National Statistical Institute (NSI) does not share publicly available national statistics regarding walking or cycling. Limited walking and cycling data could be found for the two largest cities Sofia and Plovdiv, where municipalities, NGOs and EU financed initiatives have been contributing.</p> <p>As indicated by the Bike Evolution Association, difficulties when collecting statistics include lack of information on other transport modes, small budget and working only with volunteers. The information on other transport modes is necessary to form the modal split indicator, which allows monitoring the transport policy in Bulgaria. If the transport measures taken lead to an increase in the car trips, then the transport policy may have to be revised with providing more walking and cycling measures.</p>
Comparability	<p>Statistics about performance on walking and cycling have not been compared to other countries nor cities. However, it could be worth mentioning that Sofia was compared with Vienna in terms of types of vehicles used for transportation for a European Commission study in 2009. Unfortunately, cycling, walking and public transport were not analysed as separate modes of transportation, as opposed to driving a vehicle (Mott MacDonald Ltd, 2011²).</p>
EU Action	<p>As indicated by the Bike Evolution Association, comparable statistics are necessary. A priority action could be a periodical requirement for collecting harmonised data for main transport indicators (at least a modal split).</p>
Other statistics	<p>In regards to cycling, available statistics collected via surveys undertaken by the Bike Evolution Association include main cycling directions; gender, visible age, luggage carrying device (basket, saddlebags), child seat and helmet availability</p>

3 Active modes use

3.1 Walking

According to the National Statistical Institute, walking refers to “travelling on foot or moving at a moderate pace up or down steps from one place to another”. Waiting time and other active modes of transportation are not included in the walking time.

Statistics from Mott MacDonald Ltd, 2011:

- › Walking trips take 10-12% of the population mobility in Sofia, typically on distance up to 400-500 meters (5-7 mins)
- › The share of walking trips above 1.5 km is close to zero

² The study supports the Sofia Municipality in the implementation of a flexible system for optimizing traffic management, modernization of infrastructure, introduction of intelligent systems for management of traffic, and strategic transport planning. It consists of analytical part, suggestions for improvement, priorities until 2020 and methodology for planning, budgeting and preparing projects.

3.2 Cycling

The percentage of the population cycling in Sofia is 1.1% (2009)³. The Sofia Municipality staged plan for improving cycling including a pilot project with improvements, second stage (radial cycling routes linked by subway), third stage (bringing biking trails), fourth stage (ring Bike routes) and fifth stage (ending radial and tangential Bike routes). Six kilometres were built during the pilot project in 2012. In the second stage in 2013, 9.7 km. The listed cycling routes fall into the following categories 1) transit; 2) fetch; 3) leisure and recreation. In the period 2016-2020, 70.85 km are planned to be financed categorised as “bring routes”, 17.55 km “ring routes”, 14.2 km “ending rings and tangential routes”. The data was collected with the support of Sofia Municipality, Sofia Urban Mobility Centre, Bike Evolution and others.

Additional statistics on cycling

- › There is available counting on the number of cyclists per day in certain key crossroads (e.g. over 200 in a peak hour)
- › 86% cyclist are men and 14% women
- › 92% of the cyclist don't use helmet, 8% use helmet
- › 1.2% carry a second person, 5.4% use a basket, 0.4% have an electric cycle

4 Infrastructure

4.1 Walking infrastructure

Regulation № 2 for planning and project design of communication and transport systems in urbanized territories states the specific requirements, which must be met when designing pedestrian areas (Ministry of Regional Development and Public Works, 2004). These include 1) pedestrian zones to be in the limited to 600-800 meters; 2) walking distance to public transport is maximum 400 meters and others.

There are no publicly accessible statistics regarding walking infrastructure.

4.2 Cycling infrastructure

In regards to cycling infrastructure, Regulation №2 – Planning and project design of communication and transport systems in urbanized territories states that bike systems should be considered as a “complete system in the transport systems plan” together with other means of transport (Ministry of Regional Development and Public Works, 2004).

The planning and project design of the communication and transport systems is based on analyses and forecasts that take into account the structure of the urban area, its topographical features, as well as habits and traditions of the population.

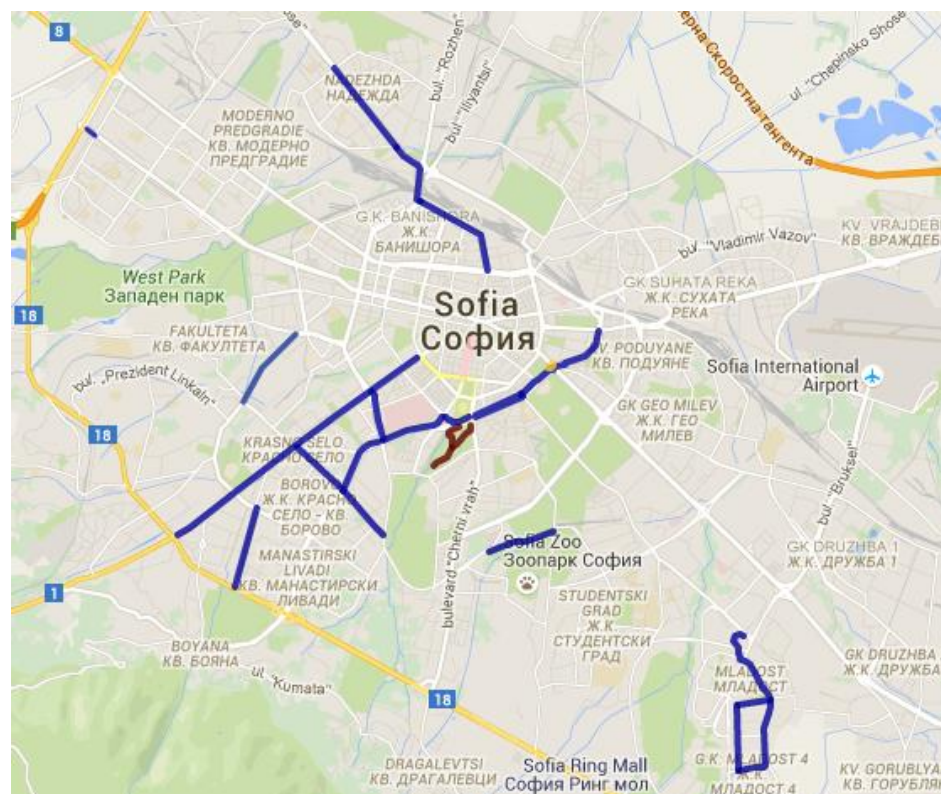
³ <http://velobg.org/docs/2012-11-21-presentation-prebroyavane-doklad.pdf>

There are publicly available statistics on cycling infrastructure at city level as described below.

4.3 Sofia

The city of Sofia has over 60 km bike lanes and parking racks for 240 bicycles, according to Sofia Municipality⁴. A map of the bike lanes extracted from Google can be seen below⁵

Figure 4-1: Cycling infrastructure in Sofia



4.4 Plovdiv

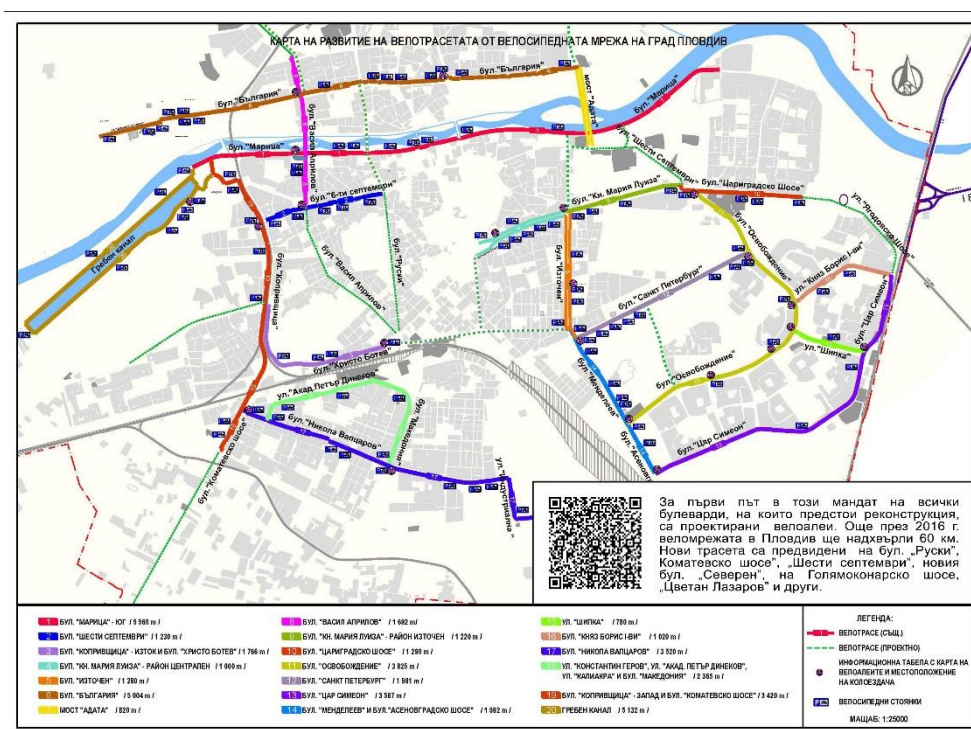
Plovdiv has a network of over 60 kilometres bicycle infrastructure, with planned 690 bike parking spaces. A map can be seen below⁶.

⁴ [Sofia Municipality press center](#)

⁵ [Map with cycling infrastructure in Sofia](#)

⁶ [Map with cycling infrastructure in Plovdiv](#)

Figure 4-2: Cycling infrastructure in Plovdiv



5 Data collection methods

The typically used data collection method consists on traffic counts. The name of the key data collection study is “Counting of cyclists’ flows in Sofia-city, Bulgaria”. The most recent data is from 2015 and the periodicity of collection is 2-3 years.

Moreover, the National Statistical Institute indicated that surveys have been used for collecting data, referring to the European Health Interview Survey 2013. The periodicity of the data collection is 5 years. The data collection description, data collection design, the questionnaire and the codebook and metadata are publicly accessible in this study, while micro data can be available upon a request. The results are not reported at an urban level.

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C.4 CROATIA

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – CROATIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
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No items to add here.

SUMMARY TABLE

National surveys

National Census 2011

City-level surveys

Bike Totem (automatic counter in Zagreb) real-time

Manual Counting by ISIP-MG 2010

Manual Counting by FTTS 2012

Walking: average daily distance travelled per person

no data

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

no data

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Croatia	4.5	% of employed persons that daily cycle to work
Croatia	3	% of pupils/students that daily cycle to school
Zagreb	3.3	% of employed persons that daily cycle to work
Zagreb	1.6	% of pupils/students that daily cycle to school

Statistics on cycling infrastructure (km), by type of infrastructure

	Croatia	Zagreb
Total	<i>no data</i>	250

FOOTNOTES:

Statistics on the percentage of the population cycling were not used for comparison with other countries because they only concern students and working population.

1 Context

1.1 Data on walking and cycling in Croatia

Very little data on walking and cycling is available in Croatia. There is some data available on the city/urban level, but on the national and sub-urban levels it is virtually non-existent with an exception of a limited contribution from the National Census. Most existing data is available only on request.

No comprehensive travel or traffic surveys have been conducted on the national level. At urban level, however, the only good-quality traffic survey was performed only once in 1998 which makes it rather outdated.

Apart from the National Census data on means of transportation to school/work where cycling and walking are possible choices, there were three manual cycling counts initiatives in 2008, 2010 and 2012. Since 2014 there is one automatic cycling counter installed in the City of Zagreb - called Bike Totem – measuring cycling traffic every day.

A very insightful article on the cycling in the City of Zagreb was published in the Journal Traffic and Transportation, which provides an overview of all available data to date (Pilko, Tepeš, Brezina, 2015, p.406)¹.

1.2 Data collection stakeholders in Croatia

Data collection with regard to cycling and walking has been dispersed to different authorities and institutions as well as various departments within institutions, making it difficult to draw a well-informed overview. For the purpose of this study, the following stakeholders involved in the data collection have been contacted:

- › Ministry of Maritime Affairs, Transport and Infrastructure, Sector for Road and Railway Infrastructure
- › Croatian Bureau of Statistics
- › University of Zagreb, Faculty of Transport and Traffic Sciences
- › City of Zagreb, City Office for Strategic Planning and Development
- › City of Zagreb, City Office for Economy, Labour and Entrepreneurship
- › City of Koprivnica
- › Trade Union Association of Cyclists

Also, ODRAZ-Sustainable Community Development has been contacted but as they work with various stakeholders on the mobility-related activities, they could provide only answers to some general questions.

¹

Hrvoje Pilko, Krunoslav Tepeš, Tadej Brezina, Policy and Programs for Cycling in the City of Zagreb, *Promet – Traffic&Transportation* (Vol. 27, 2015, No.5, 405-415),
<http://www.fpz.unizg.hr/traffic/index.php/PROMTT/article/viewFile/1694/1363>

2 Challenges related to data collection

Friendliness	<p>The average score given both by the respondents of the national and urban questionnaires for the friendliness of their cities for walking is 6 and 7 and for the friendliness of their cities of cycling is 5 out of 10. It is important to take into account that this is an average score of subjective assessments of the experts or professionals working in the mobility-related fields, rather than a more representative sample of citizens. Also, the majority of the respondents come from Zagreb, where cycling and walking infrastructure is quite developed compared to the rest of the country. On the national level, therefore, a lower score for both active modes would be expected.</p>
Difficulties	<p>Apart from the fact that there is a very obvious lack of data on walking and cycling in Croatia, the main difficulties related to the existing data collection are:</p> <ul style="list-style-type: none">› Lack of consistent data. There is no continuous / regular encounter and collecting data.› Lack of methodology to collect data. Data has been collected almost exclusively on cycling.› Lack of practice counting traffic of pedestrians and cyclists. For now there is only one counter for cyclists.› Cycling network is not connected, a lot of physical barriers, focus on motorised traffic in planning phase etc.
Comparison	<p>All the respondents replied that no comparisons with different regions, countries or cities have been done. There is a consistent lack of comparable data and very little (political) will to improve the situation. The respondents also identify other reasons for this such as a lot of bureaucracy and non-defined legislation on a national and local level.</p>
EU action	<p>All respondents agree that an EU action is needed to have comparable statistics on cycling and walking in order to design a better strategic plan for these areas and implement it efficiently in the country, making sure more people are using these active modes. What is more, some see this need as urgent and think that national authorities should be obliged to introduce such system.</p> <p>The priority actions that have been pointed out are the following:</p> <ul style="list-style-type: none">› Conducting quality data collection and research with regard to walking and cycling which would be done frequently enough (e.g. every 5 years).› Walking and cycling data to be collected separately.› Develop guidance on the EU level on collecting data about cyclist and pedestrian movements.› Define the methods, tools and responsible body.
Other statistics	<p>There are statistics available with regard to the safety and traffic accidents involving pedestrians and cyclists. In the city of Koprivnica they do walking audits.</p>
Big data	<p>While there is already some awareness about big data, such sources are for the time being not used in Croatia for collecting data on cycling and walking. Some</p>

respondents say that this is one of the biggest obstacles preventing a better implementation phase of active mode (i.e. more people walking and cycling).

3 Active modes use

3.1 Walking

No data on walking exist on the national or urban levels apart from what is reported in the National Census about means of transport to work or school. In the last 2011 Census, 16.9% of the employed Croatians stated they walk to work, and 47% pupils/students said they walk to school. The Census 2011 data exist also for Zagreb:

- › Employed that walk to work: City of Zagreb 12.2%, County of Zagreb 9.8%
- › Pupils/students that walk to school: City of Zagreb 43.4%, County of Zagreb 33.6%

3.2 Cycling

Similarly as above in the case of walking, no data on cycling exist on the national level apart from what is reported in the National Census about means of transport to work or to school. In the last 2011 Census, 4.5% of the employed persons and 3% pupils/students said they cycle to work/school.

The Census 2011 for Zagreb is the following:

- › Percentage of employed persons who daily cycle to work is 3.3% City of Zagreb, 2.4% County of Zagreb.
- › Percentage of pupils/students who daily cycle to school is 3.0%; 1.6% City of Zagreb; 1.4% County of Zagreb (2011 Census).

At urban level, based on the results of the CIVITAS ELAN study on 'Modal Split 2009-2012' in Zagreb, the share of cycling in different modes of transportation in Zagreb is 4% (Pilko, Tepeš, Brezina, 2015, p.406). As of 2014 Zagreb also has one automatic cycling counter (Bike totem).

"The CIVITAS ELAN project resulted in data on Modal Split which was collected by carrying out a survey at the City level. For the population of 779,000 inhabitants (official number of citizens of Zagreb at 2009), with an error margin of 5%, a confidence level of 95% and a proportion of 0.5 the required sample size is 384. In 2009 501 correctly completed questionnaires were obtained and in 2012 that number was 504. The statistical error in 2009 equals to 4.38%, while in 2012 the error is 4.36%. The sample was stratified by neighbourhoods and by age population. The share of cyclists in the modal split for 2009 was 2.96% and for 2012 it was 4.0%". (source: Pilko, Tepeš, Brezina, 2015, p.406; see also the CIVITAS Elan Final Report 2012).

4 Infrastructure

4.1 Walking infrastructure

As per Law about Roads from 2011², in Croatia pedestrian and cycling traffic infrastructure is entirely the responsibility of cities and municipalities.

Here are listed the regulations and guidelines on the national level that however concern walking and cycling:

- › **Pravilnik o osiguranju pristupačnosti građevina osobama s invaliditetom i smanjene pokretljivosti (*Ordinance on Accessibility for persons with disabilities and reduced mobility*)**³: This Regulation lays down the conditions and securing unimpeded access, movement, residence and work for people with disabilities and reduced mobility (hereinafter referred to as accessibility) and to improve the accessibility of public buildings, commercial, residential and residential-commercial purposes, and the conditions and manner of simple adaptation accessibility of buildings to residential and residential-commercial purposes.
- › **Zakon o sigurnosti prometa na cestama (*Law on Road Traffic Safety*)**⁴

For the city of Zagreb, this is the most relevant regulation:

- › **Naredba o uvjetima prometovanja vozila u središnjem dijelu Grada Zagreba (*Order on the terms of operation of vehicles in the central part of the City of Zagreb*)**⁵: Definition of the scope and ways of movement in the pedestrian zone.

The majority of Croatian bigger cities all have dedicated pedestrianised zones in the core city centre, for example Zagreb, Split, Dubrovnik, Zadar, Koprivnica, Varazdin and Čakovec. The of Zagreb's pedestrian area is reported to be 800 000 m². Pedestrian areas are considered areas where traffic for motor vehicles is not allowed (but there might be some exceptions); mainly streets and squares.

There are no shared-space areas in the country; they are only now starting to consider introducing them. For the time being, only an area of slow traffic is defined by law. It is marked with the below sign, and informs about an area where cars are not allowed to move faster than pedestrians:

² Hrvatski Sabor, Zakon o Cestama, 12 July 2011, http://narodne-novine.nn.hr/clanci/sluzbeni/2011_07_84_1790.html

³ Ministarstvo graditeljstva i prostornoga uređenja, Pravilnik o osiguranju pristupačnosti građevina osobama s invaliditetom i smanjene pokretljivosti (NN 78/13), http://narodne-novine.nn.hr/clanci/sluzbeni/2013_06_78_1615.html

⁴ Hrvatski Sabor, Zakon o sigurnosti prometa na cestama, 4 June 2008, http://static.hak.hr/media/vozacki-ispiti/zakoni/ZSPC_NN_67_2008.pdf

⁵ Službeni glasnik Grada Zagreba, 21/15, Naredba o uvjetima prometovanja vozila u središnjem dijelu Grada Zagreba <http://www1.zagreb.hr/slglasnik/index.html#/akt?godina=2015&broj=210&akt=F1575C274F7A9B6BC1257EE3002EDA02>



4.2 Cycling infrastructure

There are no statistics on cycling infrastructure at national level. The statistics are available at urban level. In Zagreb, there is approx. 250 Km of cycling infrastructure (approx. 125 Km of cycling lanes and 125 Km of cycling tracks).

This is the most relevant regulation at national level about cycling infrastructure quality/standards requirements; it was put in place only in March 2016:

- › **Pravilnik o biciklističkoj infrastrukturi u RH /NN 28/2016 (Rules on cycling infrastructure)**⁶: The Rules lay down the basic principles of planning and elements for design, construction and maintenance of cycling infrastructure.

As mentioned above, these regulations and guidelines on the national level also concern cycling:

- › **Pravilnik o osiguranju pristupačnosti građevina osobama s invaliditetom i smanjene pokretljivosti (Ordinance on Accessibility for persons with disabilities and reduced mobility)**⁷: This Regulation lays down the conditions and securing unimpeded access, movement, residence and work for people with disabilities and reduced mobility (hereinafter referred to as accessibility) and to improve the accessibility of public buildings, commercial, residential and residential-commercial purposes, and the conditions and manner of simple adaptation accessibility of buildings to residential and residential-commercial purposes.

- › **Zakon o sigurnosti prometa na cestama (Law on Road Traffic Safety)**⁸

The 2014-2030 Transport Development Strategy of Republic of Croatia⁹ recognises that the current cycling infrastructure is not satisfactory, and that the new Traffic Masterplan which is to be prepared has to outline the actions for considerable improvements in order to increase the share of cycling and walking as transport modes. Also, the Sector Strategy for Public Mobility of Zagreb (2013)¹⁰ addresses the need to improve the cycling traffic, for example connect and complete the existing cycling network. It is expected that the City of Zagreb will get also the Strategy for the development of cycling infrastructure and traffic.

⁶ <http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/439893.pdf>

⁷ Ministarstvo graditeljstva i prostornoga uređenja, Pravilnik o osiguranju pristupačnosti građevina osobama s invaliditetom i smanjene pokretljivosti (NN 78/13), http://narodne-novine.nn.hr/clanci/sluzbeni/2013_06_78_1615.html

⁸ Hrvatski Sabor, Zakon o sigurnosti prometa na cestama, 4 June 2008, http://static.hak.hr/media/vozacki-ispiti/zakoni/ZSPC_NN_67_2008.pdf

⁹ http://www.mppi.hr/UserDocsImages/TR-DEVL%20STRAT-M-DOC3010-14%20FINAL%2025-12_15.pdf

¹⁰ <http://www.zzpugz.hr/wp-content/uploads/2015/07/sektorska-strategija-za-gradsku-prigradsku-i-regionalnu-mobilnost.pdf>

5 Data collection methods

5.1 Surveys

- › In 1998 the only comprehensive traffic study of the City of Zagreb was done, where cycling and walking data were recorded with the help of a household survey on 1,200 respondents (Pilko, Tepeš, Brezina, 2015, p.406).
- › Two surveys were conducted on the student population of Zagreb in 2008 and 2010 (Pilko, Tepeš, Brezina, 2015, p.406). One of these surveys was done under the PRESTO project, which is reported by a respondent from the City of Zagreb in the annexed Country Questionnaire. The details from this survey are not included in this report due to the fact that the sample took into account only students and cannot be representative for the Zagreb urban area as a whole. See the article by Lukić, Prelogović and Rihtar (2011)¹¹ for more details about this survey.

5.2 Traffic counts:

- › 1 automatic cycling counter/Bike totem currently in Zagreb
- › “In the study performed by ISIP-MG, manual counting of cycling traffic was conducted at 16 locations on footways with cycling lanes on the city’s busiest traffic corridors. Measurements were conducted for one week in April 2010 from 11.00 a.m. to 1.00 p.m. and from 3.00 to 5.00 p.m.” (Pilko, Tepeš, Brezina, 2015, p.406).
- › “The Faculty of Transport and Traffic Sciences (FTTS) from the University of Zagreb measured cycling traffic at certain locations for the needs of the project CiViTAS ELAN Zagreb [16]. Measurements were conducted for one week in April 2008 and 2012 from 4.00 to 5.00 p.m.” (Pilko, Tepeš, Brezina, 2015, p.406).

5.3 National Census

- › See Section 3 of this Report.

¹¹ Aleksandar Lukić, Vedran Prelogović, Stanko Rihtar, Planning a More Humane City: Student Expectations Concerning Bicycle Use and Transportation in Zagreb, *Hrvatski Geografski Glasnik* (Vol. 73/1, 2011, p. 111-132), <http://hrcak.srce.hr/file/106407>

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<http://www.fpz.unizg.hr/traffic/index.php/PROMTT/article/viewFile/1694/1363>

Aleksandar Lukić, Vedran Prelogović, Stanko Rihtar, Planning a More Humane City: Student Expectations Concerning Bicycle Use and Transportation in Zagreb, *Hrvatski Geografski Glasnik* (Vol. 73/1, 2011, p. 111-132),
<http://hrcak.srce.hr/file/106407>

Websites

Grad Zagreb [City of Zagreb], Sektorska strategija za javnu gradsku prigradsku i regionalnu mobilnost Grada Zagreba [Sector Strategy for Public Mobility of Zagreb], (5 June 2013),
<http://www.zzpugz.hr/wp-content/uploads/2015/07/sektorska-strategija-za-gradsku-prigradsku-i-regionalnu-mobilnost.pdf>

Ministry of Maritime Affairs, Transport and Infrastructure, October 2014, 2014-2030 Transport Development Strategy of Republic of Croatia
http://www.mppi.hr/UserDocsImages/TR-DEVLP%20STRAT-M-DOC3010-14%20FINAL%2025-12_15.pdf

Weblinks to mentioned legislative documents are mentioned in the footnotes.

Surveys

- The study of the PRESTO project called 'Navike i stavovi studenata Sveučilišta u Zagrebu o korištenju bicikla kao prijevoznog sredstva i oblika rekreacije' (The habits and opinions of the students of the University of Zagreb about the use of bicycles as mode of transportation and form or recreation).
- The study of the Civitas Elan project called „Modal split 2009-2012“
- Final Report of Civitas Elan Project 2012: Engels D, Mrvelj Š, Cauwenberge B Van, Valkova J, Vilarinho C, Tavares P, et al. CIVITAS ELAN Final Evaluation Report, ELAN Deliverable No.10.11. Brussels: European Commission; 2012. Available at:
http://www.civitas.eu/sites/default/files/d_10_11_final_evaluation_report_civitas_elan.pdf
- Final Report of Civitas Elan Project 2009: Engels D, Mrvelj Š, Kontić B Cauwenberge B Van, Valkova J, Vilarinho C, Tavares P, et al. CIVITAS ELAN Final Evaluation Report, ELAN Deliverable No.12.1. Brussels: European Commission; 2009. Available at: http://www.rupprecht-consult.eu/uploads/tx_rupprecht/D12_1_EvaluationPlan.pdf

C.5 CYPRUS

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – CYPRUS

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
EHIS	European Health Interview Survey

SUMMARY TABLE

National surveys

Short Distance Passenger Mobility Survey 2009

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Cyprus	0.501	pkm/day	total	2007
Cyprus	0.439	pkm/day	total	2008
Cyprus	0.558	pkm/day	total	2009
Cyprus	3	pkm/day	walking	2009
Nicosia	no data			

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Cyprus	0.022	pkm/day	total	2007
Cyprus	0.062	pkm/day	total	2008
Cyprus	0.032	pkm/day	total	2009
Cyprus	4	pkm/day	cycling	2009
Nicosia	no data			

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Cyprus	18	contrary to 82% that never cycles
Nicosia	no data	

Statistics on cycling infrastructure (km), by type of infrastructure

No data

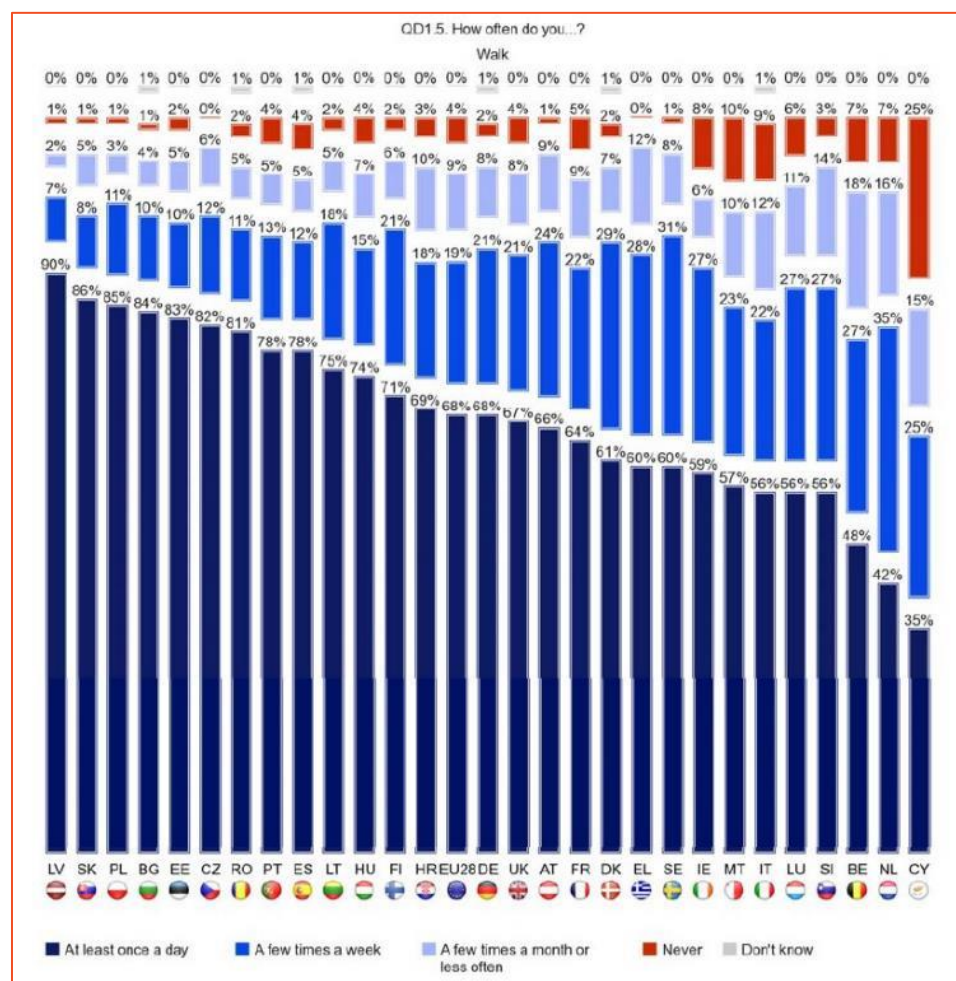
FOOTNOTES:

The walking and cycling population is not representative for the mobile population.

1 Context

The car is the dominant means of transport in Cyprus even for short distances, while at the same time car ownership is very high. It is notable that a 2013 Eurobarometer (European Commission, 2013a) survey found that over eight in ten respondents in Cyprus (85%) use a car daily, at least seventeen percentage points more than in any other Member State. At the same time, fewer than half of respondents in Cyprus (35%) walk every day, and a quarter of respondents say they never walk (cf. figure below). Only 2% of respondents in Cyprus cycle daily and over 8 in ten respondents (82%) never cycle.

Figure 1-1 Eurobarometer survey results on how often respondents in 28 Member States walk



Source: European Commission, 2013a

Interestingly, 50% of respondents in Cyprus thought that improved cycling facilities would improve travel within cities, and 54% of the respondents thought that improved walking facilities would improve travel within cities.

The lack of the necessary infrastructure or the fragmented/non-continuous nature of the existing network is partly explained by the fact that local authorities have too few responsibilities with respect to land use and mobility planning and management, and that the proposed network is only implemented when urban projects funded by the Government take place. Moreover, the lack of a legal and

regulatory framework regarding the rights and obligations of cyclists towards pedestrians and vehicles, or the use of cycling infrastructure, has until recently discouraged cycling.

Nonetheless, in recent years a rapidly increasing number of people use bicycles primarily for exercise and recreation, as confirmed by bike store owners who observe an apparent increase in their sales and the increasing number of cycling teams being formed. Despite the significant increase of bicycle use, only a small percentage of people use the bike to travel to work.

With regards to data collection, active mode use data has in the past been collected by the Cyprus Statistical Authority through the Short Distance Passenger Mobility Survey. The survey was conducted annually between 2007-2009, but not thereafter, and it is not known whether the survey will be carried out again in the future. This country report presents the results of the most recently conducted survey (year 2009).

2 Challenges related to data collection

The experts in the responsible for carrying out the Passenger Mobility Surveys between 2007-2009 are now either retired or no longer working at the Statistical Authority.

At the same time, the Cyprus Statistical Authority has been restructured in recent years and human resources have been consolidated, and therefore the prospect of channelling of resources towards carrying out again the Passenger Mobility Survey would be questionable.

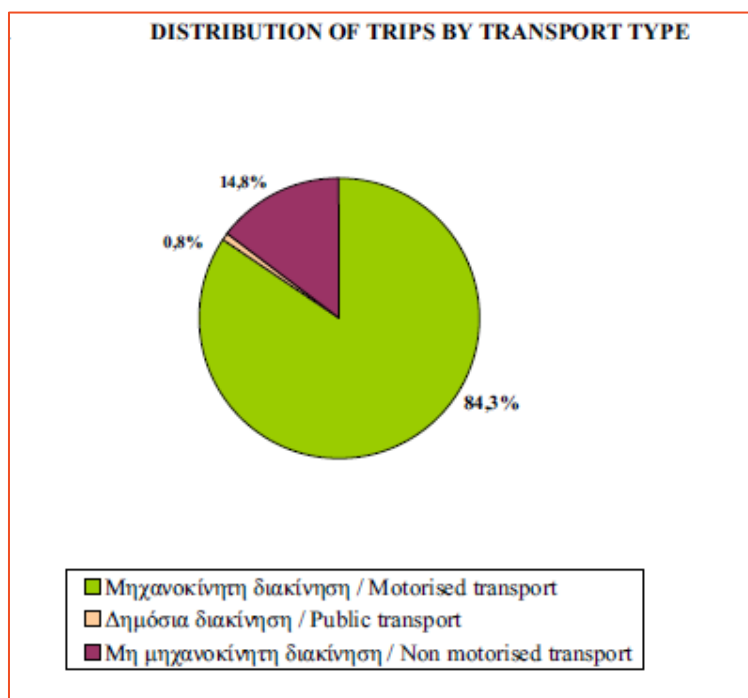
3 Active modes use

3.1 Walking

This section presents results on walking from the most recently conducted Short Distance Passenger Mobility Survey (year 2009).

During the data collection period the interviewed persons (2,410 interviewed individuals in 1,056 households) made 21,635 trips in the three reference time periods (3days: one working day, a Saturday and a Sunday), covering a total distance of 225,574 km at a total travel time of 324,112 minutes (or 5,402 hours). The distribution of trips by transport type indicates that 18,249 or 84.3% of the trips were made by motorised transport modes, 3,210 or 14.8% by non-motorised transport modes and 174 or 0.8% by public transport modes.

Figure 3-1 Distribution of number of trips by transport type, 2009



Source: Cyprus Statistical Authority, 2009

With respect to walking the following basic metrics are reported (also summarised in the table below):

- › **Walking:** The total passenger kilometres walked for the sample population (2,410 interviewed individuals in 1,056 households) for the three reference time periods (3 days, one working day, a Saturday and a Sunday) is 3,844. The average distance walked is 3km per person per day (average for those who actually walked), corresponding to an average travel time of 31.7 minutes (average for those who actually walked).

Table 3-1 Walking in Cyprus in 2009

Active mode	Passenger kilometres	% of total passenger kilometres (all modes)	Passenger mobility	Average distance travelled per person per day (km)	Total travel time (minutes)	Average travel time per person per day (minutes)
Walking	3,844	1.7%	1,289	3.0	40,896	31.7

Source: Based on Cyprus Statistical Authority, 2009

The above table provides figures on distance travelled and the travel time per person per day as an average of the passenger mobility attributed to walking. In addition, the next table provides the average distance walked in terms of km/person/day for the total population sample, irrespective of whether they actually walked in the reference periods. Average daily distances are provided for all the three years for which the survey was conducted (2007, 2008 and 2009).

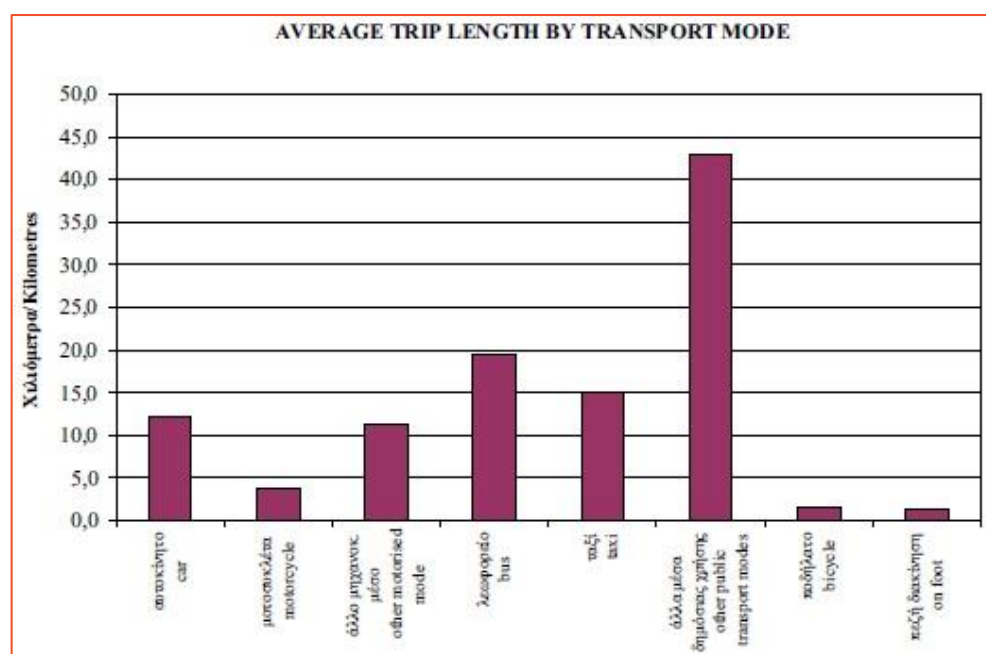
Table 3-2 Average daily distance (km/person/day) walked, Cyprus 2007-2009

Active mode	Distance	Unit	Year
Walking	0.558	km/person/day	2009
	0.439	km/person/day	2008
	0.501	km/person/day	2007

Source: information provided by the Cyprus Statistical Authority

Looking at individual trips (i.e. one-way course of travel for a single main purpose), walking (and also cycling) represents the shortest average trip length compared to other modes of transport, as depicted by the following figure.

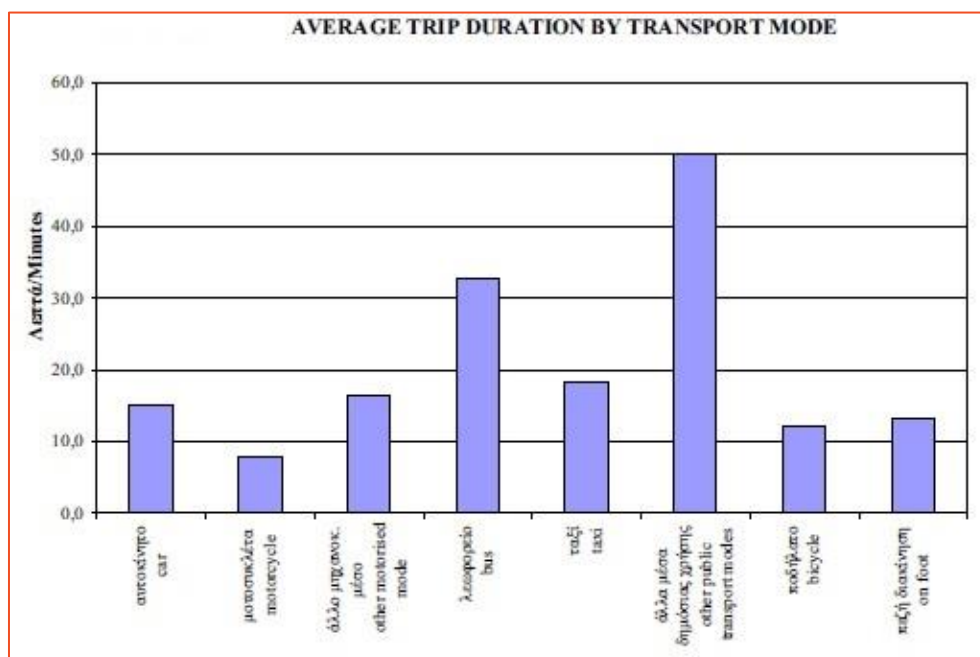
Figure 3-2 Average trip length (km) by mode of transport, 2009



Source: Cyprus Statistical Authority, 2009

Similarly, walking (and also cycling) corresponds to short trip durations, coming second only to trips by motorbike.

Figure 3-3 Average trip duration (minutes) by mode of transport, 2009



Source: Cyprus Statistical Authority, 2009

3.2 Cycling

This section presents cycling use results from the most recently conducted Short Distance Passenger Mobility Survey (year 2009).

With respect to cycling use the following basic metrics are reported (also summarised in the table below):

- Cycling:** The total passenger kilometres cycled for the sample population (2,410 interviewed individuals in 1,056 households) for the three reference time periods (3 days, one working day, a Saturday and a Sunday) is 220km. The average distance cycled is 4 km per person per day (average for those who actually cycled), corresponding to an average travel time of 32.3 minutes (average for those who actually cycled).

Table 3-3 Cycling use in Cyprus in 2009

Active mode	Passenger kilometres	% of total passenger kilometres (all modes)	Passenger mobility	Average distance travelled per person per day (km)	Total travel time (minutes)	Average travel time per person per day (minutes)
Cycling	220	0.1%	55	4.0	1,778	32.3

Source: Bases on Cyprus Statistical Authority, 2009

The above table provides figures on distance travelled and the travel time per person per day as an average of the passenger mobility attributed to cycling. In addition, the next table provides the average distance cycled in terms of km/person/day for the total population sample, irrespective of whether they actually cycled in the reference periods. Average daily distances are provided for all the three years for which the survey was conducted (2007, 2008 and 2009).

Table 3-4 Average daily distance (km/person/day) cycled, Cyprus 2007-2009

Active mode	Distance	Unit	Year
Cycling	0.032	km/person/day	2009
	0.062	km/person/day	2008
	0.022	km/person/day	2007

Source: information provided by the Cyprus Statistical Authority

Looking at individual trips (i.e. one-way course of travel for a single main purpose), cycling (and also walking) represents the shortest average trip length compared to other modes of transport (cf. Figure 3-2). Similarly, cycling (and also walking) corresponds to short trip durations, coming second only to trips by motorbike (cf. Figure 3-3).

3.3 Health Interview Survey

The Statistical Service of Cyprus also conducted in 2014 the European Health Interview Survey (EHIS), which included a number of questions on walking and cycling for commuting purposes, however the results from the survey are not yet publicly available (for more information, see section 5.2).

4 Infrastructure

In terms of infrastructure data, bicycle related information is being collected by some municipalities and cities, as well as the ministry of transport, which aggregates the information it receives by the different municipalities and cities. This country report presents some bicycle infrastructure information found in publicly available sources for the cities of Larnaca and Nicosia (the capital). There is no information available on walking infrastructure in Cyprus.

4.1 Walking infrastructure

No information available on walking infrastructure in Cyprus.

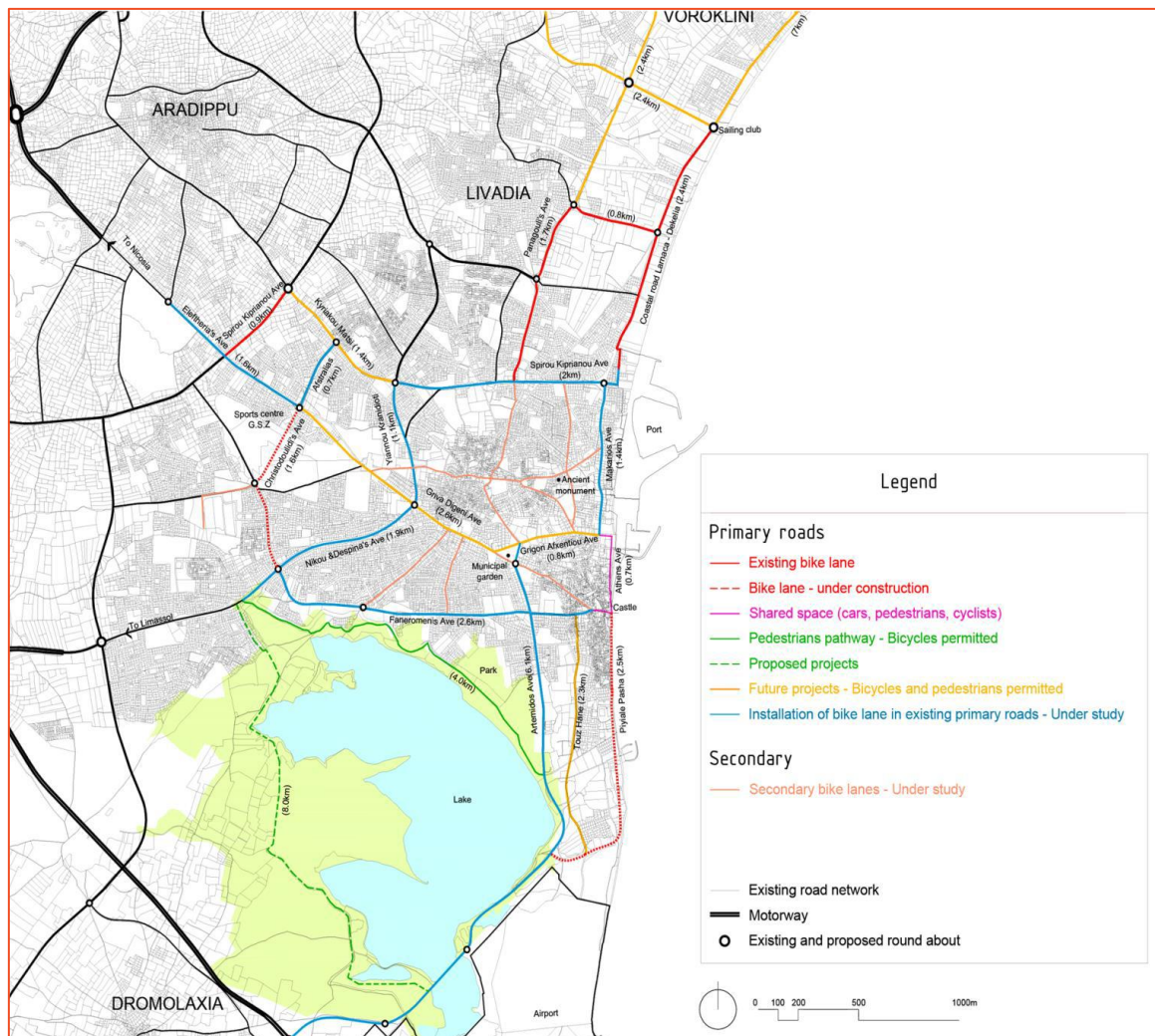
4.2 Cycling infrastructure

This section provides information on cycling infrastructure in the cities of Larnaca and the capital Nicosia.

4.2.1 Larnaca

The following figure depicts the status of realisation of the cycling network in the greater area of Larnaca¹ (third largest city of Cyprus, with a population of 92,000 inhabitants) as of the end of 2013.

Figure 4-1 Status of realisation of the cycling network in the greater area of Larnaca



Source: Dutch Cycling Embassy (2013)

As illustrated in the above figure, the existing cycling network as of end 2013, as well as the part that was under construction and expected for completion by June 2014 totalled 9.8km (marked in red colour). This network, in most cases, consists of a 2-3m wide cycle path intended for 2-way direction use.

More specifically, the existing network as of end 2013 (total 5.7km) encompassed:

- › Alexandros Panagoulis avenue (phase a) and connecting road - 2.5 km
- › Larnaca – Dekelia coastal road (phase a and b) - 2.4 km
- › Spyros Kyprianou Avenue (Aradippou area) - bike path 1 m wide and 800 m long

¹ Larnaca's proposed cycle network has its origins in a LIFE programme study financed by the European Union on cycle networks in four Cypriot cities: Nicosia, Larnaca, Limassol and Paphos.

Under construction² as of end 2013 were:

- › Piale Pasa Street - 2.5 km
- › Georgios Christodoulides Avenue – 1.6 km

To this can be added a 4 km long and 2 m wide lane around part of Larnaca's salt lake, which is used by both cyclists and pedestrians. The completion of the route around the salt lake needs to be thoroughly studied in order to ensure the convenient use of it by the cyclists while keeping the effects to the ecosystem at the lowest possible level.

In addition, the following shared space areas, i.e. parts of the road network in Larnaca's town centre where cyclists, pedestrians and cars use the same road area (marked in pink in the above map) included as of the end of 2013:

- › Athinon Avenue – 0.7 km
- › Valsamaki Street – 0.25 km

The same map indicates (in yellow colour) a further 15.6km of the main road axes that as of end 2013 were planned for construction by the Town Planning and Housing Department, some of which might have already been constructed by today. The main proposal was to construct a 2-3m wide, 2-direction cycle street. The proposal for the road axis Griva Digeni- Grigori Afxentiou was to construct a cycling road to accommodate only cyclists following the traffic direction.

- › Alexandros Panagoulis Avenue (phase b) and connecting road – 2 km
- › Larnaca – Dekelia coastal road (phase c and d) – 7 km
- › Griva Digeni – Grigori Afxentiou road axis – 3.4 km
- › Kyriakos Matsis Avenue – 1.4 km
- › Touz Hane Street – 1.8 km

Finally, blue colour indicates primary roads where the current traffic conditions were planned for evaluation of whether accommodating a cycling route or a cycling lane in the current road surface would be possible:

- › Artemidos Avenue – Airport – Dromolaxia road axis – 6.1 km
- › Faneromeni Avenue – 2.6 km
- › Nikos and Despina Pattichi Avenue – 1.9 km Kamares – 0.5 km
- › Giannos Kranidiotis Avenue – 1.1 km
- › Spyros Kyprianou Avenue – 2.0 Km
- › Archbishop Makarios III Avenue – 1.4 km
- › Eleftherias Avenue – 1.6 km
- › Australia Avenue – 0.7 km

² Information regarding the completion of the construction was not obtained by the publication date of this report.

Overall, the proposed network is only implemented when urban projects take place (which are mainly funded by the Government), resulting into a partial - non continuous - cycling network. To alleviate this, a proposal for realising works to create a network “spine” has been made, 85% of which would entail works for the redefinition of the uses of existing roads (utilization of existing pavements, material replacement, and placement of signs).

4.2.2 Nicosia

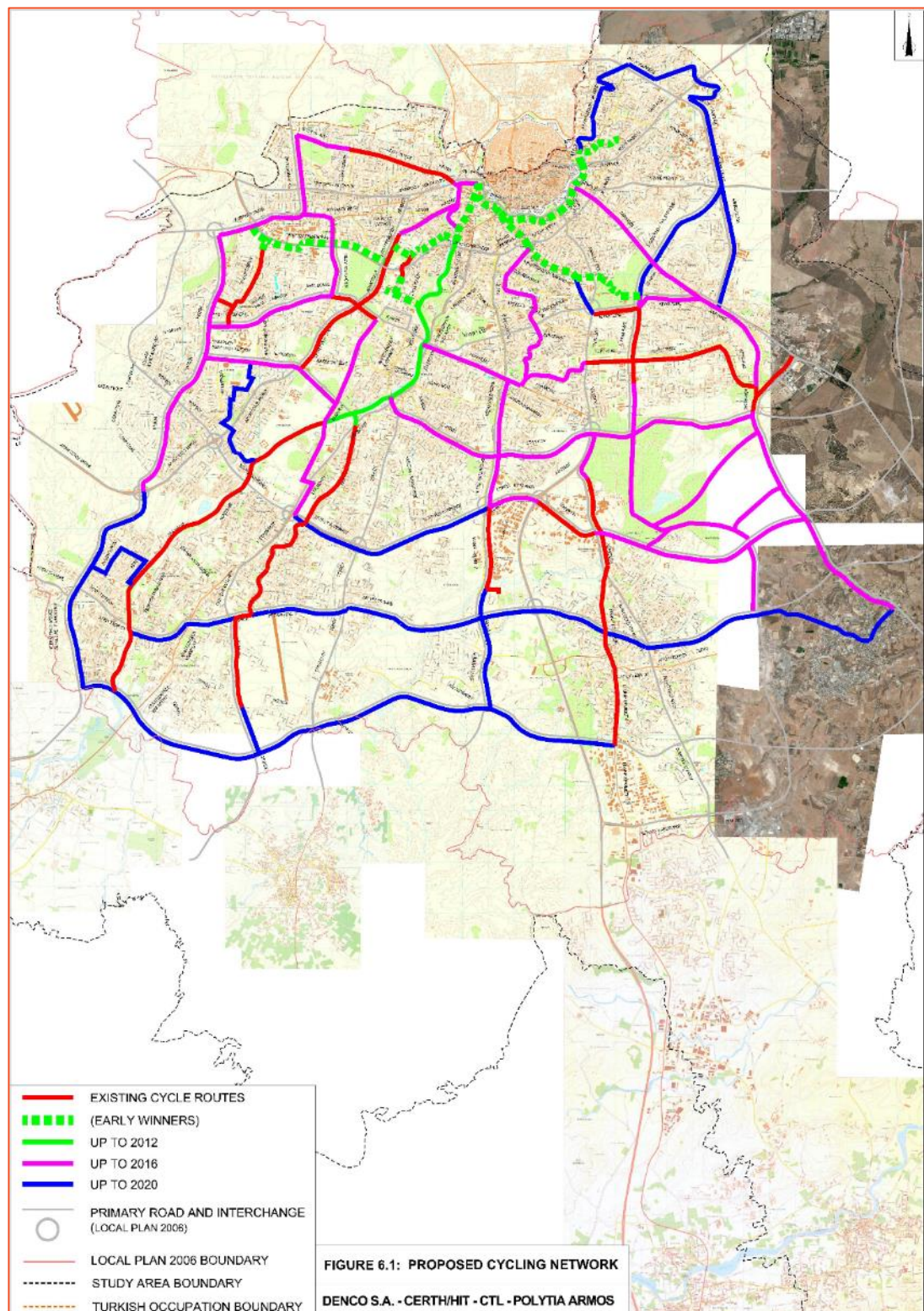
Nicosia's 2010 Cycling Network plan envisaged a total of 120km of bicycle lanes that would be implemented in phases up to the year 2020 (REPUBLIC OF CYPRUS, 2010). It includes a First Priority Cycle Network connecting the existing track along the Pedieos River with the centre of Nicosia, as well as all the Universities in Nicosia with the town centre and with each other.

The total length of planned bicycle lanes as envisaged in 2010 for the different implementation phases were:

- › Phase A (2010-2012): 24 km
- › Phase B (2013-2016): 50 km
- › Phase C (2017-2020): 46 km

Although the First Priority Cycle Network was initially planned to be implemented by 2012, only some sections had been implemented by end 2013 (Dutch Cycling Embassy, 2013). Information on the actual status of implementation as of today is unknown, and the following figure presents a map of the originally envisaged network.

Figure 4-2 Planned cycling network in Nicosia that can be implemented up to the year 2020



Source: REPUBLIC OF CYPRUS, 2010

5 Data collection methods

5.1 Short Distance Passenger Mobility Survey - Data collection method

Active mode use data have been collected through the Short Distance Passenger Mobility Survey conducted by the Cyprus Statistical Authority. The survey was carried out yearly between 2007 and 2009, which is the last year available (Cyprus Statistical Authority, 2009).

The sample for the survey consisted of 1,056 households in urban and rural areas. Up to 3 members of all ages were interviewed in each selected household, resulting in a total of 2,410 interviewed individuals.

The sampling frame used for the survey was stratified into urban and rural strata by district. The households were randomly selected. All individuals aged 16-74 in each sampled household were included.

There were no age limits for the respondents of the survey. The age distribution of the interviewed persons in 2009 indicated that 91.6% were 17 years old or older and 8.4% were 16 or less than 16 years of age. Only the mobile population (only people who can travel outside their home) was included in the sampling, while sick members of a household and elderly people unable to walk or travel at the time of the data collection were excluded.

The reporting period includes three reference time periods (3 days):

- › one working day (the day before the interview),
- › the Saturday before and
- › the Sunday before.

The collected information refers to all trips made by the members of a household within the range of more than 50 meters from the departure point and less or equal to 100 Km to the end of the destination, the use of a mode of transport (private or public, motorised or non-motorised), the purpose of the trips, the distance covered and the time spent travelling during the three reference periods.

The recording method was self-estimation. Seasonal variations were not taken into account, as the survey was carried out during the period mid-May-July 2009.

A trip is defined as a "*one way course of travel by a motorised, non-motorised transport mode or on foot for a single main purpose*". The boundaries used are trip based, and the following six trip purpose categories are used:

- › Work (travel to regular working place)
- › Education (travel to school, seminars, educational institutions, private tutoring, etc)
- › Shopping
- › Personal reasons (travel for personal reasons such as visits to doctors, hospitals, hair dresser and beauty salons, banks etc.)
- › Leisure (sports, recreation parks, visiting friends, night clubs etc.)

- › Other (e.g. visits to cemetery, church, etc.).

Finally, data on professionals are recorded through a question included in the survey asking "*Whether some household members have in the reference periods made use of a vehicle that is not owned by the household in order to perform their professional duties*". Respondents are then asked to fill in the number of kilometres travelled with such professional vehicles (including bicycles), and hence some information on cycling use by professionals is captured (not walking), however it is not clear if and how such information is used in the reporting.

5.2 Health Interview Survey

The Statistical Service of Cyprus also conducted in 2014 the European Health Interview Survey (EHIS), on the basis of the provisions of Commission Regulation (EU) No 141/2013 implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council. The survey, addressed to persons aged 15 years and over, included a number of questions on commuting activities, including walking and cycling. The results of this survey were not yet published at the time of compilation of this report, nonetheless, some preliminary EHIS data provided by the European Commission paint a consistent picture to the one provided by the Eurobarometer survey (European Commission, 2013a) in Cyprus:

- › Only 5.1% of persons aged 15 or over walk on a daily basis to get to and from places, with 16% walking at least one day a week; 84% of persons never walk
- › Only 2.4% of persons aged 15 or over cycle at least one day a week to get to and from places, with only 0.6% cycling on a daily basis; 97.6% of persons never cycle
- › The average number of minutes per week per inhabitant spent on walking to get to and from places (all population aged 15 or over) is 23 minutes, the lowest in the EU
- › The average number of minutes per week per inhabitant spent on cycling to get to and from places (all population aged 15 or over) is 3 minutes, the lowest in the EU

6 References

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C.6 CZECH REPUBLIC

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – CZECH REPUBLIC

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
GfK	Market research company in the Czech republic
ČSN	Czech Technical Norm

SUMMARY TABLE

City-level surveys

Cyklistická doprava v Praze (Study on cycling in Prague)	2012
Tranfic counts	real-time
National Census	2001

Walking: average daily distance travelled per person

no data

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Czech R.	<i>no data</i>			
Prague	0.54	pkm/day	unknown	2012

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

no data

Statistics on cycling infrastructure (km), by type of infrastructure

	Czech Republic	Prague
Cycle track	-	44
Cycle street	-	-
Bus and cycle lane	-	21.5
Contraflow cycling	-	23
Cycle lane	-	-
Advisory cycle lane	-	33
Total	<i>no data</i>	454

1 Context

Cycling The Czech Statistical Office does not collect any data on either walking or cycling. Statistics are being collected in connection with specific projects, but also when building new infrastructures. Traffic counts are done in cities (mainly Prague) and in a number of national parks. In 2012, GfK conducted a Survey on cycling in Prague.¹ Similar survey was conducted in 2002, 2008 and 2010. Also, information on traffic counts is available for Prague. In 2011 and 2012, a Survey was carried out in South Moravia. In 2012 traffic count was conducted in Vysocina and Southern Moravia. Statistics also exist on the number of bikes owned by households. Some statistics are also available on safety. Overall, the data is very fragmented and of rather poor quality.

Walking No statistical data on the extent of walking is collected.

The list of stakeholders contacted as part of this study is presented as Appendix C of the main report.

Information was therefore collected primarily through desk research and by consulting the Czech coordinator for cycling. The overview of the sources consulted is provided in section 6.

2 Challenges related to data collection

Friendliness (country level) There is a big room for improvement as regards measures to support cycling in all cities in the Czech Republic. This applies not only to cycling lanes, but also as to finding comprehensive solutions to securing a safe cycling infrastructure in the cities. There is naturally a difference between cities. The best cycling conditions are currently in Pardubice, Hradec Králové, Uničov and Uherské Hradiště. Overall, the major drawback is the lack of solutions for crossings (bike lanes v other infrastructures).

Generally, municipalities do not appreciate the value of supporting cycling in the cities. For this reason, some cities created the Association of cities for cycling (Asociace měst pro cyklisty). The problem is often the lack of political support and conservative preferences as regards mobility, especially towards private cars.. The project "*Města s dobrou adresou*" ('Cities with a good address') aims to highlight the importance of a good solution to mobility in cities, public space and transport. This includes, among other things, support to walking and cycling and its integration in the city planning.

There are also initiatives to provide for secure parking of bikes. E.g. there are 'parking towers' with a high level of security in Hradec Králové and Přešov.

¹ GfK (2012). Cyklistická doprava v Praze 2012 (Study on cycling in Prague; similar studies carried out in 2002, 2008 and 2010): http://www.sfdi.cz/soubory/obrazky-clanky/poskytovani-prispevku/cyklo-balicek/cb_d2.pdf

Another initiative, led by the project Česko jede ('the Czech Republic rides') in cooperation with CzechTourism, aims at informing people of certain unknown routes/cycling locations.

Recently the Czech Government adopted the National Strategy for the development of cycling in 2013-2020.² In this connection a number of information portals has been established to provide information to support the use of cycling as a mode of transportation:

- › www.cyklodoprava.cz
- › www.cyklokonference.cz
- › www.cyklomesta.cz
- › www.ceskojede.cz

As far as walking is concerned, there is a campaign to bring attention to walking and involve individuals in improving public areas in cities and improve the communication between public administrations and the public and to improve the conditions for walking in Prague.³ In this connection an online portal has been established to allow the citizens to raise specific problems they encounter when walking in their city so that these issues can be raised with the public administration.⁴

Friendliness (Prague)	In Prague, progress made within last years as a result of a number of initiatives. Safety is a major concern. Cycling infrastructure is still considered insufficient. ⁵ In January 2016, the Prague City Council adopted a decision to increase support to cycling. This includes a number of targeted actions to be implemented in 2016 and 2017, ⁶ including the participation in European Cycling Challenge and the coordination with the initiative 'Do práce na kole' (Bike to work).
Difficulties	<p>The Czech Republic is facing major problems in terms of data collection. Compared to other countries where data are gathered regularly, the Czech Republic is lagging behind. As far as cycling is concerned, there are some occasional initiatives such as a counting or a survey (e.g. recently in Olomouc), but data are not collected regularly and therefore cannot be compared.</p> <p>Data on walking is not collected.</p>
Data comparability	The National Strategy for the development of cycling in 2013-2020 ⁷ includes examples of data from other countries, but the Czech data is of rather poor quality and thus cannot be compared.

² Národní strategie rozvoje cyklistické dopravy pro léta 2013-2020 (2013):
<http://www.cyklodoprava.cz/file/cyklostrategie-2013-final/>

³ <http://www.prazskematky.cz/projekty/chodci-sobe/chodci-sobe-2015-2016-2/>

⁴ <http://www.chodcisobe.cz/>

⁵ Source: Czech coordinator for cycling.

⁶

http://www.praha.eu/public/e8/99/5d/2137709_636493_Priloha_TZ_Praha_zvysi_p_odporu_cyklistiky.pdf

⁷ Národní strategie rozvoje cyklistické dopravy pro léta 2013-2020 (2013):
<http://www.cyklodoprava.cz/file/cyklostrategie-2013-final/>

Other statistics	There are statistics on cycling accidents and safety ⁸ and a number of research articles on the topic. ⁹ Safety is a major concern.
Need for EU action	The stakeholders consulted indicate that there is a need for EU action. At this point the cycling community is trying to persuade the Ministry of Transport to create a fund/provide a grant so that the extent of cycling could be monitored. This is the also reason why we are trying to get up and running the project " <i>Města s dobrou adresou</i> " ('Cities with a good address'), which should help to kick start the monitoring process.

3 Active modes use

3.1 Walking

There are no statistics regarding the use of walking.

3.2 Cycling

There is no nationwide survey on cycling.

The 2012 Survey on cycling in Prague¹⁰ does not include a definition of cycling as such, but specifies that walking stages in multi-modal (mostly Public Transport) are not included.

There is no information on the share of population. Cycling accounts for 7% of the transport in the Czech Republic.¹¹ Approximately 4 million bikes are owned by the population in the Czech Republic.¹²

3.2.1 Statistics

Statistics	<p>No statistical information is available at country level. Nevertheless, this information is available in Prague:</p> <ul style="list-style-type: none"> › 198 km per year (2012). › 3,704,604 cyclists counted in 2015
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⁸ <http://prahounakole.cz/serie/nehodovost/>.

⁹ <http://cyklodoprava.cz/bezpecnost/clanky-o-bezpecnosti-cyklistu/>

¹⁰ GfK (2012). Cyklistická doprava v Praze 2012 (Study on cycling in Prague; similar studies carried out in 2002, 2008 and 2010):
http://www.sfdi.cz/soubory/obrazky-clanky/poskytovani-prispevku/cyklo-balicek/cb_d2.pdf

¹¹ Národní strategie rozvoje cyklistické dopravy pro léta 2013-2020 (2013), p. 18:
<http://www.cyklodoprava.cz/file/cyklostrategie-2013-final/>

¹² Krautová Z., Librová H. (2009). Household Consumption and the Individualization Process from an Environmental Perspective:
www.socstudia.fss.muni.cz/dokumenty/091217120326.pdf

4 Infrastructure

4.1 Walking infrastructure

Standards

There is a technical norm ČSN 73 6110 Projektování místních komunikací (on local infrastructure) and decree no 398/2009 Sb., o obecných technických požadavcích zabezpečujících bezbariérové užívání staveb (on general technical requirements for a barrier-free access to buildings). The documents specify the technical requirements on width, surface, angle, etc. of the walking infrastructure.

For Prague, there is also a manual on the creation of public spaces.¹³ The manual contains rules and recommendations for achieving the stipulated objectives, and describes the optimal procedure for preparing and executing investments.

All larger cities, such as Prague, Brno, Ostrava, Olomouc, Karlovy Vary have a dedicated pedestrian zone but there is no information on the length/total area.

4.2 Cycling infrastructure

In January 2011, there were 1,593 km cycling infrastructures in categories C8 = cycle track; C9= mixed track for cyclists and pedestrians; C10= track for cyclists and pedestrians (separated) in the Czech Republic.¹⁴ Detailed differentiation is not available.

A map of the cycling infrastructure is available at :

<http://www.cykloserver.cz/cykloatlas/#pos=49.84782P13.78817P14>

In Prague there are 454 km marked cycling routes (2015).¹⁵ These fall within to following types:

- › 44 km cycle track
- › 21.5 km bus & bicycle lane
- › 23 km contraflow cycling
- › 33 km advisory cycle lane
- › 167 km marked protected and recommended cycle routes

Standards

There are technical standards on the planning of cycling infrastructure for Prague (Technické podmínky 179 Navrhování komunikací pro cyklisty).¹⁶ The Technical norms provide guidance on planning of cycling infrastructure, separation of bike

¹³ <http://manual.iprpraha.cz/cs/manual-tvorby-verejnych-prostranstvi>

¹⁴ <http://www.cyklodoprava.cz/statistiky/cyklostezky/>

¹⁵ Technical Administration of Roads of the City of Prague Department of Transportation Engineering (2016). Prague Transportation Yearbook 2015: <http://www.tsk-praha.cz/static/udi-rocenka-2015-cz.pdf>

¹⁶ <http://www.cyklodoprava.cz/file/cykloinfrastruktura-cyklolegislativa-tp179-navrhovani-komunikaci-pro-cyklisty/>.

lanes from other types of transport, cross-roads, traffic signs, guidelines on construction (surface, colour, etc.), equipment, and examples of existing solutions.

Technical standards ČSN 73 6101 on motorways and highways (ČSN 73 6101 - Projektování silnic a dálnic), Article 9.9 provide guidance on when a separated bike lane/pavement must be built and when it should be on one or both sides of the road. The intensity of traffic is decisive.

5 Data collection methods

No data could be identified on the extent of walking.

As regards cycling, different data collection methods are used in the Czech Republic. With the exception of the national census, there is no data collection method that covers the entire territory. Ad hoc surveys/traffic counts have been conducted in several areas (see section 2). The last national census was in 2011, but latest information on modal split is from 2001.

In Prague, the last survey on cycling was conducted in 2012¹⁷. Similar survey was conducted in 2002, 2008 and 2010. There is also information from traffic counts (2015). Automatic traffic counts monitor the situation 24 hours/day.

The national census includes information on the percentage of the population that uses bike as a mode of transport to work or school. The survey includes information on the average amount of km cycles, modal split, no. of bikes owned, barriers to cycling, etc. The data from the traffic counts provide the number of cyclists per year. More detailed data/breakdown per location is also available.

5.1 Cyklistická doprava v Praze 2012

In 2012, 1,025 respondents answered the survey on cycling in Prague. The CAWI method was used for the questionnaire. The target population were those between 15-69. The entire population was included to make the sample.

In the survey, a trip was defined as uninterrupted movement from one place to another within Prague. Walking to and from public transport/car was not included. Only main mode was recorded and walking and cycling was not derived.

The survey was trip-based and included the following categories of purpose: work, in connection with work, shopping, school/education, doctor/local administration, accompanying children/elderly, free time/recreation, and other purpose.

For modal split calculations, the weekday before is used. The survey was carried out in September. For the calculation of the average distance, respondents were asked to provide an estimate of how many km they bike per month (winter/summer). If they could not estimate the distance, they were asked about how much

¹⁷ GfK (2012). Cyklistická doprava v Praze 2012 (Study on cycling in Prague; similar studies carried out in 2002, 2008 and 2010):
http://www.sfdi.cz/soubory/obrazky-clanky/poskytovani-prispevku/cyklo-balicek/cb_d2.pdf

time they spent cycling. The distance was then calculated using average speed of 10 km/hour. There was no minimum threshold.

5.2 Traffic counts

In Prague both manual and automatic traffic counts were used. Pedestrians and e.g. persons on roller skates are included in the manual count, but separated. Automatic counts provide data 24 hours/per day. Manual counts are done 1 May each year (last data from 2009). There were 65 profiles for manual counting (ca. 1/2 in the central traffic corridor and 1/2 for non-motorised traffic); there are currently 26 automatic counting posts. The location can be checked here: <http://unicam.camea.cz/Discoverer/BikeCounter/map>.

5.3 National census

The National census informs on the modal split by number of trips over workday (people who travel regularly to school and work):

- › Czech republic: 3.1% (work and school), 7.3 % if school is excluded (most children do not bike to school)
- › Prague: 1.2%

The results are available here:

<http://www.cyklodoprava.cz/file/vyzkum26-zaverecnazprava/>

6 References

Websites:

- › <http://www.praha.eu/jnp/cz/doprava/cyklisticka/index.html>: website of the Prague municipality dedicated to cycling
- › <http://prahounakole.cz/>: NGO for cycling in Prague, provides information and news for cyclists, including a number of statistics
- › <http://www.cyklodoprava.cz/>: Information portal to support the use of cycling as a mode of transport.
- › <http://www.cyklostrategie.cz/>: Národní strategie rozvoje cyklistické dopravy is the platform for information in cycling. Its purpose is to improve the conditions for cycling. It is a project implemented by the Ministry of Transport and the Center for Traffic Research (Centrum dopravního výzkumu).
- › <http://www.cyklomesta.cz/>: NGO whose members are different cities, municipalities and non-profit organisations to share experiences with carrying out activities in support of cycling
- › <http://www.ceskojede.cz/>: project to support bike touring and other sports in the Czech Republic. Its aim is to provide information on the possibilities for bike touring.
- › <http://www.chodcisobe.cz/>: project to promote the use of walking as a natural, efficient, environmentally friendly and healthy mode of transportation. The aim

of the online portal is to allow the citizens to raise specific problems they encounter when walking in their city so that these issues can be raised with the public administration

- › <http://www.prazskematky.cz/projekty/chodci-sobe/chodci-sobe-2015-2016-2/>: 2015-2016 campaign to bring attention to walking and involve individuals in improving public areas in cities and improve the communication between public administrations and the public and to improve the conditions for walking in Prague
- › <http://www.cykloserver.cz/cykloatlas/#pos=49.84782P13.78817P14>: map of cycling infrastructure

Articles and reports:

GfK (2012). Cyklistická doprava v Praze 2012 (Study on cycling in Prague; similar studies carried out in 2002, 2008 and 2010): http://www.sfdi.cz/soubory/obrazky-clanky/poskytovani-prispevku/cyklo-balicek/cb_d2.pdf

Centrum dopravního výzkumu, České vysoké učení technické v Praze, Univerzita Karlova v Praze (2008). Analýza potřeb budování cyklistické infrastruktury v ČR, "Cycle21": <http://www.cyklodoprava.cz/file/vyzkum26-zaverecnazprava/>

České vysoké učení technické (2006). Průzkum intenzit cyklistické dopravy a využívání cyklistických příleb: <http://www.cyklodoprava.cz/file/6-2-2-kompletni-verze-vyzkumne-zpravy-2007-cdv-a-cvut-fd/>

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Technical Administration of Roads of the City of Prague Department of Transportation Engineering (2016). Prague Transportation Yearbook 2015: <http://www.tsk-praha.cz/static/udi-rocenka-2015-cz.pdf>

Národní strategie rozvoje cyklistické dopravy pro léta 2013-2020 (2013): <http://www.cyklodoprava.cz/file/cyklostrategie-2013-final/>

Krautová Z., Librová H. (2009). Household Consumption and the Individualization Process from an Environmental Perspective: www.socstudia.fss.muni.cz/dokumenty/091217120326.pdf

Manuál pro tvorbu veřejných prostranství: <http://manual.iprpraha.cz/cs/manual-tvorby-verejnych-prostranstvi>

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
TU	Transportvaneundersøgelsen (National Travel Survey)
DTU	Technical University of Denmark

SUMMARY TABLE

National surveys

Transportvaneundersøgelsen (National Travel Survey)	ongoing
Automatic traffic counts	ongoing

City-level surveys

Manual traffic counts	ongoing
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Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Denmark	0.82	pkm/day	unknown	2013
Denmark	0.81	pkm/day	total	2015
Copenhagen	1.31	pkm/day	total	2015

Walking: average number of trips per day

	Number	Unit	Population	Year
Denmark	0.88	trips/day/person	unknown	2013
Copenhagen	no data			

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Denmark	1.6	pkm/day	unknown	2014
Copenhagen	3.4	pkm/day	unknown	2014

Cycling: average number of trips per day

	Number	Unit	Population	Year
Denmark	0.46	trips/day/person	unknown	2014
Copenhagen	no data			

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Denmark	no data	
Copenhagen	45	cycle to study/work (if studying/working in Copenhagen)
Copenhagen	63	cycle to study/work (inhabitants that study/work in Copenh.)

Statistics on cycling infrastructure (km), by type of infrastructure

	Denmark	Copenhagen
Cycle track	-	368
Cycle street	-	-
Bus and cycle lane	-	-
Contraflow cycling	-	-
Cycle lane	-	28
Advisory cycle lane	-	-
Total	4,200	-

FOOTNOTES:

Statistics on the percentage of the population cycling were not used for comparison with other countries because they only concern students and working population.

1 Context

The Capital of Denmark – Copenhagen is world famous for being a cycle friendly city where several people are biking every day. The city has a bicycle strategy with the aim of being the best bicycle city in the world.¹ Furthermore, Copenhagen is the first city to be awarded with the UCI Bike City Label, which internationally recognizes and reward cities who invest in the development of cycling and cycling infrastructure.² In Copenhagen, several initiatives to promote cycling and walking are in place. The municipality collects several information regarding walking and cycling with focus on users' satisfaction about the infrastructure in Copenhagen.

Other cities in Denmark are also very aware of promoting cycling and statistics on cycling are often collected.³

Main statistics on walking and cycling are collected through *Transportvaneundersøgelsen* (TU), the national travel survey. TU covers 365 days a year and the main results are presented each year. Municipalities often request data from TU in order to look at statistics of specific cities.

Traffic counts of bicycles are undertaken in 60 counting stations, however the Danish Road Directorate states that the data is not as good as on motorised vehicles due to the limited number of stations. Other automatic counting stations can also be found around the country.⁴ In Copenhagen, several manual counts are undertaken on both pedestrians and cyclists.⁵

Information from big data is not used in the results collected for this report. However, information can be found about routes cycled or walked.⁶

¹ Københavns Kommune, 2011, "Fra god til verdens bedste, Københavns Cykelstrategi" http://kk.sites.itera.dk/apps/kk_pub2/pdf/818_YF8zF5k7Cr.pdf

² Copenhagen awarded to the most bicycle friendly city in the world
<http://www.uci.ch/cyclingforall/copenhagen-the-most-bicycle-friendly-city-the-world/>

³ For example: The Municipality of Kolding, 2012, "Cyklen i fokus - Forslag til Cykelplan for Kolding Kommune 2012-2025"
http://www.cyklerudengraenser.eu/upload/NonPublic/Cykelplan_2012_h%C3%B8ringsudgave.pdf

The Municipality of Odense, Cyklisternes By – Odense
http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwi784nE68rNAhVFXCwKHd3SAFYQFggBMAA&url=http%3A%2F%2Fwww.odense.dk%2Fweb4%2Fcyklisternesby%2F~%2Fmedia%2F64C28E8E0C07425D8EA0E03FEE4981FE.ashx&usq=AFQjCNFiR0dy--8OJo7O7Xa4UFFzocxyKQ&sig2=Evli3D3gg5_zgANb20eZ0A&bvm=bv.125596728.d.bGg

⁴ Map with overview of traffic counters
http://www.cykelfartviser.dk/CykelFartviser/BC_cykelbarometer.jsp

⁵ The Copenhagen map <http://kbhkort.kk.dk/spatialmap?>

⁶ Tracks from walking and cycling etc.
http://www.gpsies.com/home.do;jsessionid=4F37881635C1CCF5DFFF82797C15E834.fe1%20-%2012_55.679524061014845_12.627316477010026_hikebike#10_55.66670227050781_12.583297729492187_hikebike

2 Challenges related to data collection

Friendliness	The people contacted as part of this study are of the opinion that the friendliness of cycling and walking in Denmark, and especially Copenhagen, is high. Although most of the contacted persons did not want to rate cycling and walking since it would not be representative for the population, one of the contacts rated the friendliness of cycling in Denmark as 8.
Underrepresentation	The difficulties with collecting statistics on walking and cycling are generally that the statistics obtained are underrepresented. Short trips by foot and by bike are often forgotten.
Traffic counts	<p>There are several challenges with traffic counts. The best and most useful counts are manual, since the automatic methods still represent a greater uncertainty. For example, a pedestrian with a stroller can be counted as a cyclist because of the metal in the stroller. On the other hand, carbon fibre bikes might not be counted in the automatic counts.</p> <p>The National Road Directive has 60 counting stations counting cyclists. However, the statistics are not as exact as the counting methods on motorised traffic, since there is a limited number of stations. Therefore, the counting stations do not give a real picture of the bicycle traffic. Furthermore, the weather has a great influence on the number of cyclists. Only for Copenhagen and in some way Odense, it is stated that their traffic counts are of a significant value, the rest of the counts cannot be reckoned for being representative.</p>
Comparison with others	<p>There is no systematic benchmarking, but the data from the national travel survey is very comprehensive so it would be possible to ask for specific data for comparisons.</p> <p>Data is often compared in connection with different projects. However, there is a need for people declaring the basis of data and collection of data or other documentation related to the study. If this is not done adequately, there is a risk of comparing "apples to oranges".</p> <p>This is especially a problem when comparing data with other countries. In such cases, the post-harmonisation of the data is essential.</p>
EU action	<p>The Technical University of Denmark and Eurostat are working on expanding the national travel survey to other countries.</p> <p>Another contact point stated that there is generally a need for establishing access to common NTS micro-data on travel behaviour. Eurostat is not allowed to collect micro data. This needs an EU decision and as long as this is not established, it will only be possible to get indicators as those which were collected by SHANTI.⁷</p>
Other statistics	Several municipalities collect data but it is probably not possible to find all reports since it is not done in a systematic way. Statistics on bicycle accidents are

⁷ SHANTI. (2014). Armoogum, J., Bonsall, P., Browne, M., Christensen, L., Cools, M., Cornélis, E., Diana, M., Harder, H., Reinau, K.H., Hubert, J., Kagerbauer, M., Kuhnimhof, T., Madre, J., Moiseeva, A., Polak, J., Schulz, A., Tébar, M., Vidalakis, L. Survey Harmonisation with New Technologies Improvement (SHANTI). http://www.epomm.eu/newsletter/v2/content/2014/0514/doc/SHANTI_VFfinal.pdf

collected but there is a general problem with the numbers of bicycle accidents since only 14-15 % of severe accidents with cyclists are reported.

3 Active modes use

3.1 Walking

There is no specific definition of walking in the TU but walking is included when it is a walk or run longer than five minutes.⁸ The respondents also have the possibility of choosing other active modes when answering the survey (i.e. skateboard, roller skating, scooter).

Statistics

Table 3.1 Statistics on the average km/day and number of trips walked per person

	pkm/day	Number of trips per day	Year
Denmark	0.82	0.88	2013 ⁹
	0.81	-	2015 ¹⁰
Copenhagen¹¹	1.31	-	2015

3.2 Cycling

There is no specific definition of cycling in the TU but it is possible to choose between several different types of bikes when having chosen bike as transport mode:

- › A normal bike with two wheels
- › Tandem
- › a bike with trailer
- › E-bike
- › Cargobike, Christiania-bike etc
- › recumbent bike or other special bike

17 % of the trips made in Denmark are on a bike.¹² In Copenhagen, 45 % of the people who are working or studying in Copenhagen are biking to their study/work place. If they are living in Copenhagen the percentage is 63 %.¹³

⁸ It is only possible to estimate the time used in a five minutes interval

⁹ TU, 2013, Faktaark om transport til fods,

http://www.modelcenter.transport.dtu.dk/-/media/Centre/Modelcenter/modeller%20og%20publikationer/Faktaark/2013%20Faktaark_transport_til_fods.ashx?la=da

¹⁰ Københavns Kommune Bylivsregnskabet, 2015,

http://kk.sites.itera.dk/apps/kk_pub2/pdf/1526_9hydtPzqho.pdf

¹¹ Københavns Kommune Bylivsregnskabet, 2015,

http://kk.sites.itera.dk/apps/kk_pub2/pdf/1526_9hydtPzqho.pdf

Statistics

Table 3.2 Statistics on the average km/day and number of trips cycled per person

	pkm/day	Number of trips per day	Year
Denmark¹⁴	1.6	0.46	2014
Copenhagen¹⁵	3.4	-	2014

On a weekday, 1.34 million km are cycled in Copenhagen.¹⁶

4 Infrastructure

Generally, there is not much information available about the length or area of pedestrians streets and cycles lanes in the country. However, information could be obtained in some cities if officially requested.

4.1 Walking infrastructure

Regulations and guidelines about walking infrastructure quality/standards requirements exist. The guidelines establishes the minimum width to ensure the flow for active modes users taking into account the width of different types of users (i.e. pedestrians with strollers, wheelchair etc.). These parameters are important when designing walking infrastructure such as footpaths and pedestrian crossings¹⁷.

No statistics are collected at national level in regards to the length of pedestrian streets. In Copenhagen, the pedestrian area surface has increased a lot, especially during the last 10 years (see Figure 4.1). The total area is now 135,897 m² in the inner City of Copenhagen.

¹² TU, 2014, Fakta ark om cykeltrafik http://www.modelcenter.transport.dtu.dk/-/media/Centre/Modelcenter/modeller%20og%20publikationer/Faktaark/2014%20Faktaark_cykeltrafik1.ashx?la=da

¹³ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHzmE.pdf

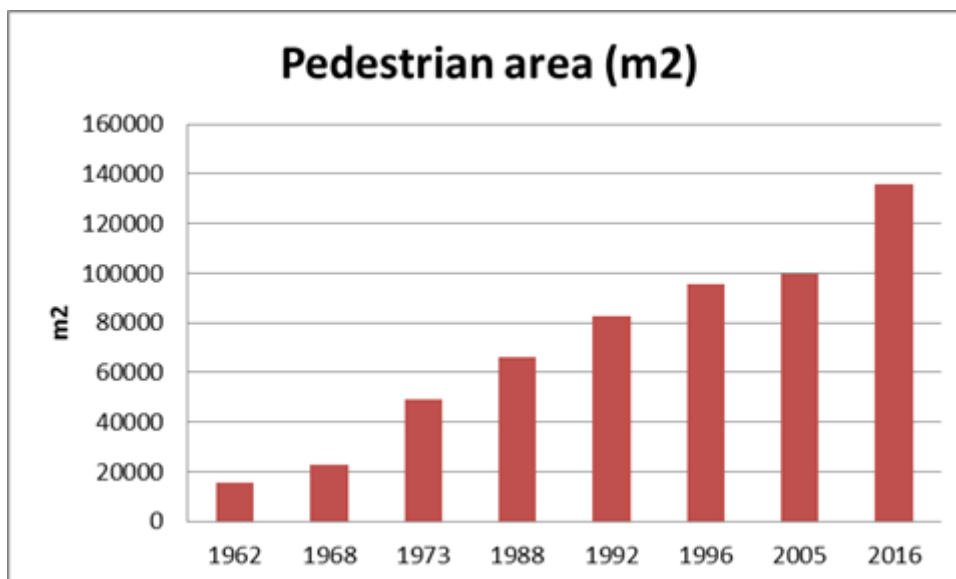
¹⁴ TU, 2014, Fakta ark om cykeltrafik http://www.modelcenter.transport.dtu.dk/-/media/Centre/Modelcenter/modeller%20og%20publikationer/Faktaark/2014%20Faktaark_cykeltrafik1.ashx?la=da

¹⁵ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHzmE.pdf

¹⁶ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHzmE.pdf

¹⁷ Vejdirektoratet, 2012, Håndbog - Grundlag for udformning af trafikarealer <http://vejregler.lovportaler.dk/showdoc.aspx?docId=vd-anleag-vejgeo-grundlag-full&treeNav=true&navId=%7b18737507-5CC2-472F-87A9-A7703A37EA74%7d>

Figure 4.1 Pedestrian area in the inner City of Copenhagen¹⁸



4.2 Cycling infrastructure

Denmark has 11 "national biking trails" which in total are over 4,200 km. The principle of National biking trails is that they have to cover more than 200 km and connect different provinces.¹⁹ Furthermore, they are appointed as especially bike-friendly. The national biking trails can be seen here:

[http://naturstyrelsen.dk/naturoplevelser/aktiviteter/cykling/#{"x":671157,"y":6240022,"zoom":2,"categories":\["9"\]}](http://naturstyrelsen.dk/naturoplevelser/aktiviteter/cykling/#{)

In Copenhagen around 134.4 million EUR have been invested in cycling since 2005.²⁰

The kilometres of different types of cycling infrastructure in Copenhagen are presented in the bicycle account. Additional specific cycle infrastructures for Copenhagen e.g. Cycle Super Highways are also present in the database²¹ (see Table 4.1.)

¹⁸ Development of car-free zones (pedestrian zones) [km or km] in the central of the inner City of Copenhagen. Source: Gehl, Gemzøe, Kirknæs and Søndergaard (2006): Det nye Byliv, and KKKort online:

<http://kbhkort.kk.dk/cbkort?&element=footer>

¹⁹ Information about National biking trails

<http://trafik Kort.vejdirektoratet.dk/index.html?usertype=3>




http://denstoredanske.dk/Livsstil_sport_og_fritid/Turisme_og_fritid/Ferie_og_turisme/Nationale_Cykelruter

²⁰ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014.

http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHzmE.pdf

²¹ But also cycle streets, bus and bicycle lanes, contraflow cycling and advisory cycle lanes exist in Copenhagen.

Table 4.1 Cycling infrastructure in Copenhagen

Cycling infrastructure	Type	km
	Cycle track	368*
	Cycle lane	28
	Green cycle routes ²²	58
	Cycle super Highways (Capital Region)	38.5

* Including cycle tracks in Nordhavn (area of Copenhagen but with a postal code related to "Nordhavn" and not "Copenhagen")

"Cycle super highways" are cycle streets where the quality has been proven in order to make it easy and comfortable choosing the bike as a mode of transport. It combines different parts of the city or regional spots with the capital.²³ Mostly the increased quality is made by increasing the width of the cycle tracks, improving the cross roads for cyclist (for example green light flow), improvements at bus stops etc.

Several streets in Copenhagen are mainly used by cyclists. 86 % of the traffic on Dronning Louises Bro is bicycle traffic.²⁴

At the following webpage it is possible to see the cycling infrastructure of Copenhagen: <http://www.kk.dk/artikel/cykelkort> . The map includes not only the existing cycling infrastructure but also the planned cycling infrastructure.

²² Picture from the report: Københavns Kommune, velkommen på de grønne cykelruter. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1377_Tyil2q50ey.pdf

²³ Information about cycle super highways <http://supercykelstier.dk/hvad-er-en-supercykelsti/>

²⁴ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHzmE.pdf (14 % is car traffic)

National highway code and regulation

There are no similar statistics on national level.

The Danish Highway Code presents specific rules for bikes (Chapter 7 of the manual).²⁵ These rules are mainly stating "how to cycle", "where to cycle" and "how bikes should turn left in crossroads".

In Copenhagen, a booklet with rules for cycling in the capital is available for tourists who wish to bike in the city. The initiative aims to promote safe cycling for the Copenhageners and the tourists themselves²⁶.

5 Data collection methods

5.1 Transportvaneundersøgelsen (TU)

Transportvaneundersøgelsen (TU) is the Danish National travel survey which covers 365 days a year. TU was first conducted in 1975. Since 1992, TU has been conducted continuously, having had only one break between 2004-2006²⁷. Once a year, data from TU is presented as main results on the web page of the Department of Transport (*Data- og Modelcenter*). The results are not transformed into a big publication but small factsheets are made instead. The latest publications covers the year 2014. However, new datasets are released at least once a year and these can be purchased if municipalities, regions, consultancies or other are interested to gain insight in the results.

Since the residence is reported with the exact address in the questionnaire it is possible to report the data at every level wanted: urban, municipality, region etc.

Copenhagen has made a cycle account (*cykelregnskab*²⁸) and an urban life account (*Bylivsregnskab*²⁹) based on data from the National Survey as well as questionnaires to Copenhageners. There is not much information available about the data collection methods of the mentioned reports from the Municipality of Copenhagen. Information regarding trips and km of walking and cycling from the reports are based on TU. A survey among Copenhageners is mainly for getting information about the satisfaction of walking and cycling infrastructure.

²⁵ The National highway code. LBK nr 1386 af 11/12/2013, Færdselsloven, <https://www.retsinformation.dk/forms/r0710.aspx?id=158005>

²⁶ The initiative covers the daily distance walked by Copenhageners as well as satisfaction with regards to the infrastructure and facilities in the city. An article about the cycle folder initiative is available at the following link: <http://www.tv2lorry.dk/artikel/cykel-turister-faar-cykelregler-i-koebenhavn>

²⁷ Information about TU http://www.modelcenter.transport.dtu.dk/english/TU/What_is_TU

²⁸ Københavns Kommune, 2014, København, Cyklernes by, Cykelregnskabet 2014. http://kk.sites.itera.dk/apps/kk_pub2/pdf/1362_cFTGCXHmE.pdf

²⁹ Københavns Kommune Bylivsregnskabet, 2015, http://kk.sites.itera.dk/apps/kk_pub2/pdf/1526_9hydtPzqho.pdf

Population	<p>The population of TU consists of people between the age 10-84.³⁰ In 2014, 9,673 interviews were conducted.³¹ Respondents were selected through random sampling. TU contains a one-day-travel diary and is a combination of Internet and telephone interviews. If people do not answer the survey after receiving an introductory letter, they are selected for a telephone interview, if they have a known phone number. Even though some have not travelled the predefined survey day they are asked other questions from the survey.</p>
Trips	<p>Trips are defined as a movement from one address to another for a purpose. However, a trip could also have a purpose in itself like going for a run.³²</p> <p>TU works with 4 basic definitions:</p> <ul style="list-style-type: none"> › "One interview session represents one person for one diary day – Every session contains 0, 1 or more journeys › One journey (Danish: 'turkæde' or 'rejse') represents the entire journey from 'home' and re-turn to 'home' – Every journey is divided into 2 or more trips (at least outwards and homewards) › One trip (Danish: 'tur') represents the travel from one stay/activity to the next – Every trip is divided into 1 or more stages › One stage (Danish: 'deltur') represents one usage of a mode of transport on the trip".³³ <p>The purpose of the trip is recorded for every trip as well as all transport modes are reported.</p>
Distance	<p>For every trip the respondent should write the address of the next activity/stay of the day. In this way, the exact amount of kilometres of the trips can be calculated.</p>

³⁰ Before 2006 the survey covered other age spans.

³¹ Christiansen, H., Zoëga Skougaard, B. 2015, Documentation of the Danish National Travel Survey, DTU Transport.
http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwintuWWhNPNAhUMJJJoKHxvtC_oQFgggMAE&url=http%3A%2F%2Fwww.transp.ort.dtu.dk%2Fenglish%2F-%2Fmedia%2FCentre%2FTransport-DTU%2FForskning%2Fpublikationer%2F2012%2Fnote_tu_documentation.ashx%3Fla%3Dda&usg=AFQjCNGTePpJuXd9nmh8NnmBASJT6Jwwg&sig2=cZl16983Ck2E8uE-hbHBbg

³² Danmarks Tekniske Universitet, Institut for Transport, 2015, Dokumentation af spørgeskema for Transportvaneundersøgelsen 2015.
http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjoule1htPNAhWoCJoKHcezD-cQFggdMAA&url=http%3A%2F%2Fwww.modelcenter.transport.dtu.dk%2F-%2Fmedia%2FCentre%2FModelcenter%2Ftu%2FSporgeskema_dokumentation2015.ashx&usg=AFQjCNHBaDpgQ1k1ds8VwlqgHN_cn-LLcQ&sig2=QXiZa7PKrMfNWnKf5RUg2Q

³³ Christiansen, H., Zoëga Skougaard, B. 2015, Documentation of the Danish National Travel Survey, DTU Transport.
http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwintuWWhNPNAhUMJJJoKHxvtC_oQFgggMAE&url=http%3A%2F%2Fwww.transp.ort.dtu.dk%2Fenglish%2F-%2Fmedia%2FCentre%2FTransport-DTU%2FForskning%2Fpublikationer%2F2012%2Fnote_tu_documentation.ashx%3Fla%3Dda&usg=AFQjCNGTePpJuXd9nmh8NnmBASJT6Jwwg&sig2=cZl16983Ck2E8uE-hbHBbg

As addition to the address, the respondent should estimate the number of kilometres travelled. The amount of time it takes from coming to one point from another is also estimated by the interviewees. However, there are several ways to make sure, that the respondents do not make mistakes when calculating the time and kilometres used. This is done by making small notifications in the questionnaire.

For example if it is estimated that it takes 15 minutes to drive 50 km a notification says: "50 km in 15 minutes means that you have been driving 200 km/hour in average." Another example is when a respondent has estimated a distance longer than the calculated distance, then the respondent will get a notification saying: "Are you sure, that your itinerary was a very big detour? Please control the distance again."³⁴

Trips under 5 minutes are not included in the survey.

5.2 Use of big data and traffic counts

Neither the National Survey, nor the reports from the Municipality of Copenhagen (Urban life account and the bicycle account) are using statistics on walking from big data and traffic counts. However, there are automatic traffic counters, which count bikes several places in Denmark (and other countries).³⁵ When looking at a specific traffic counter it is possible to see statistics per hour for the last 24 hours and per day for the last 2 weeks. Furthermore, it is possible to request statistics for specific dates/months.

Based on traffic counts The Danish Road Directorate has made an index over the bicycle traffic in Denmark from 1990-2015.³⁶

The Danish Road Directorate is counting the traffic in several ways: manually and mechanically (with spools, tubes, video, by radar and GPS).³⁷ The counts on cycle traffic on specific places can be seen at their web page.³⁸

³⁴ Danmarks Tekniske Universitet, Institut for Transport, 2015, Dokumentation af spørgeskema for Transportvaneundersøgelsen 2015.
http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjoule1htPNAhWoCJoKHcezD-cQFggdMAA&url=http%3A%2F%2Fwww.modelcenter.transport.dtu.dk%2F%2Fmedia%2FCentre%2FModelcenter%2Ftu%2FSporgeskema_dokumentation2015.ashx&usg=AFQjCNHBaDpgQ1k1ds8VwlgqHN_cn-LLcQ&sig2=QXiZa7PKrMfNWnKf5RUg2Q.

³⁵ Map with overview of traffic counters
http://www.cykelfartviser.dk/CykelFartviser/BC_cykelbarometer.jsp

³⁶ Key numbers on traffic
http://vejdirektoratet.dk/DA/viden_og_data/statistik/trafikken%20i%20tal/Noegletal_om_vejtransport/Sider/default.aspx

³⁷ Information about traffic counts
http://www.vejdirektoratet.dk/DA/viden_og_data/statistik/trafikken%20i%20tal/hvor_meget_korer_vi/Sider/Hvordan-maler-vi-biltrafikken.aspx

³⁸ Traffic on counting stations
http://www.vejdirektoratet.dk/DA/viden_og_data/statistik/trafikken%20i%20tal/hvor

In Copenhagen, several traffic counts are taking place.³⁹ Some of these are counting the number of pedestrians and bikes and whether these are women, men or children.

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[meget trafik er der paa vejen/Trafik%20p%c3%a5%20m%c3%a5lestationer/Sider/default.aspx#](http://www.vejdirektoratet.dk/DA/viden_og_data/statistik/trafikken%20i%20tal/hvor_meget_trafik_er_der_paa_vejen/Trafik%20p%c3%a5%20m%c3%a5lestationer/Sider/default.aspx#)

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C.8 ESTONIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
ELFS	Estonian Labour Force Survey

SUMMARY TABLE

National surveys

Estonian Labour Force Survey 2015

City-level surveys

Annual Tallinn Residents' Survey 2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Estonia	2.4	pkm/day	working & walking	2010
Estonia	2.4	pkm/day	working & walking	2011
Estonia	2.4	pkm/day	working & walking	2012
Estonia	2.6	pkm/day	working & walking	2013
Estonia	2.8	pkm/day	working & walking	2014
Estonia	2.6	pkm/day	working & walking	2015
Tallinn	no data			

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Estonia	7.4	pkm/day	working & cycling	2010
Estonia	7.0	pkm/day	working & cycling	2011
Estonia	6.8	pkm/day	working & cycling	2012
Estonia	7.2	pkm/day	working & cycling	2013
Estonia	5.4	pkm/day	working & cycling	2014
Estonia	7.6	pkm/day	working & cycling	2015
Tallinn	no data			

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Estonia	3.1	percentage of respondents that cycle to work
Tallinn	0.5	percentage of respondents that cycle to work

Statistics on cycling infrastructure (km), by type of infrastructure

	Estonia	Tallinn
Total	632	211.7

FOOTNOTES:

1) The statistics on pkm/day are multiplied by 2, as the statistics in the report indicate a one-way distance: "ML232: AVERAGE DISTANCE BETWEEN PLACE OF MAIN JOB AND PLACE OF RESIDENCE OF EMPLOYED PERSONS"

2) The working population is not representative for the mobile population.

3) Statistics on the percentage of the population cycling were not used for comparison with other countries because they only concern working population.

1 Context

According to Statistics Estonia, data on walking and cycling on a national level is collected by Estonian Labour Force Survey (hereafter ELFS). The survey assesses how people usually commute to work from home or place of stay without taking into account the number of trips taken. The main question asked in the survey in regards to modes of transport is: *'How do you usually commute to work from home? OR How do you usually commute to work from your place of stay (second place of residence)?'*

On an urban level, Annual Tallinn Residents' Survey collects data on the main modes of transport in Tallinn (see section 5 for more information).

Furthermore, [Tallinn Development Plan for 2014-2020](#) sets focus on development of bicycle and pedestrian paths in Tallinn. The plan prioritizes the creation of a modern pedestrian and bicycle-friendly urban space in the area of the city centre as well as building streets for pedestrians. It is expected that the total length of bicycle and pedestrian paths will increase from 227 km in 2014 to 242 km in 2017. Municipal Engineering Services Department is responsible for achieving these targets.

Finally, the national census conducted in 2011 did not include questions on walking and cycling (Estonian National Census, 2011).

The list of stakeholders contacted as part of this study is presented as Appendix C of the main report.

2 Challenges related to data collection

Friendliness	According to the interviews conducted with the representatives from Estonia Statistics and Estonian Road Administration, both walking and cycling in the country are perceived rather friendly. On a scale from 0 to 10, '0' being bad and '10' being excellent, both walking and cycling were assessed with an 8 and a 7.
Difficulties	The main difficulties experts encounter when collecting statistics on walking and cycling are lack of tradition and technical difficulties, for instance, due to randomness in walking.
EU action	Some respondents do not see the need for EU actions on comparable statistics. Others mentioned that it would be beneficial to have comparable statistics on walking and cycling at the EU level. Since so far there is not enough data, it is difficult to select priority actions for the EU.
Other Statistics	Tallinn municipality collects the following statistics on walking and cycling: <ul style="list-style-type: none"> › residents' satisfaction with sufficiency of cycle paths › condition of cycle paths, maintenance of cycle paths in winter › parking possibilities for bicycles in the city centre › storage possibilities at home

- › state of traffic from the viewpoint of cyclists
- › residents' satisfaction with conditions of walking paths
- › maintenance of walking paths in winter
- › state of traffic from the viewpoint of pedestrian

Furthermore, in 2015 Estonian Ministry of Economic Affairs and Communication conducted a survey about travel modes and sustainable transportation in Tallinn. However, the survey is not publically available.

3 Active modes use

3.1 Walking

According to ELFS, in 2015 there were 111.5 thousands of people walking to work in Estonia (see Table 1). The average time of going to work was 15.2 minutes and the average distance 1.3 km.

Table 1 Estonian Labour Force Survey results on walking to work from 2005-2015

ML230: EMPLOYED PERSONS by Indicator, Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
On foot	149.7	154.4	138.8	131.1	115.0	109.6	108.9	111.3	108.2	105.5	111.5
Footnote: annual average employed persons aged 15-74 in thousands, both females and males											
ML233: AVERAGE TIME OF GOING TO WORK by Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
On foot	15.2	14.6	14.7	15.2	14.7	15.2	15.5	14.3	15.2	15.4	15.2
Footnote: unit: minutes, employed persons aged 15-74, both females and males											
ML232: AVERAGE DISTANCE BETWEEN PLACE OF MAIN JOB AND PLACE OF RESIDENCE OF EMPLOYED PERSONS by Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
On foot	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.3
Footnote: Unit: kilometres, Employed persons aged 15-74, both females and males											

Source: Estonian Statistics

In Tallinn, around 10 % of respondents of Tallinn Annual Survey walked to work in 2011. Figure 1 presents the results of Tallinn Annual Survey for 2000-2011.

3.2 Cycling

According to ELFS, in 2015 there were 20.5 thousands people cycling to work in Estonia (see Table 2). The average time of cycling to work was 16.5 minutes and the average distance 3.8 km.

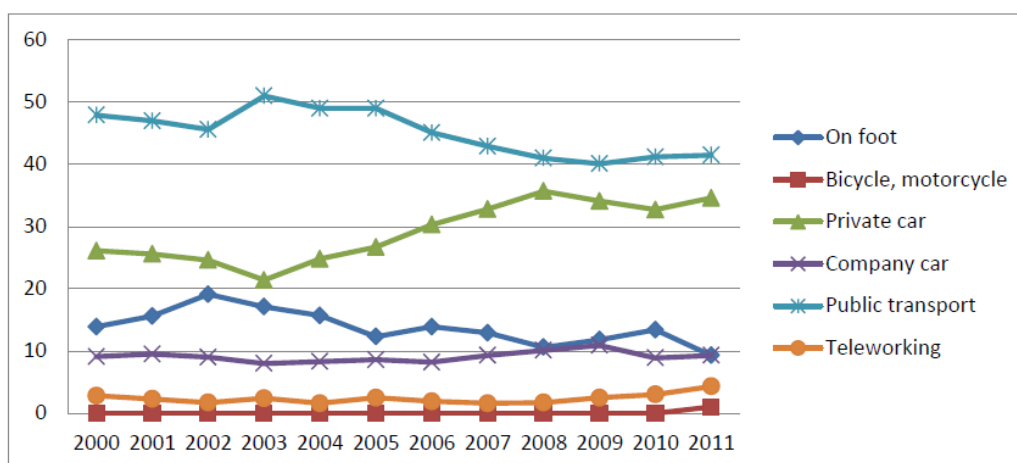
Table 2 Estonian Labour Force Survey results on using bicycle to go to work from 2005-2015

ML230: EMPLOYED PERSONS by Indicator, Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
By bicycle, by moped or motorbike	18.7	21.2	20.2	20.7	17.5	16.3	18.9	17.4	17.4	17.8	20.5
Footnote: annual average employed persons aged 15-74 in thousands, both females and males											
ML233: AVERAGE TIME OF GOING TO WORK by Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
By bicycle, by moped or motorbike	16.3	15.4	14.7	16.0	14.7	15.7	14.7	15.3	15.6	12.8	16.5
Footnote: unit: minutes, employed persons aged 15-74, both females and males											
ML232: AVERAGE DISTANCE BETWEEN PLACE OF MAIN JOB AND PLACE OF RESIDENCE OF EMPLOYED PERSONS by Sex, Way of going to work and Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
By bicycle, by moped or motorbike	3.2	2.9	2.7	3.0	3.2	3.7	3.5	3.4	3.6	2.7	3.8
Footnote: Unit: kilometers, Employed persons aged 15-74, both females and males											

Source: Estonian Statistics

In 2011, around 2 % of respondents of Tallinn Annual Survey cycled to work. Figure 1 presents the results of Tallinn Annual Survey for 2000-2011. There, the public transport and private cars are the most common modes of transport to commute to work.

Figure 1 The main mode of going to work from 2000- 2011



Source: Teve Kink, Steering towards more cycling in Tallinn: Assessing policy's role in promoting urban cycling in "new cycle cities", 2014

4 Infrastructure

4.1 Walking infrastructure

The walking infrastructure in Estonia is regulated by [Road Maintenance Act](#) that determines quality requirements for surface condition and winter maintenance on all roads including cycle and walking paths.

In Estonia there are pedestrianised streets areas in Tallinn and Tartu, however more detailed information is not available.

4.2 Cycling infrastructure

The cycling infrastructure in Estonia is regulated by [Road Maintenance Act](#) that determines quality requirements for surface condition and winter maintenance on all roads including cycle and walking paths.

In 2012, there were 211.7 km of cycle paths in Tallinn, of which 167.9 km were separate bike lanes and 43.8 km of bike lanes were marked on the traffic roads (Tallinn, 2012). Furthermore, in October 2014 there were 251 cycle paths, more specifically:

- › Haaberstis 36.6 km
- › City center 48.4 km
- › Kristiines 17 km
- › Lasnamäel 36.9 km
- › Black Hill 23.4 km
- › Heather 27.2 km

› Pirita 38.4 km

In Estonia, there are about 632 km of bicycle paths (excluding urban roads).

5 Data collection methods

5.1 Estonian Labour Force Survey

Estonian Labour Force Survey assesses only the main mode of transport commuting from home to work or a place of stay. In 2015, 3.1 % of respondents cycled to work.

Thus, the section below will focus on data collection methods in the Annual Tallinn Residents' Survey. For this survey, Tallinn municipality collects the data on the main modes of transport and number of trips. In 2015, 16 % of respondents in Tallinn walked to work, while only 0.5 % cycled to work.

Methods

The main data collection method in Annual Tallinn Survey is survey with face-to-face interviews. The most recent data was collected in 2015¹ and it is periodically collected every autumn.

The sample size is 1,500 and it is representative on the city districts' level. There were 190 sampling points selected randomly with around 8 interviews in each sampling point.

The minimum age of respondents was set at 15 years, no maximum was applied. Furthermore, people who did not travel in the day are included in the sampling.

Trips

The survey asked about the main mode of transportation on work-days and number of trips on work-days by transportation modes. Trips are defined as '*movements with a concrete purpose from a departure point to a destination point*', for example: from home to work, from school to home, from home to a friend's house, from home to supermarket. Short walks (less than 500m) are not counted in the survey. Furthermore, walking or cycling without concrete destination is not counted. Professionals such as postal workers are not included in the survey.

In 2012 and 2013, the annual surveys also had a trip-diary (all trips from previous day were recorded).

Distance

The survey is based on the trips made a weekday before the interview. Seasonal variations are taken into account, as autumn is considered to be the most suitable period for measuring residents' movement in the region.

Duration and distance were not recorded, but it was measured in the surveys in 2012 and 2013.

5.2 Big Data

No Big Data were used as a part of the surveys presented earlier.

¹ The results are available here in Estonian:
<http://uuringud.tallinnlv.ee/document.aspx?id=11555>

However, the city of Tallinn has used Endomondo app for tracking cyclists. Within the context of the European Cycling Challenge, Endomondo app was used in the city. In 2013, Tallinn won the competition with the total of 55,762 km cycled and 509 cyclists (Teve Kink, 2014). The individual data on the cyclists shows that the participants were mainly competitive cyclists, who cycled around 30 km per day (Teve Kink, 2014).

Traffic counts

No traffic counts were used as a part of data collection.

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Road Maintenance Act, Regulation RT I, 15.07.2015, 13, Adopted 14.07.2015 nr 92 <https://www.riigiteataja.ee/akt/115072015013?leiaKehtiv>

Results of the Tallinn Annual Residents' Survey,
<http://uuringud.tallinnlv.ee/document.aspx?id=11555>

C.9 FINLAND

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – FINLAND

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
NTS	National Travel Survey
EPOMM	European Platform on Mobility Management
TEMS	The EPOMM Modal Split Too

SUMMARY TABLE

National surveys

National Travel Survey (NTS) 2010-2011

City-level surveys

Helsinki Mobility Habits 2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Finland	0.99	pkm/day	total	2010-2011
Helsinki	1.2	pkm/day	total	2010-2011

Walking: average number of trips per day

	Number	Unit	Population	Year
Finland	0.61	trips/day/person	total	2010-2011
Helsinki	0.8	trips/day/person	total	2010-2011
Helsinki	0.8	trips/day/person	total	2015

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Finland	0.73	pkm/day	total	2010-2011
Helsinki	0.66	pkm/day	total	2010-2011

Cycling: average number of trips per day

	Number	Unit	Population	Year
Finland	0.24	trips/day/person	total	2010-2011
Helsinki	0.17	trips/day/person	total	2010-2011
Helsinki	0.3	trips/day/person	total	2015

Cycling: percentage of the population cycling in the country/city

no data

Statistics on cycling infrastructure (km), by type of infrastructure

	Finland	Helsinki
Total	<i>no data</i>	1,200

1 Context

The most common way of travel in Finland is walking and the culture of cycling has been developing recently.

The main data collection method in Finland is the National Travel Survey (NTS), carried out every 5 years. The NTS is commissioned by the Finnish Transport Agency and it provides an overall picture of Finnish passenger mobility, including walking and cycling.

The City of Helsinki undertakes a yearly travel survey, *the Helsingkiläisten liikkumistottumukset* (Helsinki Mobility Habits), using similar methodology as the one used at country level.

The information presented below is based on the two survey methods.

2 Challenges related to data collection

Difficulties	The main challenge is limited availability of resources of the cities for the data collection of walking and cycling data.
Comparability	Data comparison is made through the Cycling Barometer and the information available at TEMS database on the European Platform on Mobility Management (EPOMM) webpage.
EU Action	EU Action on promoting the use of the common guidelines defined by the Eurostat for national surveys would enhance the comparability of the walking and cycling statistics across the EU.
Other statistics	In addition to the active modes use, traffic safety statistics on walking and cycling is also collected. Big data is not used.

3 Active modes use

3.1 Walking

In the travel surveys carried out in Finland, walking includes running and sledges. Skateboarding and roller skating are included in the category "others".

Data related to walking is collected both through the Finnish National Travel survey and the *Helsingkiläisten liikkumistottumukset* (Helsinki Mobility Habits) survey.

The average daily distance travelled per day is only recorded at Finnish National Travel survey. Results indicate that the population in Helsinki walks around 20% more than the Finnish average, as presented in Table 1.

Table 1: Average daily distance travelled per person – walking

	Person Km per day	Year
Finland	0.99	2010/2011
Helsinki	1.20	2010/2011

Source: Finnish National Travel Survey (NTS), Finnish Transport Agency, 2012.

Walking is the main mode of transport in Helsinki. The number of trips per person per day is recorded in both surveys and results are presented in Table 2. The comparison of the data registered for Helsinki in 2010/2011 and 2015 indicate that the average number of walking trips remained constant in the last years.

Table 2: Average number of trips per day – walking

	Trips per person per day	Year
Finland ¹	0.61	2010/2011
Helsinki (NTS) ¹	0.80	2010/2011
Helsinki ²	0.80	2015

Source: ¹Finnish National Travel Survey (NTS), Finnish Transport Agency, 2012.

²Helsinkiäisten liikkumistottumukset, City of Helsinki, 2015.

3.2 Cycling

The modal share of cycling in Finland is only 8% of the total number of trips and 2% of the distance.

The average distance travelled by bike in Finland is slightly higher than the average distance registered in the capital region.

Table 3: Average daily distance travelled per person – cycling

	Person Km per day	Year
Finland	0.73	2010/2011
Helsinki	0.66	2010/2011

Source: Finnish National Travel Survey (NTS), Finnish Transport Agency, 2012.

Nevertheless, according to the results published in 2015 by the City of Helsinki, the number of cycling trips per person per day increased¹ when compared to the data from 2010/2011 as presented in Table 4.

¹ Considering some methodological differences of both surveys i.e. population included in the sampling, it is not possible to precise the % of increase.

Table 4: Average number of trips per day – cycling

	Trips per person per day	Year
Finland ¹	0.21	2010/2011
Helsinki (NTS) ¹	0.17	2010/2011
Helsinki ²	0.30	2015

Source: ¹Finnish National Travel Survey, Finnish Transport Agency, 2012.

²Helsingiläisten liikkumistottumukset, City of Helsinki, 2015.

4 Infrastructure

4.1 Walking infrastructure

Helsinki has various pedestrianised streets and areas, which have been constructed as part of the general plan for pedestrian approved in 1989.

The capital launched the preparation of a walking research plan and walking development programme in 2014 with the objective to promote walking and review the walking infrastructure in the city centre.

4.2 Cycling infrastructure

According to the City of Helsinki, there are 1,200 km² of cycling infrastructure in Helsinki, out of which around 730 km are paved.

The city guidelines for planning cycling infrastructures present standards for the different types of infrastructures. The guidelines include standards related to the minimum width, grade, curve radius and maximum speed.

The main categories are presented below:

- › Mixed traffic
- › Cycle track
- › Cycle street
- › Cycle lane

² Helsinki by bike, City of Helsinki. Available at:
http://www.hel.fi/hel2/ksv/Aineistot/Liikennesuunnittelu/Esitteit%C3%A4/pyora_hel08_en_net.pdf

5 Data collection methods

The main data collection method in Finland is the National Travel Survey, carried out every 5 years.

The City of Helsinki undertakes a yearly travel survey with similar parameters as those used at country level.

Information about the two surveys is presented in the following sections.

5.1 Finnish National Travel Survey

The Finnish National Travel Survey (NTS) is commissioned by the Finnish Transport Agency and it provides an overall picture of Finnish passenger mobility, including walking and cycling.

The NTS is undertaken every 5 years. The latest survey was carried out in 2010/2011, however the NTS 2016 is ongoing and results shall be available by the end of 2017.

Although most of data is publically available (i.e. data collection design, questionnaire), micro data is available for research purposes upon request.

The results are reported only at regional level, however micro data include the information about the place of the respondents, what would allow reporting at urban level.

Population

The respondents are selected based on a random sampling of the total registered population. For 2010/2011 survey, 12,318 interviews (61% of the questionnaires sent) were carried out via phone interview, which were scheduled beforehand with the respondent. The sample includes all residents aged over 6 years.

The guidelines and the questionnaire are sent by post prior to the interview and the respondents are invited to register their activity of one day prior to the interview. Professional drivers are not recorded in the interview.

A pilot study using a GPS device was undertaken in order to analyse the potential of this technology in providing more reliable and accurate data. The study compared the results of the GPS survey and the telephone interview for the same respondent and both methods presented errors.

Results from the telephone interview indicate that not all the trips are recorded by the respondent and the length of the trips tend to be slightly overestimated. Nevertheless, the overall results are still more reliable than the ones registered via the GPS survey.

Trip

The survey is trip based, and a trip is defined as "moving from one place to another for a certain purpose. The outbound and inbound trips of a journey are considered separate trips. All trips, even short ones, are counted if they extend beyond the premises of the current location. The premises can mean a home yard or an equivalent area for other locations."

Only the main mode is recorded in the travel survey and walking and cycling are not derived from the results.

The respondents have 11 alternatives for indicating the trip purpose. The different alternatives could be categorised in four main categories:

- › work
- › education
- › leisure
- › shopping

Duration and distance Duration and distance are collected separately by self-estimation of the respondent. The distance is also collected through the Origin – Destination recorded on the basis of the addresses completed in the interview.

5.2 Helsinkiläisten liikkumistottumukset (Helsinki Mobility Habits) Survey

The *Helsinkiläisten liikkumistottumukset* survey is undertaken annually in the City of Helsinki in order to characterize the mobility patterns of the population. The most recent survey results are from 2015.

The technical report with the results is publicly available, however only some elements of the methodology and definitions are available online

More detailed information has been requested but no official reply has been received by the publishing date of this report.

Population The respondents for the survey are selected based on a random sampling of the total registered population. The interviews are carried out face-to-face and via phone (CATI). Professional drivers are not recorded in the interview.

In the Helsinki's survey, only respondents aged between 7 and 79 years are included in the sample.

Trip The survey is trip based, and the definition of a trip is the same as for the national travel survey: "moving from one place to another for a certain purpose. The outbound and inbound trips of a journey are considered separate trips. All trips, even short ones, are counted if they extend beyond the premises of the current location. The premises can mean a home yard or an equivalent area for other locations."

Only the main mode is recorded in the travel survey and walking and cycling are not derived from the results.

The respondents have 11 alternatives for indicating the trip purpose. The different alternatives could be categorised in four main categories:

- › work
- › education
- › leisure
- › shopping

Duration and distance Duration and distance are not reported and data collection information is not available.

6 References

Finnish Ministry of Transport and Communications (2005) *Promoting Pedestrian and Bicycle Traffic in Finland*.

City of Helsinki (2015), *Helsinki­läisten liikkumistottumukset 2015*
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C.10 FRANCE

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – FRANCE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
CEREMA	Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement
CERTU	Centre d'études sur les réseaux, les transports, l'urbanisme et les constructions publiques
CETE	Centres d'études techniques de l'équipement
CETMEF	Centre d'Etudes Techniques Maritimes Et Fluviales
DRC	Départements et Régions Cyclables
DRIEA	Direction Régionale et Interdépartementale de l'Équipement et de l'Aménagement Ile-de-France
DSDS	Direction des statistiques démographiques et sociales
EGT	Enquête global transports
ENTD	Enquête nationale transports et déplacements
INSEE	National Institute of Statistics and Economic Studies
OMNIL	Observatoire de la mobilité en Île-de-France
SETRA	Service d'Etudes Techniques des Routes et Autoroutes
STIF	Syndicat des transports d'Île-de-France (STIF)

SUMMARY TABLE

National surveys

Enquête nationale transports et déplacements (ENTD)	2008
Population census	2012
National Platform Database (automatic counts)	real-time

City-level surveys

Enquête Globale Transport (EGT)	2010
---------------------------------	------

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
France	0.8	pkm/day	total	2008
Paris	0.9	pkm/day	total	2010

Walking: average number of trips per day

	Number	Unit	Population	Year
France	no data			
Paris	2.2	trips/day/person	total	2010

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
France	2.8	pkm/day	total	2008
Paris	0.3	pkm/day	total	2010

Cycling: average number of trips per day

	Number	Unit	Population	Year
France	no data			
Paris	0.12	trips/day/person	total	2010

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
France	3.6	cycling as main mode
Paris	2	cycling as main mode

Statistics on cycling infrastructure (km), by type of infrastructure

No data

FOOTNOTES:

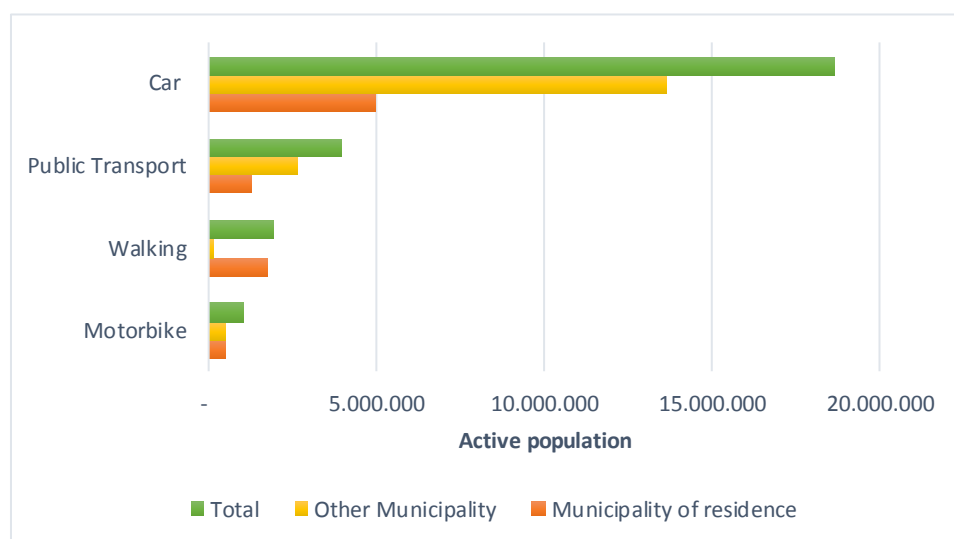
Statistics on the percentage of the population cycling were not used for comparison with other countries because they only concern main mode of transportation.

1 Context

Every year, the National Institute of Statistics and Economic Studies (INSEE), *Direction des Statistiques Démographiques et Sociales* (DSDS), conduces a population census in part of the French cities with the aim to learn about France's diverse and changing population. It provides statistics on inhabitants and their characteristics, including means of transportation to go to work. Walking and cycling are both possible answers. The last recent data are available on INSEE website, Transport section, and can be browsed thanks to interactive maps and graphs¹. What follows is an overview on census results based on 2012 data².

Nevertheless, the most complete information is provided by the *Enquête nationale transports et déplacements* (ENTD)³, which is carried out every 10 or 15 years by CEREMA, *Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement* (Centre for studies and knowledge on risks, environment, mobility and planning). The most recent one was undertaken in 2008 and the next one is planned for 2018.

Figure 1 Active population and transport mode from the household to the workplace, year 2012



Source : Insee, RP2012 exploitation complémentaire

Furthermore, in France there are other reference organisations, both private and governmental agencies, with expertise on mobility and active mobility. Three organisations accepted to be involved in the study and answered to the national

¹ INSEE website, Data on Transport – available at http://www.insee.fr/fr/themes/document.asp?reg_id=99&ref_id=rp2009ddt

² INSEE website, Data on Employment – available at http://www.insee.fr/fr/themes/tableau_local.asp?ref_id=NAV2A&millesime=2012&niveau=1&typgeo=FE&codgeo=1

³ Ministère de l'environnement, de l'Énergie et de la mer, ENTD Sources et methodologie – available at the web site <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

questionnaire. They are CEREMA, the *Club des Villes et Territoires Cyclables* and the Departments and Regions Cyclable.

Cerema

On 1 January 2014, four different organizations with different working areas CETE, Certu, Cetmef and Setra have merged to form the CEREMA, *Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement* (Centre for studies and knowledge on risks, environment, mobility and planning).

CEREMA is a centre of resources and expertise that supports the central government and local authorities to develop national and territorial strategies and their implementation. With its multidisciplinary research competences and technical capability, CEREMA intervenes in many different areas related to urban planning: housing, sustainable buildings, transport, mobility, road safety, environment, risk prevention, sea, energy and climate⁴.

Every 10 or 15 years, France carries out an overall data collection on transport and mobility. The most recent one, "Enquête nationale transports et déplacements (ENTD) 2008"⁵, refers to year 2008 and the next one is planned for 2018.

Villes-Cyclables

The Club des Villes et Territoires Cyclables is a local government network involved in the development of bicycle use in everyday life in France. Founded in 1989 by ten pioneering cities, the association gathers over 1,500 local authorities: municipalities, departments, and regions representing more than 40 million inhabitants. The Club is a major player in promoting the everyday use of bicycles and other sustainable and active modes of mobility at urban level. It participates in the political debate in France for the development of traffic free areas, for the safety of cyclists and pedestrians and to encourage sustainable mobility⁶.

The Club des Villes et Territoires Cyclables performs statistics on regular basis, mainly using surveys as data collection methods. It renewed annually a national survey to investigate on policies in favour of pedestrians and cyclists in French cities⁷ and releases a report as part of the Observatory of active mobility, in partnership with the Inter-ministerial coordination for the development of bicycle use.

The most recent survey⁸ displays the growth of infrastructure and services, the implementation of assessment and planning tools, and the increased investments on local cycling policies, i.e. budget per capita and human resources.

⁴ CEREMA official website – available at the web page www.cerema.fr

⁵ Ministère de l'environnement, de l'Énergie et de la mer, ENTD Sources et méthodologie – available at the web site <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

⁶ Club de Villes et Territoires cyclable official web site, available at the web page <http://www.villes-cyclables.org>

⁷ Club des villes et territoires cyclables (2015) Enquête national 2013, Les politiques en faveur des piétons et des cyclistes dans les villes françaises, 2012-2013 – available at the web link http://www.villes-cyclables.org/modules/kameleon/upload/14008_lesfrancaisetlevo_15_04_13.pdf

⁸ Club des villes et territoires cyclables (2015) Enquête national 2013, Les politiques en faveur des piétons et des cyclistes dans les villes françaises, 2012-2013 – available at the web link http://www.villes-cyclables.org/modules/kameleon/upload/14008_lesfrancaisetlevo_15_04_13.pdf

These results provide a snapshot of policies for cyclists and pedestrians at early 2014-2020 mandate to use as a benchmark to compare the modal share trends.

DRC

The network of *Départements et Régions Cyclables (DRC)* brings together communities mobilized for developing cycling in France. Their attention is focused on the development of cycle routes and greenways and cycling tourism. Founding member of France Bike Tourism, partner of bike users' associations and of the Ministry of Ecology, the DRC act since 1999 in the interest of the bicycle culture in France. It is nationally recognised for its technical expertise, for statistics collection and for its significant reports and books. DRC is the national coordination centre for the European cycle routes network *EuroVelo*⁹, and carries the voice of local communities in Europe¹⁰.

DRC, in partnership with the innovative SME Eco-Compteurs¹¹ developed a major nationwide data collection project to assess large-scale greenways attendance in France. Launched in 2013, it consists of a National Platform Database that gathers data from over 300 counters spread across 38 different local authorities¹².

Most recent descriptive statistics released in 2016 shows that the average attendance of cycling routes between 2014 and 2015 increased by 1.1 %, equivalent to 14.5 % when compared to 2013¹³.

Paris

The Transport Syndicate of the Paris Region (hereafter STIF) is the authority responsible in the entire area for all modes of land transport. STIF board is composed of Île-de-France region, the city of Paris, seven local departments and other local stakeholders. STIF is in charge of organizing, coordinating, financing and modernizing public transport in Île-de-France. It prepares the Urban Mobility Plan (PDU), defines the road network, selects transport employees and operators, set the operational guidelines and funding regulations. It ensures consistency of investment programs in the public transport sector. It regularly collects statistics on mobility behaviour in Paris and Île-de-France region¹⁴.

⁹ EuroVelo official website – available at the webpage <http://www.eurovelo.org/>

¹⁰ Départements et Régions Cyclables (DRC) official web site, available at the web page <http://www.departements-regions-cyclables.org/qui-sommes-nous-/association.html>

¹¹ Eco-Compteurs official website – available at the web link <http://www.eco-compteur.com/blog/a-propos/>

¹² The National Platform Database description, statistics, reports and publications are available at the web page:

<http://www.departements-regions-cyclables.org/page/plateforme-nationale-des-frequentations--p-93.html>

The interactive map showing all counters installed on France greenways, with general and punctual time data in real time, is available at the web page:

<http://www.eco-public.com/ParcPublic/?id=891>

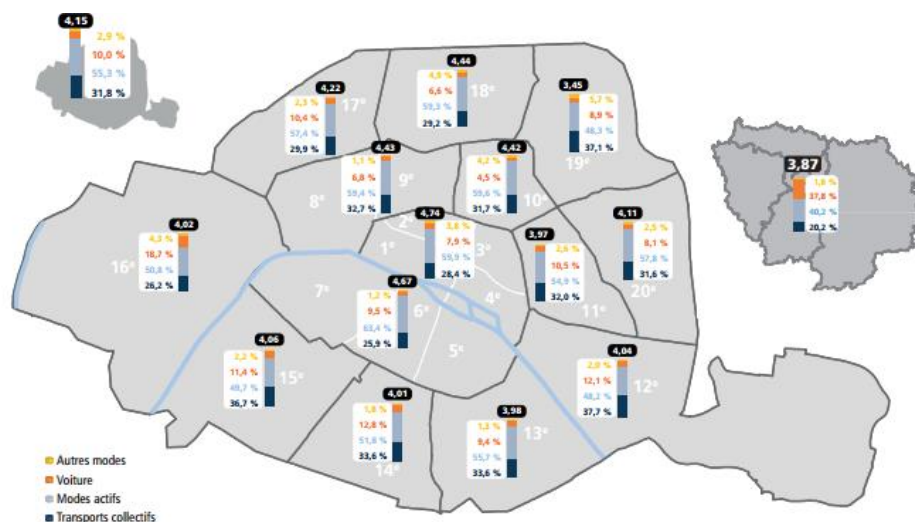
¹³ Départements et Régions Cyclables (DRC), Analyse Des Données De Fréquentation Vélo 2015 Synthèse – available at the web page <http://www.departements-regions-cyclables.org/qui-sommes-nous-/association.html>

¹⁴ STIF official website <http://www.stif.info/>

Every ten years, STIF, with OMNIL¹⁵ and DRIEA¹⁶ carries out a data detection called EGT - *Enquête Globale Transport*¹⁷. It is based on survey method. The more recent data detection was in 2010.

What follows is an overview taken from the main results of the EGT 2010 on the mobility in Paris. The following map summarises modal share in all districts.

Figure 2 - Average number of trips per day in Paris, modal share in 2010



Source: EGT 2010-STIF-OMNIL-DRIEA (2013), La ville de Paris

The Parisians are characterised by weak automotive equipment: more than half of Parisian households own no car, a rate that slightly increased since 2001. This is almost twice when compared to the other departments in the region. Almost 30% of the households own at least one bicycle.

A significant part of Parisians moves cycling and walking. The share of active modes is high in almost all districts and it reaches 60% in the central ones. The use the car is very low, generally in the order of 10% displacement or less, depending on the district.

The official web page of the survey is accessible at the following web page:

EGT 2010-STIF-OMNIL-DRIEA - <http://www.omnil.fr/spip.php?article81>

Descriptive statistic on PARIS are collected in a short report:

EGT 2010-STIF-OMNIL-DRIEA (2013), La ville de Paris¹⁸ – PARIS - http://www.omnil.fr/IMG/pdf/egt2010_paris_bd-2.pdf

¹⁵ OMNIL, Observatoire de la mobilité en Île-de-France - <http://www.omnil.fr/spip.php?article12>

¹⁶ DRIEA, Direction Régionale et Interdépartementale de l'Équipement et de l'Aménagement Île-de-France

¹⁷ EGT 2010-STIF-OMNIL-DRIEA – available at the web page <http://www.driea.ile-de-france.developpement-durable.gouv.fr/egt-2010-mobilite-selon-les-modes-profils-de-a4155.html>

¹⁸ EGT 2010-STIF-OMNIL-DRIEA (2013), La ville de Paris - http://www.omnil.fr/IMG/pdf/egt2010_paris_bd-2.pdf

2 Challenges related to data collection

Friendliness	The friendliness for walking and cycling in France was scored as 7 out of 10 for walking and 5 for cycling.
Difficulties	<p>The difficulties encounter when collecting statistics on walking and cycling are related to the application of various working methods to different working areas with dissimilar local characteristics. For this reason, comparison can hardly be relevant¹⁹.</p> <p>Statistics are collected at the local level following different methods and little information is provided at the national level. Because of the diversity of working methods, comparison of different local statistics is not relevant. At national level, only similar statistics can be compared, yet in general, they are less detailed and completed than the local ones.</p>
EU action	The need for EU action on comparable statistics on walking and cycling should rely on the introduction of a same working method to collect data.
Other statistics	<p>Besides the modal share, modal split, and mobility behaviour by citizens, the Club also collects information on attractiveness, comfort, continuity of infrastructure, coherence of networks²⁰.</p> <p>Other sources of information (such as past research, studies) on walking and cycling in France that can be used for the purpose of the study:</p> <ul style="list-style-type: none"> › Ministère de l'Environnement, de l'Énergie et de la Mer (MEEM), Commissariat Général au Développement Durable (CGDD), Service de l'Observation et des Statistiques (SOeS) (2008), Enquête nationale transports et déplacements (ENTD)²¹, › Club des villes et territoires cyclables (2013) "Les Français et le vélo, 2012"²².

¹⁹ CEREMA declared as its main difficulty when collecting statistics the questionable representativeness of selected samples.

²⁰ CEREMA collects information on opinion and advices related to transport modes.

²¹ Ministère de l'Environnement, de l'Énergie et de la Mer (MEEM), Commissariat Général au Développement Durable (CGDD), Service de l'Observation et des Statistiques (SOeS) (2008), Enquête nationale transports et déplacements (ENTD) 2008, available at the webpage <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

²² Club des villes et territoires cyclables (2013) "Les Français et le vélo, 2012", available at the [web site](http://www.villes-cyclables.org/modules/kameleon/upload/1LesFrancaisetLeVelo_v3.pdf) http://www.villes-cyclables.org/modules/kameleon/upload/1LesFrancaisetLeVelo_v3.pdf

3 Active modes use

3.1.1 Walking

The definition of walking applied in the survey carried out by Club des Villes et Territoires Cyclables is walking stages in multi-modal trips, mostly Public Transport, and the walking share depends on the main mode of transport.

During the *EGT - Enquête Globale Transport*²³ in Paris, special attention was paid to short trips made on foot but often forgotten during data collection. Accordingly, the representation of the walking and short-range trips is more detailed and the results of the EGT 2010 are less comparable with those gathered in previous EGT surveys.

The percentage of population walking as mode of transport in the country is 22.3%, calculated as the ratio between total number of trips (average on week daily basis) and the total number of trips made only walking.

The definition of walking in the EGT 2010 does not include walking stages in multimodal trips, nor waiting times. Other active modes (e.g. skateboarding, roller-skating) are considered as walking trips.

The average walking distance travelled per person in Paris in 2010 was 0.9 km while the average number of trips per day was 2.2.

Table 1: Average daily walking distance and number of trips per person – walking

	Person Km per day	Number of trips	Year
France ¹	0.8	39,500,000 per day	2008
Paris ²	0.9	2.2 trips per person per day	2010

Source: ¹ *Enquête Nationale Transport et Déplacements (ENTD)*, 2008

² *Enquête Globale Transport (STIF-OMNIL-DRIEA)*, 2010

3.1.2 Cycling

The definition of cycling applied in the different surveys is pedalling without any motorised support included. Moreover, e-bikes are included in cycling mode. Statistics related to each vehicle are separately collected.

According to ENTD2008 results, the percentage of the population regularly cycling in the country is about 2.7%, corresponding to the share of trips made by bike over the total number of trips made on an average weekday.

In Paris, the average cycling distance travelled per person in 2010 was 0.3 km per day per capita while the average number of trips per person was 0.12. The percentage of the population cycling in the in 2008 was around 2%.

²³ EGT 2010-STIF-OMNIL-DRIEA – available at the web page <http://www.driea.ile-de-france.developpement-durable.gouv.fr/egt-2010-mobilite-selon-les-modes-profils-de-a4155.html>

Table 2: Average daily cycling distance and number of trips per person – walking

	Person Km per day	Number of trips	Year
France ¹	2.8	4,800,000 per day	2008
Paris ²	2.2	0.12 trips per person per day	2010

Source: ¹ Enquête Nationale Transport et Déplacements (ENTD), 2008.

² Enquête Globale Transport (STIF-OMNIL-DRIEA), 2010

4 Infrastructure

4.1 Walking infrastructure

Regulations and guidelines about walking infrastructure quality/standards requirements are collected on a web portal created by CEREMA and called “A voirie pour tous” (A road for all). It consists of a partnership programme aimed to build a common culture of the organization and management of roads and public spaces to provide alternatives to car predominance. The portal brings together best practices, studies results and experiences in order to provide practitioners with technical information and expertise they to create projects and disseminate knowledge and know-how²⁴.

Dedicated pedestrianised zones are present in some cities in France and the total surface area in 2013 was 381.8 m² throughout the country.

In the country, also shared space streets (Zones de rencontre) are present in many different cities. They are defined as section or entire agglomeration track sections for all users, governed by specific rules: pedestrians have priority over vehicles and are allowed to walk all over the street. The speed of vehicles is limited to 20 km / h. All the roads have two-way paths for cyclists, except different arrangements made by the appointed local authority. The beginning and the end of this area are announced by specific road signs.

In 2013, according to data provided by Club des Villes et Territoires Cyclables, the total area established as shared space was 182 m². Cities with Shared Space streets in 2013 were:

²⁴ Une voirie pour tous official web site – available at the web page <http://www.voiriepour tous.developpement-durable.gouv.fr/>

› Montreuil-Sous-Bois	› Bordeaux	› La Roche Sur Yon
› Mulhouse	› Montpellier	› Beauvais
› Rouen	› Strasbourg	› Niort
› Caen	› Nice	› Lorient
› Evry	› Toulouse	› La Seyne-Sur-Mer
› Perpignan	› Lyon	› Issy-Les-Moulineaux
› Besancon	› Blois	› Villeuneuve D'asc
› Metz	› Albi	› Ajaccio
› Villeurbanne	› Charleville-Mezieres	› Bourges
› Tours	› Belfort	› Beziers
› Brest	› Clamart	› Rueil-Malmaison
› Angers	› Clamart	› La Rochelle
› Nantes	› Annecy	› Colombes
› Paris (10e Arrt)	› Chelles	› Créteil
› Paris (11e Arrt)	› Pantin	› Poitiers
› Paris (16e Arrt)	› Laval	› Nanterre
› Paris (20e Arrt)	› Arles	› Avignon
› Rennes	› Vannes	› Tourcoing
› Lille	› Cholet	› Roubaix

4.2 Cycling infrastructure

Statistics on cycling infrastructures from a sample of 99 respondents (56 cities and 43 group of cities) were released by the *Club des Villes et Territoires Cyclables* and included in the document *Enquête nationale 2013, Les politiques en faveur des piétons et des cyclistes dans les villes françaises - 2012-2013*²⁵. According to the document, between 2011 and 2013, the cumulative linear extension of cycling infrastructures of the respondent cities and regions increased by 24%. Based on this data, the roads equipped for cyclists now account for 26% of the available roads, an increase of 5 points from 2011²⁶. The document does not present the length of the cycling infrastructure for the entire country.

The document also provides cycling regulation, design guidelines, statistics, state-of-the-art of cycling in France, urban strategic planning, and policy recommendations. In the National Highway code only recommendations are provided.

²⁵ Club des villes et territoires cyclables (2015) ""Les politiques en faveur des piétons et des cyclistes dans les villes françaises"" - 2012-2013, available at the web site http://www.villes-cyclables.org/modules/kameleon/upload/14008_lesfrancaisetlevalo_15_04_13.pdf

²⁶Ibidem

DRC collects statistics on walking infrastructure using a GIS system. The catalogue of national cycle route and green lines is available on the web page:

CEREMA, *Direction technique Territoires et Villes*, Boutique - <http://www.certu-catalogue.fr/fiche-velo-amenagements.html>²⁷

5 Data collection methods

5.1 Enquête nationale transports et déplacements (ENTD)

Every 10 or 15 years, France carries out an overall data collection on transport and mobility.

The most recent one, “*Enquête nationale transports et déplacements (ENTD) 2008*”²⁸, refers to year 2008 and the next one is planned for 2018.

Data is publicly available. A description of the data collection method, the design of data collection, descriptive statistics, the questionnaire used for surveys, the codebook and metadata can be downloaded from on the official website of the Ministry of the Environment²⁹.

In 2008, the survey was conducted by face-to-face interviews assisted by computer (computer-assisted collection - CAPI). Moreover, a GPS system for travel survey was tested for the first time in 2008 data detection.

Population

The population sample size in 2008 was made of 20,200 households. The national sample is stratified according to five regional extensions, Île-de-France, Pays de la Loire, Brittany, Midi-Pyrénées and Languedoc-Roussillon. Within each region, the sample is selected with random sampling. To improve the accuracy and quality of results, a modulation of selection probabilities both for multi-vehicle households and households residing in rural areas was performed.

The units surveyed were both household and the single person: within the household, a person is randomly selected to answer in detail about his/her mobility behaviours. Similarly, the person chooses a vehicle among the ones in the household (e.g. car, motorcycle, and bicycle) and describes how it was used over a week.

The themes of the questionnaire are:

²⁷ CEREMA, *Direction technique Territoires et Villes*, Boutique - <http://www.certu-catalogue.fr/fiche-velo-amenagements.html>

²⁸ Ministère de l’environnement, de l’Energie et de la mer, ENTD Sources et methodologie – available at the web site <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

²⁹ Ministère de l’environnement, de l’Energie et de la mer, ENTD Sources et methodologie – available at the web site <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

1) The purpose of the trip:

- › Regular mobility corresponding to regular travel such as commuting, home-study or child care;
- › Local mobility, which includes the trips made for activities within a radius of 80 kilometres;
- › The long-distance mobility, which includes trips made more than 80 kilometres away from home.

2) Knowledge of the fleet and their uses:

- › Identification of all vehicles available to the household and the description of the vehicles used in the last 12 months;
- › Description of all trips for one household vehicle for a week;
- › Questions about the detention of the driving license, the practices of driving, traffic accidents.

3) Accessibility to public transportation, subscriptions and tariff reductions.

Trip

The definition of trip in ENDT is movement of a person from a starting point (origin) to a place of arrival (destination)". Consequently, a journey is the sequence of all trips made by a person from home until his return home. A journey consists of at least two trips (one round trip)³⁰.

Distance

For 2008 survey, data collection took place over a year, from April 2007 to April 2008. It was divided into six phases to reflect the diversity of behaviours displacements according to seasonal variations.

Distance and time are collected separately and estimated by the persons being interviewed (self-estimation).

5.2 Club des Villes et Territoires Cyclables survey

The *Club des Villes et Territoires Cyclables* performs statistics on regular basis, mainly using surveys as data collection methods³¹. It renewed annually this survey and releases a report as part of the Observatory of active mobility, in partnership with the Inter-ministerial coordination for the development of bicycle use.

The most recent survey³² displays the growth of infrastructure and services, the implementation of assessment and planning tools, and the increased investments on local cycling policies, i.e. budget per capita and human resources.

³⁰ Ibidem

³¹ The survey was based on an online questionnaire. The sample covered 99 respondents, both municipalities (56) and associations of municipalities (43). Of these 99 communities, 82 municipalities or groups of municipalities participated in this collection, representing 16,979,436 inhabitants (INSEE 2010).

³² Club des villes et territoires cyclables (2015) Enquête nationale 2013, Les politiques en faveur des piétons et des cyclistes dans les villes françaises, 2012-2013 – available at the web [link](http://www.villes-cyclables.org/modules/kameleon/upload/14008_lesfrancaisetlevo_15_04_13.pdf) http://www.villes-cyclables.org/modules/kameleon/upload/14008_lesfrancaisetlevo_15_04_13.pdf

5.3 National Platform Database

Launched in September 2013, the National Platform Database is a cycling traffic count system based on an automatic method. Pedestrians and cyclists are counted separately, although only at local level national level.

The duration of the counts before the extraction of data for descriptive statistics lasts for one week. However, the National Platform Database constantly collects data in real time that are online available³³.

In 2016, the third annual report on cycling data was released, it covers the whole 2015, highlighting trends and variations using both years 2013 and 2014 as benchmark. The report is divided into two parts. The first one presents indicators at national level, taking into account all 332 selected counters in France. The second focuses on eight definite routes: EuroVelo 1 - The Vélodyssée, EuroVelo 4, EuroVelo 6, EuroVelo 17 - ViaRhôna, the V51 - Cycling Tour of Burgundy, the V53, the V63 and first EuroVelo 15 - Rhine cycle.

5.4 Enquête Globale Transport (EGT)

Every ten years, STIF, with OMNIL³⁴ and DRIEA³⁵ carries out a data detection in Paris, the *EGT - Enquête Globale Transport*³⁶. It is based on survey method. The more recent data collection was in 2010.

In 2010, the survey was conducted by face-to-face interviews assisted by computer (computer-assisted collection - CAPI). Every ten years, STIF, with OMNIL³⁷ and DRIEA³⁸ carries out a data detection called EGT - Enquête Globale Transport³⁹. It is based on survey method. The more recent data detection was in 2010.

Data collection method, the questionnaires, and descriptive statistics are publicly available on ONMIL website⁴⁰ and included in the report EGT 2010-STIF-OMNIL-DRIEA⁴¹. Microdata is not accessible. Codebook and metadata are available only

³³ ECOPUBLIC official web site – <http://www.eco-public.com/ParcPublic/?id=891#>.

³⁴ OMNIL, Observatoire de la mobilité en Île-de-France - <http://www.omnil.fr/spip.php?article12>

³⁵ DRIEA, Direction Régionale et Interdépartementale de l'Équipement et de l'Aménagement Ile-de-France

³⁶ EGT 2010-STIF-OMNIL-DRIEA – available at the web page <http://www.driea.ile-de-france.developpement-durable.gouv.fr/egt-2010-mobilite-selon-les-modes-profils-de-a4155.html>

³⁷ OMNIL, Observatoire de la mobilité en Île-de-France - <http://www.omnil.fr/spip.php?article12>

³⁸ DRIEA, Direction Régionale et Interdépartementale de l'Équipement et de l'Aménagement Ile-de-France

³⁹ EGT 2010-STIF-OMNIL-DRIEA (Methodology) – available at the web page <http://www.driea.ile-de-france.developpement-durable.gouv.fr/egt-2010-mobilite-selon-les-modes-profils-de-a4155.html>

⁴⁰ OMNIL website, EGT2010 – available at the webpage <http://www.omnil.fr/spip.php?article81>

⁴¹ 2010-STIF-OMNIL-DRIEA – available at the web page http://www.omnil.fr/IMG/pdf/egt2010_enquete_globale_transports_-_2010.pdf

upon request, while microdata can be transmitted only for institutional partners, which had been identified when the survey was launched and authorized by the CNIL (French authority that ensures personal data are used with respect to French law).

Population	<p>The number of households surveyed in the EGT 2010 increased significantly compared to EGT 2001 (18,000 households in 2010 against 10,500 in 2001). Furthermore, in previous EGT, only persons aged 6 years and older were interviewed. To ensure comparability of results with surveys conducted in major French cities, EGT 2010 sets as limitation 5 years and over.</p> <p>In total, 18,000 households were randomly selected to participate in the survey. Each individual (aged 5 years or more) of the surveyed household was interviewed face to face on all the trips he/she had made in the day before the survey. People who didn't travel in the survey period was included as well. Professionals' are partly recorded.</p>
Trips	<p>A trip in EGT 2010 is <i>"the movement of one person from one place to another (origin and destination), each of these places is related to a purpose (for instance, from home to the grocery store, the purpose shall be "purchase")". One single trip can be made using more than one mode of transportation"</i>⁴².</p> <p>A trip can be executed with several means of transport. For each person in the household aged 5 years and over, who moved the day before, the survey recorded all the trips made, their places of origin and destination, their duration and their reason (i.e. work, school, shopping, leisure).</p> <p>A trip may consist of several trips (e.g. go from home to the workplace, walk to the station and take the train and walk back to the workplace, this sequence corresponds to one journey made of three trips).</p>
Distance	<p>The weekday before is the reporting period of the survey. However, it is a weekend day for a subsample. Seasonal variation is not taken into account. Duration and length are recorded based on self-estimation and confirmed by the interviewer.</p> <p>For the EGT 2010, the Île-de-France was cut into squares using a 100 meters' square grid, to better identify the origins and destinations of trips. Distance is calculated after the precise location of departure and arrival are collected.</p>

6 References

2010-STIF-OMNIL-DRIEA – available at the web page
[://www.omnil.fr/IMG/pdf/egt2010_enquete_globale_transports_-_2010.pdf](http://www.omnil.fr/IMG/pdf/egt2010_enquete_globale_transports_-_2010.pdf)

CEREMA official website – available at the web page www.cerema.fr

CEREMA, Direction technique Territoires et Villes, Boutique - <http://www.certu-catalogue.fr/fiche-velo-amenagements.html>

CEREMA, Direction technique Territoires et Villes, Boutique - <http://www.certu-catalogue.fr/fiche-velo-amenagements.html>

⁴² MOVE-24 City Questionnaire – Paris – STIF - answer to question 4.1

Club de Villes et Territoires cyclable official web site, available at the web page <http://www.villes-cyclables.org>

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Départements et Régions Cyclables (DRC) official web site, available at the web page <http://www.departements-regions-cyclables.org/qui-sommes-nous-/association.html>

Départements et Régions Cyclables (DRC), Analyse Des Données De DRIEA, Direction Régionale et Interdépartementale de l'Équipement et de l'Aménagement Ile-de-France

Eco-Compteurs official website – available at the web link <http://www.eco-compteur.com/blog/a-propos/>

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EuroVelo official website – available at the webpage <http://www.eurovelo.org/>

Fréquentation Vélo 2015 Synthèse – available at the web page <http://www.departements-regions-cyclables.org/qui-sommes-nous-/association.html>

INSEE website, Data on Employment – available at http://www.insee.fr/fr/themes/tableau_local.asp?ref_id=NAV2A&millesime=2012&niveau=1&typgeo=FE&codegeo=1

INSEE website, Data on Transport – available at http://www.insee.fr/fr/themes/document.asp?reg_id=99&ref_id=rp2009ddt

Ministère de l'environnement, de l'Énergie et de la mer, ENT D Sources et méthodologie – available at the web site <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

Ministère de l'Environnement, de l'Énergie et de la Mer (MEEM), Commissariat Général au Développement Durable (CGDD), Service de l'Observation et des Statistiques (SOeS) (2008), Enquête nationale transports et déplacements (ENTD) 2008, available at the webpage <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html>

OMNIL website, EGT2010 – available at the webpage <http://www.omnil.fr/spip.php?article81>

OMNIL, Observatoire de la mobilité en Île-de-France -
<http://www.omnil.fr/spip.php?article12>

STIF official website <http://www.stif.info/>

Une Voirie Pour Tous official web site – available at the web page
<http://www.voiriepour tous.developpement-durable.gouv.fr/>

C.11 GERMANY

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
DLR	National aeronautics and space research centre of the Federal Republic of Germany
KIT	Karlsruhe Institute of Technology
MiD	Mobility in Germany (Traffic Survey)
GMP	German Mobility Panel
FGSV	Forschungsgesellschaft für Straßen- und Verkehrswesen / Research Association for Roads and Traffic

SUMMARY TABLE

National surveys

Mobilität in Deutschland (MiD)	2008
German Mobility Panel (GMP)	2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Germany	1.1	pkm/day	total	2008
Germany	1.3	pkm/day	mobile	2008
Germany	1.11	pkm/day	total	2015
Berlin	1.4	pkm/day	total	2008
Berlin	1.5	pkm/day	mobile	2008

Walking: average number of trips per day

	Number	Unit	Population	Year
Germany	0.8	trips/day/person	total	2008
Germany	0.9	trips/day/person	mobile	2008
Germany	0.71	trips/day/person	total	2015
Berlin	0.9	trips/day/person	total	2008
Berlin	1	trips/day/person	mobile	2008

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Germany	1.1	pkm/day	total	2008
Germany	1.2	pkm/day	mobile	2008
Germany	1.6	pkm/day	total	2015
Berlin	1.4	pkm/day	total	2008
Berlin	1.6	pkm/day	mobile	2008

Cycling: average number of trips per day

	Number	Unit	Population	Year
Germany	0.3	trips/day/person	total	2008
Germany	0.4	trips/day/person	mobile	2008
Germany	0.5	trips/day/person	total	2015
Berlin	0.4	trips/day/person	total	2008
Berlin	0.4	trips/day/person	mobile	2008

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Germany	63.2	definition unknown (by DLR)
Germany	34 - 40	definition unknown (by GMP)
Berlin	60.6	definition unknown (by DLR)

Statistics on cycling infrastructure (km), by type of infrastructure

	Germany	Berlin
Cycle track	-	964
Cycle street	-	-
Bus and cycle lane	-	-
Contraflow cycling	-	-
Cycle lane	-	253
Advisory cycle lane	-	-
Total	60,000	1,433

FOOTNOTES:

Statistics on the percentage of the population cycling from the DLR are more comparable with the rest of the data.

1 Context

Two main sources of information form the bases of this country report. On the one hand, there is a survey called *Mobilität in Deutschland* (MiD), commissioned by the German ministry of transport and infrastructure, which was executed by DLR and some partners. The purpose of the survey is to study the mobility behaviour of a representative sample of households and people throughout Germany.

The second source of information is the German Mobility Panel, carried out by the Karlsruhe Institute of Technology. Up-to-date information about travel demand and personal travel behaviour is important for transportation policy decisions and planning. On the basis of such information the transportation infrastructure can be designed and preserved in order to meet the needs of the population - today and in the future.

Since 1994, the German Mobility Panel (GMP) surveys such essential information on an annual basis - for example information about travel mode use, travel purposes or travel time of the German population. For that purpose households are interviewed about their everyday travel behaviour and their car usage. With this information the survey participants substantially contribute to a sustainable development of the transportation infrastructure.

2 Challenges related to data collection

Friendliness	The friendliness of walking and cycling is seen as mediocre by the respondents of the questionnaire, being slightly better in the whole country than in Berlin, both for walking (7 / 6) and cycling (5 / 4).
Difficulties encountered	DLR indicates that difficulties occur in particular regarding short walking trips (including feeder stages) that are likely to be forgotten to be reported. Furthermore, walking distances are likely to be overestimated. KIT considers reporting and participation biases in the survey (socio-demographics) a difficulty.
Data comparison	The DLR compares statistical key figures (such as modal split) as part of overall cross-regional and cross-country analyses. As some national data sources (such as MiD) allow for 'urban' sub-samples of sufficient size, these national sources can also be used for analyses at city level. Just as in the case of national analyses, difficulties occur in terms of accuracy and completeness of collected information depending on the overall survey design including design of survey instruments, question wording, or the underlying trip definition. Undercoverage of walking and cycling usually results from respective design characteristics (e. g. short walking trips are disregarded due to a minimum trip distance if there is one; feeder stages such as short walks to a bus station may not be reported if trip details are not collected at stage level).
EU action	The DLR considers EU action necessary. As walking and cycling are relevant components of urban mobility (see EU White Paper section 2.4), respective data are required in order to monitor progress. There are already attempts and related

activities in terms of harmonising national travel data including walking and cycling (e.g. Eurostat Task Force on Passenger Mobility Statistics).

Resulting recommendations with respect to survey methodology and underlying concepts and definitions address not only data collection as such, but also post-processing and analysis of micro data. Addressees of such recommendations should not only include newcomers (countries without any NTS history), but also countries with a long tradition of NTS. In particular, the latter tend to be reluctant to implement any changes in survey design in order to maintain long national time-series.

3 Active modes use

3.1 Walking

Definition

The data within the MiD is collected at trip level, i.e. no stages. Inclusion of walking stages depends on accuracy of reporting; respondents are asked to indicate all modes used during a trip. As respondents are asked to provide departure time and arrival time of the overall trip, waiting times are implicitly included, but without further specification. No other active modes are included in the definition of walking of the MiD. KIT applied a definition of walking including walking stages in multi-modal trips in the GMP.

Statistics

- › Average daily distance travelled per person

The MiD provided the following data:

All persons (Germany, 2008): 1.1 pkm/day

All persons (Germany, 2002): 1.2 pkm/day

Mobile persons¹ (Germany, 2008): 1.3 pkm/day

Mobile persons (Germany, 2002): 1.4 pkm/day

All persons (Berlin, 2008): 1.4 pkm/day

All persons (Berlin, 2002): 1.5 pkm/day

Mobile persons (Berlin, 2008): 1.5 pkm/day

Mobile persons (Berlin, 2002): 1.7 pkm/day

The GMP provided the following data:

1.11 pkm/day (Germany, 2015)

- › Average number of trips day

The MiD provided the following data:

All persons (Germany, 2008): 0.8 trips/day

¹ mobile persons = persons with at least one reported trip at reporting day

All persons (Germany, 2002): 0.7 trips/day
 Mobile persons (Germany, 2008): 0.9 trips/day
 Mobile persons (Germany, 2002): 0.9 trips/day

All persons (Berlin, 2008): 0.9 trips/day
 All persons (Berlin, 2002): 0.9 trips/day
 Mobile persons (Berlin, 2008): 1.0 trips/day
 Mobile persons (Berlin, 2002): 1.0 trips/day

The GMP provided the following data:

All persons (Germany, 2015) 0.71 trips/day

3.2 Cycling

Definition

Within the MiD, cycling is defined as pedalling without any motorised support included, with E-bikes being not explicitly excluded. Other forms of motorised vehicles such as mopeds or motorcycles are considered distinct modes and therefore not included. Within the GMP, E-bikes but no other forms of motorised vehicles are included.

Statistics

The DLR indicates that 63.2 % of the country's population cycles, while 60.6 % of Berlin's population does. The GMP; however, gives a significantly different number, estimating the country's cycling population to 34-40 %.

› Average daily distance travelled per person

The MiD provided the following data:

All persons (Germany, 2008): 1.1 pkm/day
 All persons (Germany, 2002): 1.0 pkm/day
 Mobile persons² (Germany, 2008): 1.2 pkm/day
 Mobile persons (Germany, 2002): 1.2 pkm/day

All persons (Berlin, 2008): 1.4 pkm/day
 All persons (Berlin, 2002): 0.9 pkm/day
 Mobile persons (Berlin, 2008): 1.6 pkm/day
 Mobile persons (Berlin, 2002): 1.0 pkm/day

The GMP provided the following data:

All persons (Germany, 2015): 1.6 pkm/day

› Average number of trips day

² mobile persons = persons with at least one reported trip at reporting day

The MiD provided the following data:

All persons (Germany, 2008): 0.3 trips/day

All persons (Germany, 2002): 0.3 trips/day

Mobile persons (Germany, 2008): 0.4 trips/day

Mobile persons (Germany, 2002): 0.3 trips/day

All persons (Berlin, 2008): 0.4 trips/day

All persons (Berlin, 2002): 0.2 trips/day

Mobile persons (Berlin, 2008): 0.4 trips/day

Mobile persons (Berlin, 2002): 0.3 trips/day

The GMP provided the following data:

All persons (Germany, 2015): 0.5 pkm/day

4 Infrastructure

4.1 Walking infrastructure

According to the DLR two documents are available on walking infrastructure. Firstly, there are Guidelines of the FGSV³ and secondly, the FGSV provides information on the usage of the shared space concept⁴.

These two documents comprise characteristics of pedestrian traffic, requirements for pedestrian infrastructure, design approach and technical planning information

The vast majority of large and medium sized cities in Germany have dedicated pedestrianised areas, but no information is available on their size. The following cities have shared-space projects:

Aachen, Blomberg, Buxtehude, Bohmte, Brühl, Calau, Duisburg, Endingen, Ettenheim, Frankfurt am Main, Hamburg, Haslach im Kinzigtal, Hatten OT Kirchhatten, Kamen, Legden, Luckenwalde, Potsdam, Rudersberg, Schwetzingen, Schönebeck, Stuttgart, Verden, Wolfach.

³ Empfehlungen für Fußgängerverkehrsanlagen. FGSV, Köln, 2002 (only content page is available as download: http://www.fgsv-verlag.de/catalog/product_info.php?products_id=413&osCsid=646ea478b0101a503adaf6962c6e6e74);

⁴ Hinweise zu Straßenräumen mit besonderem Querungsbedarf – Anwendungsmöglichkeiten des „Shared Space“-Gedankens [FGSV-Nr. 200/1] (http://www.fgsv-verlag.de/catalog/product_info.php?products_id=3340&osCsid=303b5e406f3d5ff433d1d98f3d3220eb)

4.2 Cycling infrastructure

The DLR indicates that there are at least 60,000 km of cycling infrastructure in the whole country⁵, but no accurate numbers exist. No numbers on the length of the respective type of infrastructure is available. In Germany, there exist the following types of cycling infrastructures: Cycle track, bus and bicycle lane, contraflow cycling, cycle lanes and cycle streets.

In Berlin, there are around 1,433 km of cycling infrastructure that can be further broken down as follows:

Cycle track: 964 km

Cycle lane / Advisory cycle lane: 253 km

Shared footway / cycle way: 216 km

Contraflow cycling exists as well in Berlin, but is not included in the 1,433 km. It should be noted that in Germany, there is a distinction between mandatory cycle tracks and not mandatory cycle tracks. In the case of the latter, the cyclist can choose to use the street or the cycle track, while in the case of the former, the cyclist has to use the cycle track.

The ERA provides recommendations on cycling infrastructure⁶. This document includes: characteristics of cycling networks; aspects of network planning; planning parameters; detailed typology of cycling infrastructure; construction and operation of cycling infrastructure; impact control and quality assurance.

5 Data collection methods

Two main sources of statistics are available in Germany the *Mobilität in Deutschland* (MiD) – Mobility in Germany – commissioned by the German ministry of transport and infrastructure, and the German Mobility Panel, carried out by the Karlsruhe Institute of Technology.

5.1 *Mobilität in Deutschland* (MiD)

In this country report, data stems mostly from two surveys: Firstly, there is the survey *Mobilität in Deutschland* (MiD), which was carried out by the DLR. Data is available for 2002 and 2008, while there is currently data collection in progress for the year of 2016. There is no regular periodicity of this data collection exercise.

Data availability

The following type of data is available for the MiD: Data collection description, Data collection design, Questionnaire, Codebook and metadata, Descriptive statistics, Interactive analysis tools, Micro data.

⁵ Source: <http://edoc.difu.de/edoc.php?id=SR21T6V3>

⁶ ERA - Empfehlungen für Radverkehrsanlagen (http://www.fgsv-verlag.de/catalog/product_info.php?products_id=2869 , <http://www.barrierefrei-mobilitaet.de/pages/wegeplaetze/rad-amp-gehwege.php?lang=Deutschland>)

Population	<p>The data collection allows sub-samples at different spatial levels: 'Länder' (including Berlin, Hamburg, Bremen), several spatial categories (e.g. core city, urbanized area, agglomeration area). All these spatial categories apply to the households' places of residence. The urban population size is 19,593 households / 45,566 persons for the country analysis and 1,300 households / 2,582 persons for Berlin. The sampling spatial distribution method is stratification by region. In case of the country analysis, oversampling of same areas (small federal states within Germany are oversampled) and stratification by spatial typology within region⁷ applies. The federal state of Berlin (which is equal to the city of Berlin) is stratified within region by 18 sample points, selected by random sampling.</p> <p>Data is collected via phone (including CATI), postal and E-mail (including CAWI). There are no age limits for the respondents and the whole population is included in the sampling. People that did not travel in the day are included as well.</p>
Trip	<p>Within the MiD, a trip is defined as a change of location by any mode (including walking). Outbound and return trip are considered as two separate trips and mode changes during the trip do not constitute new trips (stage information is not collected). Respondents are not asked to provide stage information. Accordingly, each mode (if used) is reported only once per trip, regardless the number of respective stages during this trip. A trip's main mode is derived during post-processing according to a hierarchy. A trip has to be made at least partly within Germany to be included. Apart from that, no boundary applies. The MiD is a trip-based survey. The trip purpose is recorded in the survey. The categories are: work, business, education, shopping, personal business, escorting (pick up/ drop off sb.), leisure, home, other activity, accompanying adults, escorting children (school/ preschool), escorting children (kindergarten); purpose of shopping and leisure can be further specified. No professionals are recorded in the survey.</p>
Distance and duration	<p>For the MiD, a survey day is predefined and seasonal variations are taken into account, by using sampling days throughout the year. Duration and length are based on self-estimation. Duration and distance are collected separately. For each trip distance, departure and arrival time have to be reported. Duration is derived during post-processing based on departure and arrival time. There is no minimum distance or time threshold used in this survey.</p>

5.2 German Mobility Panel (GMP)

Secondly, there is the German Mobility Panel (GMP) implemented by KIT in Karlsruhe, which provides information for the year of 2015. Data are collected on a yearly basis.

Data availability	<p>The following type of data is available for the GMP: Data collection description, Data collection design, Questionnaire, Codebook and metadata, Descriptive statistics, Micro data. Results are not reported at urban level.</p>
Population	<p>Random sampling is used in the GMP and data is collected via post. Respondents have to be 10 years or older, apart from that the total population is considered, including people that did not travel in the day.</p>

⁷ ('Bundesland' ('Kreis', type of 'Gemeinde' and population)

Trip	Within the GMP, a trip is defined as every movement between any activities at different places. Generally, all transport modes are recorded - people are asked to report the modes used, but not very detailed. The trip purpose is recorded in the following categories: work, education, leisure, carrying people, shopping, home.
Distance and duration	For the GMP, a 7-day diary is used and seasonal variations are not taken into account. Duration and length are based on self-estimation and collected separately. There is no minimum distance or time threshold used in this survey.

6 References

Klsruhe Institute of Technology (2015). German Mobility Panel. Available at: <http://mobilitaetspanel.ifv.kit.edu/english/index.php>

Ministry of Transport and Infrastructure (2008). *Mobilität in Deutschland* (MiD). Available at: <http://www.mobilitaet-in-deutschland.de/>

C.12 GREECE

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SUMMARY TABLE

National surveys

Time Use Survey (TUS) 2013-2014
Opinion polling by WWF 2014

Walking: average daily distance travelled per person

no data

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

no data

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

no data

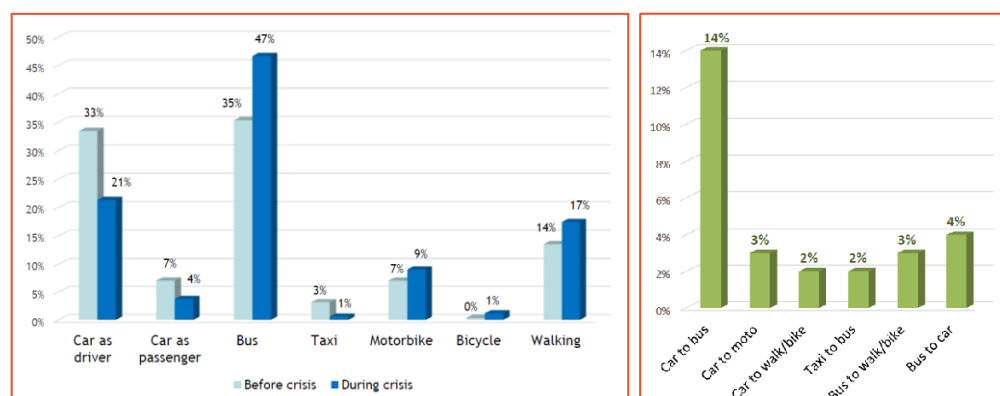
Statistics on cycling infrastructure (km), by type of infrastructure

	Greece	Athens
Cycle track	305.4	68.3
Cycle street	12.5	
Bus and cycle lane	0	-
Contraflow cycling	0	-
Cycle lane	54.1	5.9
Advisory cycle lane	0	0.4
Total	381	83.5

1 Context

The bicycle market has flourished in recent years in Greece, with 320,000 bicycles sold in 2012, a 45% increase compared to 2008 figures [COLIPED 2013 and 2009]. At the same time, the car market in Greece has collapsed in recent years due to the recession, rising taxation and fuel expenses, as well as decreasing income. As an indication, 58,479 cars were newly registered in Greece in 2012, a decrease of 78% compared to 2008 figures [ACEA, 2015]. Bicycle ownership figures are consistent with figures in relation to main modal shifts and the change in primary transport mode before and during the crisis in Greece: not only does the crisis seem to have (negatively) affected the frequency of trips but also the selected mode of transport, overall favouring a shift towards cycling and walking. The following figure for the case of the city of Thessaloniki is indicative of this.

Figure 1-1 Primary transport mode before and during the crisis (left) and main modal shifts (right)



Source: Papagiannakis, A. (2014)

Walking and cycling friendliness levels are location specific, linked to the diverse topography and urbanisation and traffic levels.

We take the case of the capital, Athens, where there are two contradicting pictures inside and outside the historical centre as noted by Professor Vlastos¹: On the one hand, attention has been placed in the historical centre where an ambitious programme seeking to “unify archaeological sites” has been implemented. The programme included significant pedestrianisation and redesign of several city squares, with the view to form a moderate road environment that would allow pedestrians to safely access archaeological sites. At the same time, apart from street pedestrianisation, a number of urban quarters had already been pedestrianised (e.g. Plaka neighbourhood traffic calming programme, or the so-called Commercial Triangle). However, the period of the Olympic Games (2004), during which many areas were reclaimed for pedestrians, was followed by a period of fatigue, introversion and ultimately bankruptcy. As a result a lot of pedestrianisation projects had to stop, while several streets that had already been pedestrianised were taken over by arbitrary parking and traffic. On the other hand, in areas outside the historic centre, the situation is dire. According to law, the minimum pavement width to be provided in urban plans is 1.5 m. Roads are

¹ <http://www.athenssocialatlas.gr/en/article/walking-and-biking/>

constructed based on this minimum standard. Despite this, in areas around the historic city centre, some pavements may be narrower than 1.5 metres. For example, a survey by the National Technical University of Athens (NTUA) conducted on 43.3 km of pavements in two municipalities of Athens (Halandri and Haidari), found that the pavement width was under 3m everywhere. In Halandri, 75% of the total pavement length is less than 2 m wide, while in Haidari the number is 95%. In Haidari, 42.7% of the total pavement length is less than 1m wide. If we take into account the scrubby trees and a series of other mobile or non-mobile obstacles (parked motorcycles and cars) often found on pavements, we can explain the often observed behaviour of people walking on the road, together with vehicles.

As regards cycling, the capital's adverse topography and busy roads are not cycle-friendly, as are the mild weather and the mixed land uses at the neighbourhood level enabling short-distance trips. In the capital, cycle lanes tend to be mostly unconnected with each other or with large attractors or metro stations in urban areas. Signage is missing and cyclists are struggling with illegally parked cars, taking risks when crossing intersections.

Two national household surveys in Greece carried out by the Hellenic Statistical Authority include highly pertinent information:

- › The recently conducted Time Use Survey (TUS) in households with reference period March 2013 to February 2014 by the Hellenic Statistical Authority (ELSTAT, 2014a), collected information on how the country's population use and allocate their time doing various activities and among other things collected and reported information on the time allocated to walking and cycling as sports activities. In addition, unprocessed information (no statistics) on the time spent on cycling and walking as modes of transport have also being collected in the context of the same study.
- › Similarly, the Health Interview Survey (ELSTAT, 2014b) conducted by the Hellenic Statistical Authority with a periodicity of 5 years, collects information on the number of days per week when the interviewees cycle and walk for at least 10 minutes continuously in order to get to and from places, as well as the amount of time they spend for the same purpose during a typical day.

Therefore, with respect to active mode use, this country report focuses primarily on the results and methodologies used for these two surveys.

When it comes to infrastructure, the most comprehensive information is provided by the '*Cycling map of Greece*', a project carried out by the Sustainable Mobility Unit (SMU) of the National Technical University of Athens (NTUA) [Athanasopoulos K., 2015] which has mapped out in Google maps the cycling infrastructure in Greece. This country report, presents the results of this study for cycling infrastructure (including recent updated information as provided by the author). Moreover, on the occasion of the current study, SMU has expanded their research to walking infrastructure, and this country report presents their results in that respect.

2 Challenges related to data collection

Difficulties

In terms of data collection, the main challenge is that there is no systematic/official data gathering efforts by national government authorities focused on walking/cycling (or more generally on the modes of transport) at national or urban level. In the absence of Community or national law requiring the collection of such statistics, it is unlikely that this would be prioritised, especially against the background of limited government resources during a prolonged economic crisis period.

Data collection efforts targeted directly to the use of and infrastructure for cycling/walking have been primarily carried out in the context of University-led projects or PhD research theses, and although these provide useful insights they in most cases provide only a fragmented view on the situation in Greece (narrow samples or scope). Additional insights on walking and/or cycling are also provided by privately initiated studies carried out by polling companies and/or upon the commissioning by NGOs (e.g. WWF, 2014; 6 cities for cycling, forthcoming) or in the context of major infrastructure planning projects (e.g. Attiko Metro)².

3 Active modes use

3.1 Walking

3.1.1 Time Use Survey – walking results

The Hellenic Statistical Authority recently conducted *The Time Use Survey* (TUS) in households³ (ELSTAT, 2014a), which collected information on how the country's population use and allocate their time doing various activities. Among other things, it collected and reported information in terms of the time allocated to walking as a sports activity.

As can be inferred from the table below, the average time spent for walking and hiking as sports activities is 15 minutes per day, or 58% of the total time allocated to sports activities. If running and jogging is also considered, then the share rises to 62% of sports activities.

² See Appendix for a brief presentation of these studies

³ The survey was funded by the Operational Programme “Public Administration Reform 2007-2013” of the National Strategic Reference Framework (NSRF)

Table 3-1 Walking as sports activities, Greece

Activity code	Main activity	Average time in hours and minutes	Participation rate (%)
6	SPORTS AND OUTDOOR ACTIVITIES	00:26	25.08
611	Walking and hiking (walking in town, in the countryside, etc.)	00:15	15.94
612	Jogging and running	00:01	0.90

Source: ELSTAT (2014a)

The above recorded average times spent on walking do not take into account walking as a mode of transport. Travel constitutes a separate main activity category in the same survey, however, results are reported in terms of travel by purpose and not by mode of transport. Nonetheless, the structure of a time diary questionnaire used for the survey would suggest that some unprocessed information on the time spent on walking as a mode of transport (in addition to their use as sports activities) has been collected (see section 5.1 of this report for more information).

3.1.2 Health Interview Survey – walking results

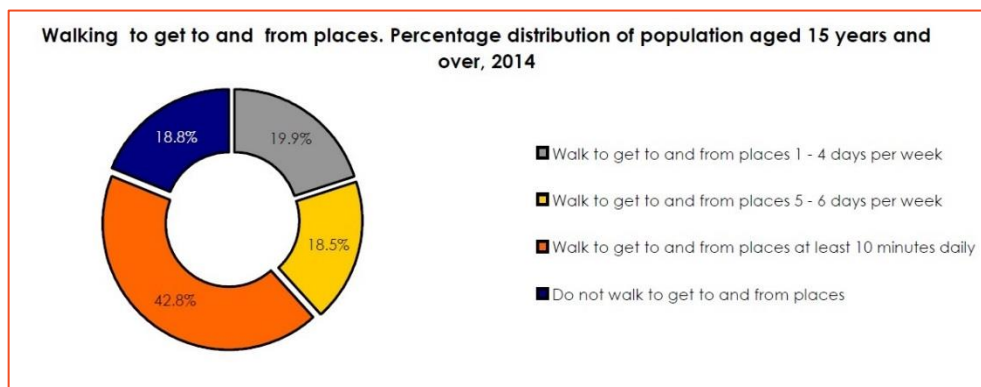
The Health Interview Survey (HIS) in households, aims to provide and study analytical data on population health status, on health determinants (e.g. physical exercise) and on the use of health services.

The survey collected information on the way the respondent gets to and from work, school, market/super market, etc. on a daily basis, and more specifically on the number of days in a typical week (Monday to Sunday) during which the respondent walks for at least 10 minutes continuously, without stopping, to get to and from places.

The HIS found that:

- › 2 out of 10 (18.8%) persons aged 15 years and over do not walk (for at least 10 continuous minutes) to get to and from places.
- › More than 4 out of 10 (42.8%) persons walk on a daily basis for at least 10 continuous minutes to get to and from places.

Figure 3-1 Walking to get to and from places. Percentage distribution of population aged 15 years and over, 2014



Source: ELSTAT, 2014b

When correlating the duration of walking for getting to and from places with the number of days during which someone walks in a typical week, for getting to and from places, the following observations can be made:

- › 9 out of 10 (88.1%) persons who walk to get to and from places only one day per week walk for 10 to 29 minutes and 1 out of 10 (11.9%) walk for more than 30 minutes.
- › 4 out of 10 (44.2%) persons who walk on a daily basis to get to and from places walk daily from 10 to 29 minutes, 4 out of 10 (34.9%) walk for 30-59 minutes and 2 out of 10 (20.9%) for more than 1 hour.

The relevant data for walking are presented in the following table.

Table 3-2 Walking to get to and from places. Percentage distribution of population aged 15 years and over by gender, 2014

	Men (%)	Women (%)	TOTAL (%)
Do not walk to get to and from places	16.8	20.7	18.8
Walk to get to and from places at least 10 minutes daily	45.6	40.2	42.8

Source: ELSTAT, 2014b

3.2 Cycling

3.2.1 Time Use Survey – cycling results

The Time Use Survey (TUS) in households (ELSTAT, 2014a), collected among other things information in terms of the time allocated to cycling as a sports activity. Cycling is considered together with skiing and skating and takes up only 1 min per day on average as a sports activity.

Table 3-3 Cycling as a sports activity, Greece

Activity code	Main activity	Average time in hours and minutes	Participation rate (%)
6	SPORTS AND OUTDOOR ACTIVITIES	00:26	25.08
613	Cycling, skiing and skating	00:01	1.23

Source: ELSTAT (2014a)

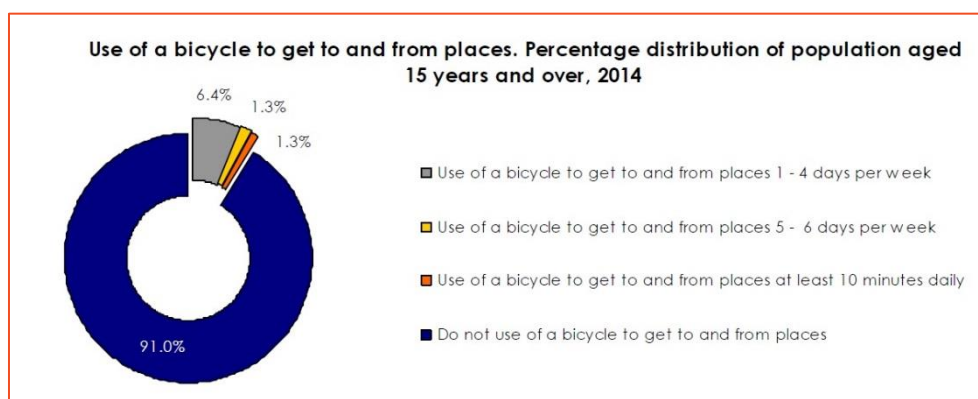
The above recorded average times spent on cycling do not take into account cycling as a mode of transport. Travel constitutes a separate main activity category in the same survey, however, results are reported in terms of travel by purpose and not by mode of transport. Nonetheless, the structure of a time diary questionnaire used for the survey would suggest that some unprocessed information on the time spent on cycling as a mode of transport (in addition to their use as sports activities) has been collected (see section 5.1 of this report for more information).

3.2.2 Health Interview Survey – cycling results

The Health Interview Survey (HIS) in households, collected information on getting to and from places by bicycle and more specifically on the use of bicycle to get to and from places (and not for leisure or exercise or upon the recommendation of a physician or other health professional) and found that:

- › 1 out of 10 (9.0 %) persons aged 15 years and over uses a bicycle to get to and from places, as also depicted in the following figure

Figure 3-2 Use of a bicycle to get to and from places. Percentage distribution of population aged 15 years and over, 2014



Source: ELSTAT, 2014b

As regards the duration of cycling to get to and from places in a typical day in relation with the number of days when someone uses a bicycle during a typical week, the following are observed:

- › 6 out 10 (62.3%) persons who use a bicycle only one day per week use the bicycle for 10 to 29 minutes, 3 out of 10 (28.5%) for 30 to 59 minutes and 1 out of 10 (9.2%) for more than one hour.

- › 3 out of 10 (31.4%) persons who use a bicycle on a daily basis use the bicycle for 10 to 29 minutes, 5 out of 10 (48.5%) for 30 to 59 minutes and 2 out of 10 (20.1%) for more than one hour.

The relevant data for cycling are presented in the following table.

Table 3-4 Cycling to get to and from places. Percentage distribution of population aged 15 years and over by gender, 2014

	Men (%)	Women (%)	TOTAL (%)
Do not use a bicycle to get to and from places	88.9	92.9	91.0
Use of a bicycle to get to and from places at least 10 minutes daily	1.8	1.0	1.3

Source: ELSTAT, 2014b

4 Infrastructure

4.1 Walking infrastructure

Greece

On the occasion of the current study, the Sustainable Mobility Unit (SMU) of the National Technical University of Athens (NTUA) has carried out a mapping of the walking infrastructure in Greece, which revealed:

- › **A total of 7.0 km² in dedicated pedestrianised zones** for all cities with more than 50,000 inhabitants and namely the Metropolitan Area of Athens, the Metropolitan Area of Thessaloniki, Patras, Heraklion, Larissa, Volos, Chania, Chalkida, Ioannina, Rhodes, Katerini, Xanthi, Serres, Trikala, Alexandroupoli, Komotini, Kalamata, Korinthos-Loutraki, Kavala, Drama, Agrinio, Veria, Lamia, Kozani.
- › **A total of 2.3 km² in shared-space areas** for all cities with more than 50,000 inhabitants, and which gave results for a subset of the above mentioned cities and namely the Metropolitan Area of Athens, the Metropolitan Area of Thessaloniki, Heraklion, Volos, Ioannina, Xanthi, Trikala, Alexandroupoli, Komotini, Kalamata, Kavala, Drama, Veria, Kozani

As a "dedicated pedestrianised zone", SMU defined a wider area (size of at least 4 blocks), in the interior of which vehicle circulation is limited to what is strictly necessary (e.g. residents access to private areas). An area was classified as a "pedestrian zone" only if it includes in its interior urban uses, and therefore parks outside the urban area or large squares enclosed by roads and without internal uses were excluded. The calculated surface includes the built premises situated in the interior of the pedestrian area.

As "shared-space areas", SMU defined a wider area (size of at least 4 blocks) which encompass within them construction interventions that reduce vehicle speeds and render the vehicle driving space as a safe place for the circulation of pedestrians, while typically a separate sidewalk is absent. Again SMU looked at areas within the urban fabric, while the calculated surface includes the built sites situated in the interior of the shared-space area.

Athens With these definitions in mind, the same metrics for the Metropolitan Area of Athens alone have been estimated at:

- › 3.71 km² in dedicated pedestrianised zones
- › 0.66 km² in shared-space areas

Standards According to government decision No 10788 (published in 2004 in the Government Gazette, Vol. 285 D⁴), the minimum pavement width to be provided in urban plans is 1.5 m. Roads are constructed based on this minimum standard. Moreover, Decision No 52907 (published in 2009 in the Government Gazette, Vol. 2621⁵) on the access of people with disabilities to walking infrastructure, covers walking infrastructure sizing and construction materials to serve the needs of people with disabilities.

4.2 Cycling infrastructure

Greece The 'Cycling map of Greece', a project carried out by the Sustainable Mobility Unit (SMU) of the National Technical University of Athens (NTUA) [Athanasopoulos K., 2015] has mapped out in Google maps the cycling infrastructure in Greece.

The author of the Cycling map of Greece, has on the occasion of the current study provided up to date figures (June 2016) totalling 381km of cycling infrastructure at the national level:

Table 4-1 Cycling infrastructure (kms) by type of infrastructure, Greece

Type of cycling infrastructure	Number of kilometers
Cycle track	305.4 km
Cycle street	12.5 km
Bus and bicycle lane	0 km
Contraflow cycling	0 km
Cycle lane	54.1 km
Advisory cycle lane	0 km
Total	381 km

Source: Active mode questionnaire

Moreover, the 'Cycling map of Greece' has recorded the following key figures at the national level as of June 2015 at the national level:

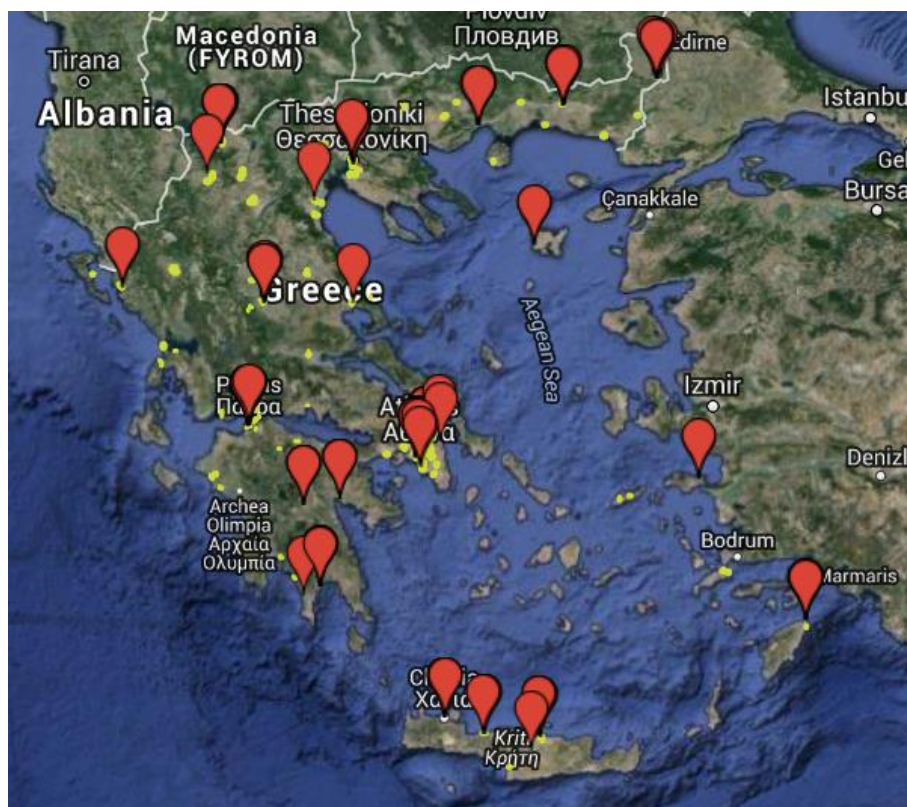
- › Total number of municipalities with bicycle infrastructure: 101
- › Percentage of municipalities bicycle infrastructure: $101/324 = 31\%$
- › Number of bicycle infrastructure meters per capita = 0.037 m

The image below provides a visual representation of the cycling infrastructure at the national level.

⁴ <http://www.ypeka.gr/LinkClick.aspx?fileticket=111vahalmCw%3D&tabid=515&language=el-GR>

⁵ <http://www.ypeka.gr/LinkClick.aspx?fileticket=OhWELwshWmA%3D&tabid=508>

Figure 4-1 Cycling map of the Athens metropolitan area



Source: Athanasopoulos K. (2015)

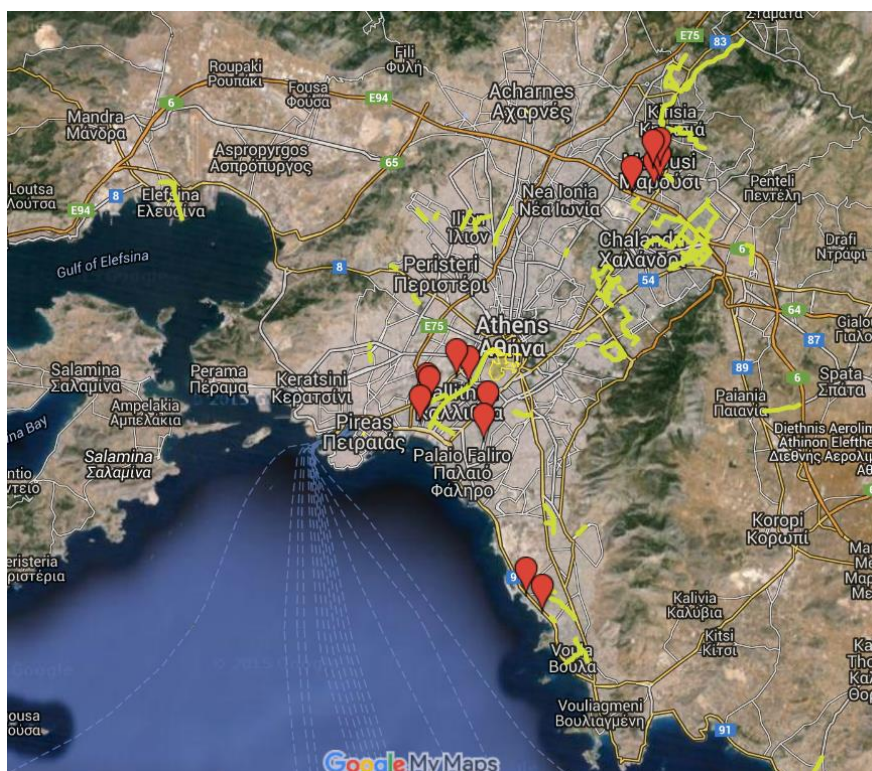
Athens

According to the same source (Athanasopoulos K., 2015), twenty-seven municipalities in the Athens metropolitan area (the wider capital region) dispose over 83.5 cycle lane kms, mainly in the form of cycling tracks. This compares to a 230 km long Metropolitan Cycling Network (MCN) still in the planning phase, comprising core routes along Athens' main roads that feed into local municipal networks, as envisaged by the Athens Master Plan.

The following key figures are observed for the Athens Metropolitan Area, while a visual representation of the cycling infrastructure is provided in the image thereafter:

- › Overall km. network = 83.5 km, of which:
 - › Coexistence private vehicles - bike: 8.9 km
 - › Advisory cycle lanes: 0.4 km
 - › Cycle lanes: 5.9 km
 - › Cycle tracks (incl. cycle streets): 68.3 km
- › Meters of bicycle infrastructure per capita = 0.02m
- › Total municipalities with bicycle: 27
- › Percentage of municipalities with bicycle infrastructure: $27/66 = 41\%$

Figure 4-2 Cycling map of the Athens metropolitan area



Source: Athanasopoulos K. (2015)

In the Central Section of Athens, 4 out of the 8 municipalities encompass cycling infrastructure, totalling 13.3 km:

- › Galatsi: 0.3 km
- › Zografou: 4.6 km
- › Dafni-Ymittos: 0.8 km
- › Athens (Athina): 7.6 km of which 0.3 km are coexistence of private vehicles - bikes

Standards

Government Gazette VOL B 1053/2016 (Greek Government Gazette, 2016) issued in April 2016 defines the cycling infrastructure technical and quality requirements in Greece, in terms of bicycle infrastructure planning, sizing, and construction with respect to the lanes/streets/paths, transitions, crossings, coexistence with public transport, parking, road signs, lighting etc. This is complemented by the National Highway Code, which provides for some technical guidelines (not specifications) with respect to such infrastructure:

- › Cycle Track: 2.5 meters,
- › Cycle Street: 3.5 meters,
- › Bus and bicycle lane: 4.0 meters,
- › Contra-flow cycle lane: 2.0 meters,
- › Cycle lane: 1.5 meters,
- › Advisory cycle lane: 1.5 meters

5 Data collection methods

This section provides an overview of the data collection methods used to carry out the two recent surveys that include information on the use of active modes, namely the Time Use Survey and the Health Interview Survey.

5.1 Time Use Survey 2013

5.1.1 Relevance of the survey and active mode data

The Hellenic Statistical Authority conducted recently *The Time Use Survey* (TUS) in households⁶ (ELSTAT, 2014a), which collected information on how the country's population use and allocate their time doing various activities. Among other things, it collected and reported information in terms of the time allocated to walking and cycling as sports activities. At the same time the survey, collected data on the time spent for travel for different purposes (e.g. *Travel to/from work, Travel related to shopping and services*, etc).

One of the questionnaires used for the purpose of this study is the "Time Use Diary members aged 10 years and older"⁷, which among other things asks respondents to record for each 10-minute interval of the day not only their activity, but also the location or the mode of transport (*"Where were you? Record the location or the mode of transport e.g. at home, at friends' home, at school, at workplace, in restaurant, in shop, on foot, on bicycle, in car, on motorbike, on bus, ..."*). As far as travel is concerned, findings in relation to the mode of transport (and therefore cycling or walking) have not been reported in the survey results, presumably because the aim and scope of the survey have been much broader, i.e. to form an understanding regarding: the country's households' composition, living conditions, members' employment status and health; the balance between work and life, as well as the segregation between paid and unpaid work; how time spent contributes to gender inequality; etc.

Nonetheless, the structure of the above mentioned questionnaire would suggest that some unprocessed information on the time spent on cycling and walking as modes of transport have being collected in the context of the study.

The following table provides an overview of the 10 main activity categories used for the survey as well as results in terms of the average daily time use, in hours and minutes, by main activity and sex for the total population.

⁶ The survey was funded by the Operational Programme "Public Administration Reform 2007-2013" of the National Strategic Reference Framework (NSRF)

⁷ All questionnaires can be accessed through the Time Use Survey homepage <http://www.statistics.gr/en/statistics/-/publication/SFA30/>

Table 5-1 Average daily time use, in hours and minutes, by main activity and sex. Total population

Activity code	Main activity	Average time in hours and minutes		
		Total	Women	Men
0	PERSONAL CARE	11:46	11:44	11:48
1	EMPLOYMENT	02:02	01:28	02:40
2	STUDY	00:42	00:41	00:43
3	HOUSEHOLD CARE	02:45	03:56	01:25
4	VOLUNTARY WORK AND MEETINGS	00:12	00:15	00:09
5	SOCIAL LIFE AND ENTERTEIMENT	01:26	01:25	01:26
6	SPORTS AND OUTDOOR ACTIVITIES	00:26	00:20	00:33
61	Physical exercise	00:26	00:20	00:32
611	Walking and hiking (walking in town, in the countryside, etc.)	00:15	00:13	00:18
612	Jogging and running	00:01	00:00	00:01
613	Cycling, skiing and skating	00:01	00:01	00:02
...	...	00:02	00:00	00:04
7	ARTS, HOBBIES, COMPUTING AND GAMES	00:49	00:36	01:03
8	MASS MEDIA	02:51	02:40	03:04
9	TRAVEL AND USE TIME	01:01	00:55	01:09
	Travel by purpose	00:58	00:52	01:05
910	Travel to/from work	00:14	00:11	00:18
...	...	00:04	00:04	00:05
	TOTAL	24:00	24:00	24:00

Source: ELSTAT (2014a)

The way activity categories are structured, active modes fall under the following two main categories:

- › 6 SPORTS AND OUTDOOR ACTIVITIES
- › 9 TRAVEL AND USE TIME

As can be inferred from the table below, the average time spent for walking and hiking as sports activities is 15 minutes per day, or 58% of the total time allocated to sports activities. If running and jogging is also considered, then the share rises to 62% of sports activities. On the other hand cycling, which is considered together with skiing and skating takes up only 1 min per day on average as a sports activity.

Table 5-2 Active modes as sports activities

Activity code	Main activity	Average time in hours and minutes	Participation rate (%)
6	SPORTS AND OUTDOOR ACTIVITIES	00:26	25.08
61	Physical exercise	00:26	24.82
611	Walking and hiking (walking in town, in the countryside, etc.)	00:15	15.94
612	Jogging and running	00:01	0.90
613	Cycling, skiing and skating	00:01	1.23

Source: ELSTAT (2014a)

The above recorded average times spent on active modes do not take into account walking and cycling as modes of transport. Travel constitutes a separate main activity category, however, as illustrated from the following table, results are reported in terms of travel by purpose and not by mode of transport.

Table 5-3 Time use for travel by purpose

Activity code	Main activity	Average time in hours and minutes	Participation rate (%)
9	TRAVEL AND USE TIME	01:01	87.17
	Travel by purpose	00:58	84.67
910	Travel to/from work	00:14	26.49
920	Travel related to study	00:04	7.20
936	Travel related to shopping and services	00:10	28.57
938	Travel related to childcare	00:02	4.44
939	Travel related to other household care	00:02	4.39
940	Travel related to voluntary work and meetings	00:02	6.63
950	Travel related to social life	00:07	20.85
960	Travel related to other leisure	00:15	33.20
980	Travel related to changing locality	00:01	0.55

Source: ELSTAT (2014a)

The average time spent for travel is 58 minutes per day, however it cannot be inferred from the survey results what share of this constitutes travel time by walking or cycling. Nonetheless, the structure of a time diary questionnaire used for the survey would suggest that some unprocessed information on the time spent on cycling and walking as modes of transport (in addition to their use as sports activities) has been collected.

Overall, the results of the survey are mainly presented in hours and minutes per day, that is as the average time spent on an activity. The average time is an

average for the whole group of respondents, whether they participate in the activity or not, as well as the average across the whole year. This means that it concerns the whole population and all days of the year (working days or not). For example, the average daily time spent on employment is calculated based on the working hours recorded by each respondent, including all the days of the year (working days and not) and the entire population (employed persons and not).

Some results show the participation rate of the population per activity, irrespective of the time spent on it. Specifically, the results show the proportion of people who participate in an activity (at least for 10 minutes per day), without indicating the number of persons who perform the activity, in general or per day. It is noted that an activity is recorded when it lasts for at least five minutes.

5.1.2 Methodology

Population

The survey made use of a two-stage area stratified sampling based on the rotational integrated design method, with Primary Sampling Unit (PSU) the area (one or more building blocks) and final unit the household. The mentioned method was judged as the most appropriate for both cross-sectional and longitudinal comparisons.

There are two levels of area stratification in the sampling design. The first level is the geographical stratification based on the partition of the total country area into thirteen (13) Regions corresponding to the European NUTS 2 level. The two major city agglomerations of Greater Athens and Greater Thessaloniki, which together account for about 37% of total population and for even larger percentages in certain socio-economic variables, constitute separate major geographical strata. Therefore, the number of geographical strata in the first level is 15.

The second level of stratification entails grouping municipal and local communities within each NUTS 2 Region by degree of urbanization, i.e., according to their population size. The scaling of urbanization was finally designed in three groups:

- › Urban Municipal or Local Communities with 10,000 inhabitants or more
- › Semi-urban Municipal or Local Communities with 2,000 to 9,999 inhabitants
- › Rural Local Communities up to 1,999 inhabitants

The number of the final strata in the thirteen (13) Regions of the Country (except Greater Athens Area & Greater Thessaloniki Area) is 39. These were derived from the crossing of Region by the degree of urbanization. Additionally, the Greater Athens Area was divided into 31 strata of about equal size (equal number of households) on the basis of the lists of city blocks of the Municipalities that constitute it and taking into consideration socio-economic criteria. Similarly, the Greater Thessaloniki Area was divided into 9 equally sized strata. Thus, the total number of strata of the survey is 79.

The survey reference period (March 2013 - February 2014) was representative of, and cover a full 12-month period. The initial sample size was 3,737 households (sampling fraction 0,08%) equally distributed within the year, so as to have four equally dependent samples, corresponding to the four quarters of the year.

The achieved sample size was 3,371 households. The number of household members that responded in the survey amounted to 7,137.

Households' members aged 10 years and older participated in the survey, by recording their activities – primary and secondary – in two diaries, one for a weekday, Monday to Friday, and one for a day during the weekend (Saturday or Sunday), for 24 hours, in ten minutes increments.

5.2 Health Interview Survey

5.2.1 Relevance of the survey and active mode data

As part of the “European Health Interview Survey”, to which all EU Member States participate, the Hellenic Statistical Authority conducts with a periodicity of 5 years *The Health Interview Survey* (HIS) in households, which aims to provide and study analytical data on population health status, on health determinants (e.g. physical exercise) and on the use of health services. The most recent such survey was conducted in 2014⁸ (ELSTAT, 2014b), and collected information on the number of days per week that the country's population aged 15 years old and above cycle and walk for at least 10 minutes continuously in order to get to and from places, as well as the amount of time they spend for the same purpose during a typical day.

The relevant questions for walking are included in section 16 "PHYSICAL ACTIVITY/EXERCISE" of the questionnaire used for HIS and are depicted in the figure below:

Figure 5-1 Questions on walking included in the Health Interview Survey 2014 questionnaire

PE2: In a typical week, on how many days do you walk for at least 10 minutes continuously in order to get to and from places?

- Number of days | _ |

- Never walk for 10 continuous minutes..... ☐ 0 } → PE4

- Don't know, I am not sure, Refusal..... ☐ -1 }

PE3: During a typical day, how much time do you spend walking in order to get to and from places?

- 10 up to 29 minutes per day ☐ 1

- 30 up to 59 minutes per day ☐ 2

- 1 hour to less than 2 hours per day..... ☐ 3

Source: ELSTAT, 2014b

The survey collected information on the way the respondent gets to and from work, school, market/super market, etc. on a daily basis, and more specifically on the number of days in a typical week (Monday to Sunday) during which the respondent walks or cycles for at least 10 minutes continuously, without stopping, to get to and from places. Walking or cycling during the main work/activity is not included, nor is

⁸ The survey is conducted pursuant to Regulation (EC) No 1338/2008 of the European Parliament and of the Council, laying down issues concerning community statistics on public health and occupational health and safety, and pursuant to Implementing Regulation (EC) No 141/2013 laying down the basic concepts and the variables included in the survey questionnaire.

walking/cycling for pleasure or leisure or upon the recommendation of a physician or any other health professional. The relevant data for both walking and cycling are summarised in the following table (for more detailed results from the Health Interview Survey and related graphs on walking and cycling see sections 3.1.2 and 3.2.2 respectively).

Table 5-4 Walking and cycling to get to and from places. Percentage distribution of population aged 15 years and over by gender, 2014

	Men (%)	Women (%)	TOTAL (%)
Do not walk to get to and from places	16.8	20.7	18.8
Walk to get to and from places at least 10 minutes daily	45.6	40.2	42.8
Do not use a bicycle to get to and from places	88.9	92.9	91.0
Use of a bicycle to get to and from places at least 10 minutes daily	1.8	1.0	1.3

Source: ELSTAT, 2014b

In addition, the survey collected data on the population carrying out sports, fitness or recreational physical activities for at least 10 minutes continuously, causing at least a small increase in breathing or heart rate. Brisk walking and cycling were considered here in one group together with other sports activities like ball games, jogging, swimming, rowing etc.

5.2.2 Methodology

Population

The survey is a sample survey conducted on an initial sample of 9,936 households based on the 2011 Population Census. The total number of the surface area units of the sample was amounted to 1,265.

The multi-stage stratified sampling method was applied for the survey, with primary sampling unit the surface area (one or more city blocks or a small settlement), secondary unit the household and final unit the person aged 15 years and over (target-population). In each Region (NUTS 2) the primary units were stratified into 8 strata on the basis of the degree of urbanization of the Municipal/Local Communes where they belong.

The former Greater Athens Area and the former Greater Thessaloniki Area were divided into 47 and 11, respectively, strata of about equal size (equal number of households) on the basis of the lists of city blocks of the Municipalities that constitute them and taking into consideration socio-economic criteria. The number of strata, deriving from the application of the stratification criteria amount to 151, which are homogenous strata, in terms of the survey characteristics.

In each homogenous stratum (final stratum), a sample of surface area units is selected with a probability which is proportionate to their size (number of households on the basis of the 2011 Population Census) from a sampling frame compiled on the data of the 2011 Population Census.

Within the surface area units of the sample a sample of households is selected with equal probabilities of selection from an updated frame-list by applying the systematic sampling. Finally, within each household of the sample a person aged 15 and over is selected with equal probabilities of selection.

The survey was conducted in the last quarter of 2014 and covered all the private households throughout the country, irrespective of their size or socioeconomic characteristics. The initial sample size of survey amounted to 9,936 individuals, of which finally 8,223 households and respectively 8,223 individuals were interviewed.

Reference periods vary among the questions and is the "the past 7 days (the period ends one day before the survey conduct day)" for questions in relation to physical exercise. The concrete unit includes questions concerning the time spent in the respondents' daily activities within a typical week.

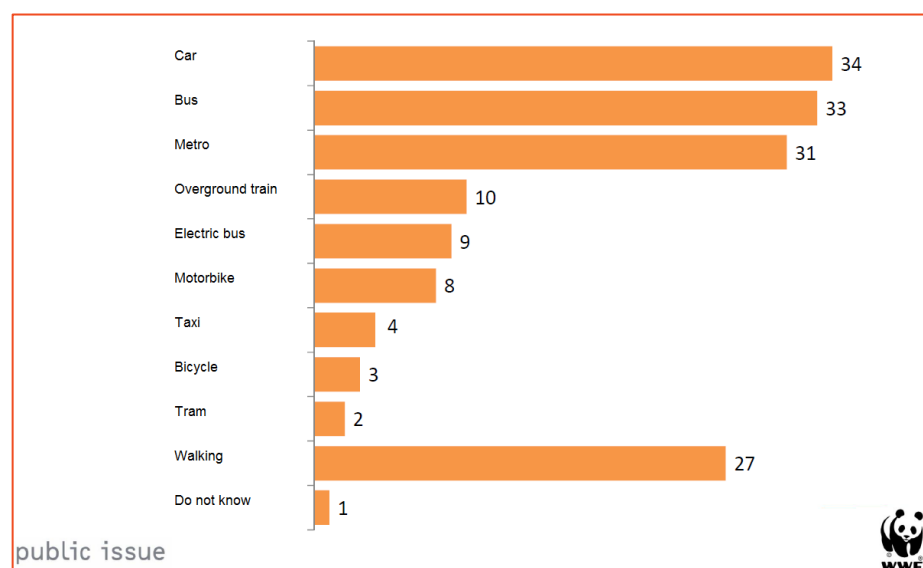
5.3 Other Surveys

5.3.1 Private / NGO survey initiatives

A survey by opinion polling company PUBLIC ISSUE was conducted upon commissioning of WWF (WWF Greece, 2014) between 11 and 19 June 2014 in the context of a project promoting the use of public transport. The sampling for the survey was done by a multistage stratified sampling method and included 1,009 individuals from the metropolitan area of Athens, the metropolitan area of Thessaloniki, as well as the three largest urban regions of Greece. Interviews were conducted by telephone and with the use of a structured questionnaire.

In relation to the most commonly used means of transport in Athens, the survey revealed the picture depicted in the following figure:

Figure 5-2 Most commonly used means of transport (multiple replies) in Athens wider region



Source: WWF (2014)

The same survey also revealed that 27% of the adult metropolitan population owns a bicycle, i.e. 810,000 persons were found to be bicycle owners in metropolitan

Athens (Deloukas, 2015). With reference to the question if they had cycled the previous day, 7% i.e., in case of Athens, 56,700 cycle owners gave a positive answer. This seems to be consistent with estimates by a recent paper that investigated the use of cycling in the wider area of Athens, and which found 54,000 daily cyclists, and an estimated annual total of 88.2 million cycle-kms for commuting and non-work purposes (Deloukas, 2015).

Here it is worth to mention another private initiative, namely the project titled "6 Cities for Cycling"⁹, which will record the cycling culture in six Greek cities, namely Karditsa, Ioannina, Kalamata, Patras, Thessaloniki and Heraklion and which will among other things survey cyclists and non-cyclists through questionnaires on urban planning, traffic and other related issues such as bike paths and infrastructure¹⁰.

5.3.2 Surveys in the context of major infrastructure planning projects

Finally, studies with relevant information on active modes have in the past been carried out in the context of major infrastructure planning projects (e.g. Attiko Metro). Although are now considered outdated, they are worth mentioning:

- › Passenger Mobility Studies in Attica (Athens Metro SA, 2008).
 - › Research Origin-Destination Transportation Surveys, encompassing roadside interviews with cyclists, private vehicles and taxi passengers.
 - › Passenger Mobility Study at the urban and suburban railway, including passenger traffic measurements and interviews with passengers in order to record the characteristics of their movements.
- › Surveys of OASA conducted in 2006
- › "Movement Characteristics Inventory" studies carried out under the Metro Development Study, 1996

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¹⁰ Due to financing issues, the timing for carrying out and completing the survey is currently uncertain.

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C.13 HUNGARY

SEPTEMBER 2016
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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
BKK	Budapesti Közlekedési Központ (Centre for Budapest Transport)
KKK	Közlekedésfejlesztési Koordinációs Központ (Hungarian Transport Administration)
KENYI	Kerékpáros Infrastruktúra Nyilvántartó Rendszer (Cycling Infrastructure Database)
KTI	Közlekedéstudományi Intézet (Institute for Transport Sciences)
NFM	Nemzeti Fejlesztési Minisztérium (Ministry of National Development)

SUMMARY TABLE

National surveys

National Cycling Survey (survey + counts)	2015
National Census	2011
Counts	2015

City-level surveys

Budapest Transport Model survey (survey + counts)	2014
3 automatic cycle counters	real-time

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Hungary	no data			
Budapest	0.266	pkm/day	total	2014

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

no data

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Hungary	65	contrary to 35% that never cycle
Budapest	8	cycle daily
Budapest	28	at least once in 2 weeks

Statistics on cycling infrastructure (km), by type of infrastructure

	Hungary	Budapest
Cycle track	1035	191
Cycle street	0	0
Bus and cycle lane	336	18
Contraflow cycling	0	44
Cycle lane	71	24
Advisory cycle lane	0	73
Total	-	-

FOOTNOTES:

1) Cycling at least once in 2 weeks is considered the best fit for cycling population.

1 Context

The volume of the cycling traffic in the Capital of Hungary- Budapest is even higher than before. This can be read out from the statistics available since 1994. In the last 20 years, some important elements of the dedicated main cycling network were built.¹ Since the Centre for Budapest Transport (BKK) was established in 2010, the attractiveness of cycling was increased dynamically. Budapest has a strategy that aims to improve the main network support the multi-modal travels, starting campaigns and implementing a bike sharing system (in operation since 2014). Nowadays, cycling plays an important role in Budapest transport, it is a real choice for travellers to reach their destination on time. According to survey carried out in Budapest in April 2015², approximately every fourth person used his/her bike at least once for commuting and leisure in the month of the survey. Results in the countryside indicate that every second used the bike in the same month.

There are also other cycling friendly cities in Hungary. Because of geographical attributes, cities located on flat areas have a higher amount of regular cyclists. The most cycling friendly cities in Hungary are Kaposvár, Győr, Békés, Szarvas and Székesfehérvár.

Statistics on walking and cycling are very insufficient in the country. Collection methods are not standardised and methodology is not defined. Just a part of the data are available, its comparison possibilities are limited due to the quality and different types of data. Main sources of traffic data can be the national census, minor surveys (made specifically as part of infrastructure projects), and traffic counting information. At this moment, there are only three fixed cycling counting stations in the country in operation (all in Budapest)³⁴ but other manual bicycle counts also exist.

In the country, the Hungarian Transport Administration (KKK) is responsible for traffic data collection. In case of the capital the responsible is BKK.

Walking data are available only for Budapest.⁵

Big data sources (P6) are not used in the results collected for this report.

¹ <http://www.bkk.hu/fejleszteseink/kerekparos-fejlesztések/>

² <http://kerekparosklub.hu/kerekparhasznalati-adatok-2015-masodik-negyedev>

³ <http://kerekparosklub.hu/szamlalo-eredmenyek>

⁴ <http://kerekparszamlalo-andrassy-kifele.visio-tools.com/> and
<http://kerekparszamlalo-andrassy-befele.visio-tools.com/>

⁵ BKK household survey 2015

2 Challenges related to data collection

Friendliness	It is not a simple task to rate the friendliness of cycling and walking in Hungary. In the last few years Budapest improved a lot but its rate is still 5-6. In the countryside, the value is 6-7.
Difficulties	<p>The difficulties with collecting statistics on walking and cycling are generally the lack of financial possibilities and resource management. Soft transport modes have very low priority among infrastructure projects. Furthermore, road management (Budapest Közút) and project management (BKK) departments were divided in Budapest.</p> <p>Other difficulties identified are:</p> <ul style="list-style-type: none">› no monitoring system,› lack of relevant questions in household surveys and national census,› data collection is not mandatory,› no methodology for data collection. <p>In most infrastructure projects, the Client specifies among the reporting obligation that the contractor submits all necessary data from the new network to the cycle infrastructure database (KENYI), but in most cases, this requirement is not fulfilled.</p>
Comparability	Comparison of statistics on walking and cycling is not possible because of lack of collected data or different sample sizes. That is one reason why it is so important to describe an EU methodology for data collection and process. In other aspect a regular EU data collection method possibly could force building a systematic cycling database upon the respondents.
EU action	The last EU actions concerned (European Cycling Challenge ⁶) this actions can be successful if a strong marketing campaign is connected to the project. There is no goal with a weak marketing.
Other statistics	There are other statistics on walking and cycling, especially for cycle's accidents (owned by KTI and NFM). Municipalities collect cycling data, as well, but it is probably not possible to find and compare data since it is not done systematically.

3 Active modes use

3.1 Walking

There is no specific definition of walking in surveys. Walking is considered only in the stages of travel where the person does not use any motorised or non-motorised vehicles. Running is not considered as walking but other non-motorised vehicles (i.e. roller-skates) are usually included in the walking activity statistics.

⁶ <http://www.cyclingchallenge.eu/>

Further information about walking statistics in Budapest could be extracted from the Budapest Traffic Model. The Model indicates an average of 1.4 million trips/day and an average walking time of approximately 4 minutes per trip. That means the average distance calculated with 4 km/h average walking speed is 266 meters at a stretch.

According to the household survey undertaken by BKK in 2015, 40.95% of the questioned people were regularly walking, and their average walking distance was 1.77 km/trip.

3.2 Cycling

According to the National Highway Code bicycle is defined as:

- › has at least two wheels,
- › power source is applied human effort,
- › can be supported by a motor (max. 300 W).

There is no specific definition of cycling in the surveys. In Hungary, the types of bikes can be as follows:

- › bicycle,
- › tandem,
- › tricycle,
- › e-bike
- › other form of motorised bicycle vehicles e.g. mopeds included

Different types of bikes statistics are not collected separately in the surveys.

22 % of the trips are made by bike in Hungary⁷. In Budapest, 8% of the inhabitants are daily users and 28% of inhabitants are cycling at least once in 2 weeks⁸. The sum of passenger demand matrix in Budapest is around 5 million. The number of bike trips are estimated around 0.2 million trips/day. That means that the percentage of travels made by bike is 0.4%.⁹

People who crosses the border of Budapest are cycling 17.2 pkm/day. The value does not contain bicycle traffic within the city, for that reason the value is quite high.

Figure 1 Average distance travelled per person in Budapest

Distance	Unit	Year
----------	------	------

⁷ http://ec.europa.eu/public_opinion/archives/ebs/ebs_422a_en.pdf

⁸

http://kereparosklub.hu/sites/default/files/MK_Kerekparhasznalat_2015_aprilis.pdf

⁹ http://www.bkk.hu/apps/docs/bkk_forgalmi_modell.pdf

17,2 ¹⁰	pkm/day	2012
5,9 ¹¹	pkm/trip	2014

4 Infrastructure

4.1 Walking infrastructure

There are regulations about walking infrastructure quality/standards requirements. The regulation covers planning of walking structures, pedestrian crossings, public transport stop points and other elements that ensure safe walking. The Highway Code is not applicable for urban roads, which are handled by the respective municipality.

- › ÚT 2-1.208 Akadálymentes közúti létesítmények
- › ÚT 2-1.211 A gyalogosközlekedés közforgalmú létesítményeinek tervezése
- › ÚT 2-1.212 A közúti közösségi közlekedés pályáinak, utas- és járműforgalmi létesítményeinek tervezése

Official database of walking zones are not available, and no statistics are collected.

In the Hungarian Highway Code there are chapters regarding cycling infrastructure and rules for bikes. Defined infrastructure elements in Hungarian Highway Code where cycling is legal are¹²:

- › cycle lane,
- › cycle track,
- › shared
- › bus & bicycle lane,
- › contraflow cycling,
- › open cycle lane
- › shared space street/zone
- › advisory cycle lane,

Cities (>50,000 inh.) with dedicated pedestrianised zones and/or shared space areas are¹³:

- › Budapest, Debrecen, Szeged, Miskolc, Pécs, Győr, Nyíregyháza, Kecskemét, Székesfehérvár, Szombathely, Szolnok, Kaposvár, Sopron, Veszprém, Békéscsaba, Eger

¹⁰ http://www.catch-mr.eu/public/DB_Data/files/Downloads/Budapest_Recommendations_for_regional_cycling_developments.pdf

¹¹ Budapest Transport Model in 2014

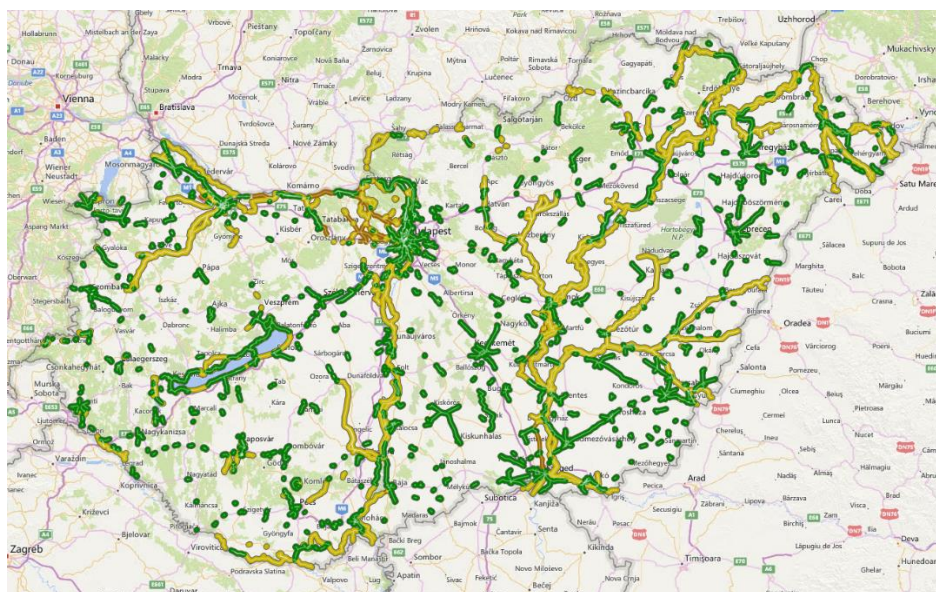
¹² <http://kerekparosklub.hu/kisokos/hol-szabad-kerekparozni>

¹³ <https://www.openstreetmap.org/#map=8/47.167/19.259>

- › area data is not available, approximately size of dedicated area can found on the following link:
<https://www.google.com/maps/d/edit?mid=17bIJfaoGjafnJxoxhrZs0CUgDAw>

4.2 Cycling infrastructure

Official database of walking zones and cycling infrastructure are not available. The only database what can be officially used is KENYI¹⁴, based on GIS server solution, where the 90% of the cycling network elements are collected and categorised.



The length of the elements are in Budapest:

Type of cycling infrastructure	in Hungary [km]	in Budapest [km]
cycle track	1035	191
cycle street	0	0
bus & cycle lane	336	18
contraflow cycling streets	n.a.	44
cycle lane	71	24
advisory cycle lane	n.a.	73

The main specification for cycling infrastructure is the Standard Highway Specification / Útügyi műszaki előírás - Kerékpárforgalmi létesítmények tervezése

¹⁴ <http://kenyi.hu/>

(e-UT 03.04.11)¹⁵. It describes the main parameters and planning issues of cycling infrastructures elements. Not valid for urban roads, which are handled by the municipality.

5 Data collection methods

Because of data collection method are not standardised, answers were derived from data collection projects from the past.

Three type of data collection methods can be described according to interviews:

- › traffic counting data,
- › surveys,
- › national census.

	Surveys	National census	Counting data
name of the data collection	Forgalmi adatbázis létrehozására és fenntartására vonatkozó tanulmány készítése és országos kerékpáros forgalomszámlálás elvégzése (National Cycling Survey)	Népszámlálás	OKA, OKKF, KIRA, Forgalmi adatbázis létrehozására és fenntartására vonatkozó tanulmány készítése és országos kerékpáros forgalomszámlálás elvégzése
most recent year	2014, 2015	2001, 2011	2014, 2015
periodicity	no	every 10 years	every year
level of data collection	local	national	national
reported at urban level	yes	yes	no

¹⁵

<http://www.maut.hu/MAUTDATA/mediat%C3%A1r/sajt%C3%B3figyel%C3%A9s/cikk34.pdf>

5.1 National Cycling Survey

In 2015, a national cycling survey was undertaken in the whole country¹⁶. The type of survey was split into three parts:

- › household survey,
- › roadside survey,
- › and connecting traffic counting.

Counting days were:

- › 2 days in summer
- › 1 day in autumn

Type of counting days:

- › 2 workdays
- › 1 non-workday

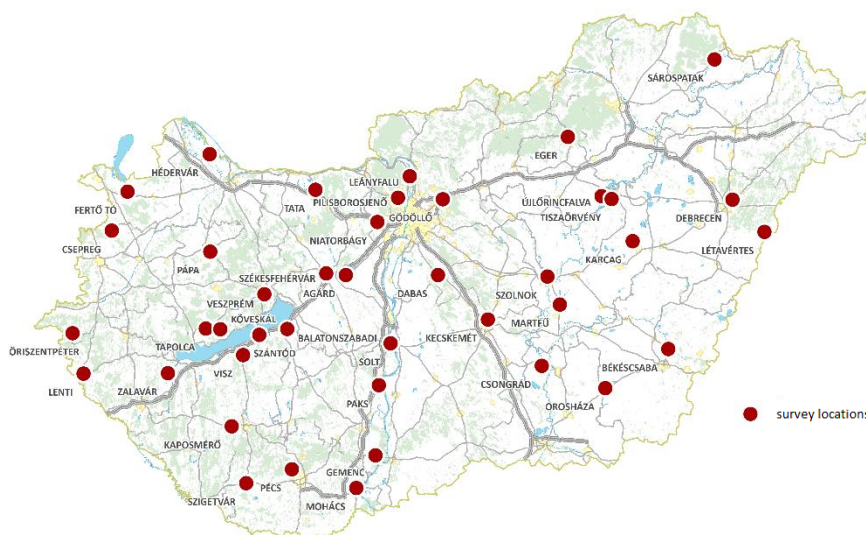
Counting period:

- › 6:00-21:00 (15h)

Number of counting locations¹⁷:

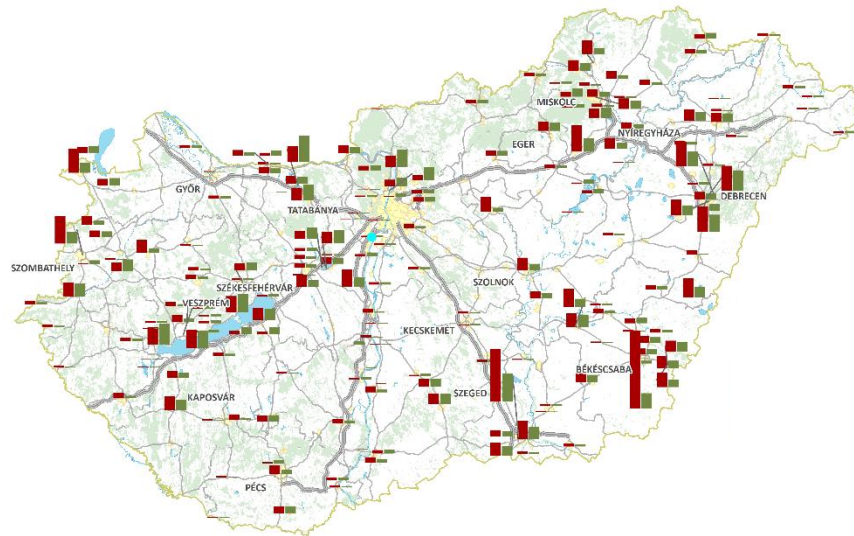
- › 200

Maps found below describes survey's locations and counted volumes at the same cross-sections. Red columns are the weekday's traffic volumes and greens are the weekend's.



¹⁶ Forgalmi adatbázis létrehozására és fenntartására vonatkozó tanulmány készítése és országos kerékpáros forgalomszámlálás elvégzése

¹⁷ https://www.google.com/maps/d/viewer?mid=1reH-llb-mCl1uRd1PM_QW9pn8SY



Facts of roadside surveys:

- › Number of roadside surveys locations:
 - › 50
- › The following attributes were recorded:
 - › gender
 - › age
 - › origin
 - › destination
 - › frequency of travel
 - › purpose
 - › potential of using car as alternate mode
 - › driver licence

Population

Facts of household surveys:

- › Population
 - › 1000 households, 1500 people
- › Spatial distribution method:
 - › has to be in sample at least one from every type of settlement clusters,
 - › has to be in the sample settlements with train stations,
 - › settlements with important role in tourism,
 - › settlements in agglomeration of bigger cities,
 - › and settlements from all regional units.
- › age limit: < 15 years

5.2 Budapest Transport Model survey

There was organised a complex traffic count and survey in Budapest, regards to the project of Budapest Transport Model in 2014¹⁸. The aim was a new database to be founded what can be used for transport modelling and provided a base to GIS datasets.

Type of data collection methodology in Budapest:

- > traffic counts
- > O-D data
- > behaviour attributes

Counting days were:

- > 1 days in summer
- > 2 day in autumn

Type of counting days:

- > 3 different workdays

Counting period:

- > 7:00-9:00 and
- > 16:00-19:00

Number of counting locations¹⁹:

- > 46 cross-sections
- > 3 junctions

Number of survey locations:

- > 10 connected to counting locations

5.3 National Census

National Census is organised every 10 years. Collected data regards to daily commute. For that reason, output of census cannot be a basic data for cycling behaviours.

Generally, there is no minimum distance/time threshold for the data recorded. Distance is collected with method of self-estimation, keep a check on data with macro modelling algorithms (calculating distance between selected zones).

Definition of trips what is generally used is: The trip is a motion from the starting to the end location using different modes with a particular reason (purpose). It is essential that purpose is to be recorded in every surveys

¹⁸ Kerékpáros forgalom elemzése Budapesten a 2014. évben

¹⁹ https://www.google.com/maps/d/viewer?mid=1reH-Ilb-mCl1uRd1PM_QW9pn8SY

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Kiss Károly, Dr. Berki Zsolt, Dr. habil. Monigl János, Varannai Dóra, Kucsara Péter, Varga-Tóth Katalin, Fehér Gergely, Kaderják Péter, Simon Dávid, Pallagi Balázs, Horváth László, Nagy-Pál Anita (2015) - *Forgalmi adatbázis létrehozására és fenntartására vonatkozó tanulmány készítése és országos kerékpáros forgalomszámlálás elvégzése*, Módszertan, Budapest

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C.14 IRELAND

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – IRELAND

PROJECT NO.

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PREPARED

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2	Challenges related to data collection	6
3	Active modes use	6
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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
CSO	Central Statistics Office
NTS	National Travel Survey
POWCAR	Place Of Work Census of Anonymised Records
QNHS	Quarterly National Household Survey

SUMMARY TABLE

National surveys

National Travel Survey (NHS) 2014

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Ireland	0.56	pkm/day	total	2014
Dublin	no data			

Walking: average number of trips per day

	Number	Unit	Population	Year
Ireland	0.24	trips/day/person	total	2014
Dublin	no data			

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Ireland	0.2	pkm/day	total	2014
Dublin	no data			

Cycling: average number of trips per day

	Number	Unit	Population	Year
Ireland	0.02	trips/day/person	total	2014
Dublin	no data			

Cycling: percentage of the population cycling in the country/city

no data

Statistics on cycling infrastructure (km), by type of infrastructure

	Ireland	Dublin
Total	no data	170

1 Context

The main sources of information are the results of the national travel survey that are published online. The National Travel Survey (NTS) was conducted as a module of the Quarterly National Household Survey (QNHS) 1 in the fourth quarter (October – December) of 2014. It was a module on the travel behaviour of respondents. A similar module was included in the QNHS in the fourth quarter of 2012 and 2013 respectively.

The QNHS is a comprehensive nationwide survey of households. The primary purpose of the survey is to produce quarterly labour force estimates in compliance with the requirements of Council Regulation (EC) No. 577/98. It also covers topics of specific social interest in additional modules each quarter. The National Travel Survey (NTS) modules will be used to compile statistical indicators for journey purpose and modes of travel, which will help monitor the implementation of existing transport policy and will inform future transport initiatives. This report presents the results for 2014 with comparative analysis for 2012 and 2013.

2 Challenges related to data collection

No information on the challenges related to data collection as such could be acquired, as none of the contacted experts in charge of data collection was willing or able to cooperate. However, some information on the choice of data collection methods provides insights into challenges during data collection:

It is internationally accepted that the most comprehensive method to collect data on travel behaviour is to have respondents complete a seven-day travel diary. However, to reduce respondent burden and increase response rates, many countries have adopted an alternative method of collecting data for a 24-hour period. This methodology was used for the collection of the NTS 2012, 2013 and 2014 data. To ensure that data was collected for all seven days of the week, each person participating in the NTS was assigned a selected 'travel reference day'. The travel reference day was a maximum of three days prior to the day on which the interview was conducted to ensure that recall was not compromised.

3 Active modes use

No definitions of walking or cycling used in the NTS could be derived from the available information. The following statistics stem from calculations on numbers provided online as results of the NTS. However, these calculations are not double checked with the data collectors and have thus to be treated carefully. Moreover, the numbers provided in the NTS themselves have to be treated carefully, as all estimates from sample surveys are subject to a margin of error. The 2011 Census of Population travel to work, school and college dataset (Place Of Work Census of

Anonymised Records - POWCAR) should be used as the definitive source of data on travel to work, school and college. It is also worth noting that the results contained in this publication are based on travel patterns for a particular quarter, which may not be fully representative of the year as a whole. Therefore, particular care should be taken when interpreting the results, especially if extrapolating them to annualised results.

3.1 Statistics

The following numbers refer to walking and cycling as main mode of transport only.

3.1.1 Walking

The average daily walking distance and the number of trips on foot per person is presented below:

Table 1: Average daily distance travelled and number of trips per person – walking

	Person Km per day	Number of trips per day	Year
Ireland	0.56	0.24	2014

Source: Irish National Travel Survey (NTS), 2014.

3.1.2 Cycling

The average daily walking distance and the number of trips on foot per person is presented below:

Table 2: Average daily distance travelled and number of trips per person – walking

	Person Km per day	Number of trips per day	Year
Ireland	0.20	0.02	2014

Source: Irish National Travel Survey (NTS), 2014.

No distinct numbers on walking in Dublin are available, however, the distribution of the modal choice suggest a significantly higher use of active modes:

Walking: Dublin (18.6 %) – All regions excluding Dublin (13.2 %)

Cycling: Dublin (3.3 %) – All regions excluding Dublin (0.9 %)

4 Infrastructure

According to the Urban Transport Benchmarking Initiative, which provided an overview on cycling infrastructure in Europe in 2004, the cycling infrastructure in Dublin comprises 170 km.

5 Data collection methods

5.1 National Travel Survey (NTS)

The NTS – as a module to the yearly QNHS - is issued every 5 years, last time in 2014. The following type of data is available from the NTS: Data collection description, Data collection design, Questionnaire, Descriptive statistics. The results are reported at urban level.

Population

The total number of respondents is 10,382, it is not clear how many of those are of urban population. Spatial sampling is stratified by population density. CATI is the survey methods used for the NTS. Respondents have to be 18 or older, apart from that the total population, including people who did not travel in the day, are relevant for this survey.

Trip

A journey is defined as a one-way course of travel from location A to location B for the purpose of carrying out a specific activity at location B. A location could be a single premise (e.g. a house, an apartment, a shop, an office, etc.) or a complex of premises (e.g. a shopping centre, a factory site, a hospital, etc.). Return trips were recorded as separate journeys. To be relevant to the survey, journeys must have:

- › Commenced in the travel reference day (it may end the following day)
- › Been at least 100 metres in length (approximately a one minute walk)
- › Comprised exclusively of domestic travel (all stages of foreign travel were excluded)
- › Not formed an integral part of a respondent's routine employment (e.g. a milkman on his milk round, a taxi driver picking up a fare, etc.)

Where a journey consists of more than one mode of travel, the main mode of travel is determined by the mode of travel used for the greatest distance. In the event of there being more than one main mode of travel (i.e. when two or more modes are of equal distance), then the main mode of travel is determined by the mode of travel used for the earliest stage of the journey.

The trip purpose is also recorded in the survey. The following categories apply: work, education, shopping/food/drink, personal business, visit family/ friends & social / entertainment, other companion journey, other.

Distance

Travel reference day: To ensure that data was collected for all seven days of the week, each person participating in the NTS was assigned a selected 'travel reference day'. The travel reference day was a maximum of three days prior to the day on which the interview was conducted to ensure that recall was not compromised. For interviews conducted on Wednesday through to Saturday, the travel reference day was the immediately preceding day, i.e. if a person was interviewed on Friday November 21st, the travel reference day would be Thursday November 20th. For interviews conducted on Mondays a different arrangement applied. 30% of Monday interviews were assigned at random to the immediately preceding Friday, 42% to the immediately preceding Saturday and 28% to the immediately preceding Sunday. For interviews conducted on Tuesdays, 17% were assigned at random to the immediately preceding Sunday and 83% were assigned to the immediately preceding Monday.

As indicated above, seasonal variations are not taken into account. Duration and length are recorded separately by self-estimation. As indicated above, only trips longer than 100 m are considered relevant.

6 References

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C.15 ITALY

SEPTEMBER 2016
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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
CATI	(Computer-Assisted Telephone Interviewing)
ISFROT	Institute for Training and Research for Transport
ISTAT	Italian National Statistical Institute
RSM	Roma Servizi per la Mobilità

SUMMARY TABLE

National surveys			
AUDIMOB - Survey on mobility behaviour of Italian citizens		2015	
National Census			
City-level surveys			
Mobility survey in Rome Municipality		2013	
Automated traffic counts		real-time	
Walking: average daily distance travelled per person			
	Distance	Unit	Population
Italy	3.55	pkm/day	total
Rome	1.37	pkm/day	mobile
Walking: average number of trips per day			
	Number	Unit	Population
Italy	2.19	trips/day/person	total
Rome	no data		
Cycling: average daily distance travelled per person			
	Distance	Unit	Population
Italy	7.89	pkm/day	cycling
Rome	8.4	pkm/day	cycling
Cycling: average number of trips per day			
	Number	Unit	Population
Italy	2.28	trips/day/person	total
Rome	no data		
Cycling: percentage of the population cycling in the country/city			
	Percentage	Definition	
Italy	5	definition unknown	
Rome	1	definition unknown	
Statistics on cycling infrastructure (km), by type of infrastructure			
	Italy	Rome	
Total	no data	120	

FOOTNOTES:

The cycling population is not representative for the mobile population.

1 Context

From the most recent data collection on mobility carried out by ISFORT in 2014, walking, cycling and public transport showed a consistent increase compared with the previous year, for the first time in 15 years. A 3.4% overall increase in modal split, with an average public transport modal share at 11% and bicycles slightly under 4%. In 2014, 15.2% of the interviewees said they have used the bike at least 3 or 4 days a week during the three months preceding the survey (12.6 % in 2013). The desire to use the bike more frequently than at present it is expressed by 38.9%¹ of the sample.

These statistics are extracted from the most recent survey on mobility behaviour of Italian citizens carried out by ISFORT in 2014. ISFORT – Institute for Training and Research for Transport - is a reference organisation for mobility sector in Italy². ISFORT provides research services and trainings on relevant topics related to the transport system. Most of the Institute's tasks consist of research activities on significant phenomena and trends related to mobility. ISFORT aim is to identifying problems and designing appropriate strategies for public and private transport system evolution.

Every year ISFORT collects data on mobility behaviour of Italian citizens, using a CATI (Computer-Assisted Telephone Interviewing) survey as data collection method. Contextually, every year it releases a report entitled *AUDIMOB - Survey on mobility behaviour of Italian citizens*³. Data have been collected starting from 2001 to date.

"Roma Servizi per la Mobilità" (RSM)⁴, established on 1st January 2010, it is a local agency possessed and directed by the Municipality of Rome. It supports the Mobility Department in policy design and applications, supporting the shift towards sustainable mobility in Rome. RSM assignment consists in planning, managing, organising and monitoring programmes, projects and infrastructures related to both private and public mobility, car and bike sharing, urban merchandise circulation and logistics. RSM is also in charge to develop ICT tools to enhance mobility services and to raise responsiveness on sustainable mobility⁵.

Every four or five years, according to the available budget, RSM carries out a survey on mobility in the City of Rome, using a CATI (Computer-Assisted Telephone Interviewing) system. The survey is hereafter referred to as "Mobility survey in Rome Municipality, year 2013".

RSM also relies on National Census data, carried out at national level every ten years. It depicts an overview on mobility trends and habits within the city.

Moreover, the city disposes of a traffic counts systems, based on automatic counting method.

¹ ISFORT (2015), AUDIMOB, Survey on mobility behaviour of Italian citizens 2011-2014, ISFORT, Rome

² ISFORT official website – available at www.isfort.it

³ ISFORT (2015), AUDIMOB - Survey on mobility behaviour of Italian citizens 2011-2014, ISFORT, Rome

⁴ <http://www.agenziamobilita.roma.it/en.html>, last accessed on June, 26th

⁵ <http://smartset-project.eu/partner/rome-mobility-agency>, last accessed on June, 24th

Relations division, are supervisor for mobility data collection and analysis. What follows is an overview of the answers they provided in the City Questionnaire for Rome.

2 Challenges related to data collection

Friendliness

According to 2014 AUDIMOB report, walking as a means of transport is commonly used for short trips (less than 2km), while bicycle is used for trips up to 4km. On average, trips on foot and by bike reach respectively 15.9% and 3.8% in the collective transport modal share⁶.

The difference between the two values reflects the differences encountered in the evaluation on walking and cycling mobility at national level: on a scale of 1 to 10, being "0" bad and "10" excellent, friendliness for walking was rated high (8) and for cycling rated low (3).

ISFORT surveys rely on several points of strength: the provision of complete geographical coverage and the complete time series that allow for space and time comparisons.

In Rome, the friendliness for walking was rated 6, underlining that the situation changes from district to district: pedestrian zones exist in the centre of the city, while in suburbs and residential areas they are rare. At present, private mobility is the dominant mode in Rome. Consequently, urban space arrangements reflect this dominant culture. Pavements are narrow, interrupted by parking areas and roads.

Friendliness for cycling is 4. Fragmentation of cycling lanes and the non-conformity to security requirements are two of the several problems in the city.

Difficulties

The difficulties that RSM encounters when collecting statistics on walking and cycling in Rome are related to the lack of financial resources to invest in specific data detection on active modes. Nowadays they are derived from general surveys on mobility in Rome, whose main focuses are private mobility (motorized) and public transport. Moreover, general surveys on mobility suffer from a lack of budget, they are not frequent and they are not based on a large sample.

Comparability

Additionally, data collected during the survey include three different kind of trips: 1) from the household to school, 2) from the household to the workplace, 3) trips performed during free time⁷. With regard to this point, differences in survey design hamper the comparability of statistics. The Census⁸ realised every ten years by the National Statistical Institute, ISTAT⁹ and its broader sample is more representative but its main burden is that it does not include other reasons for trips than going to the workplace and to school. Similar differences may arise when comparing

⁶ Ibidem.

⁷ Ibidem

⁸ ISTAT, 2011 Population Housing Census data warehouse, available at the webpage <http://dati-censimentopopolazione.istat.it/Index.aspx?lang=en>

⁹ www.istat.it, last accessed on 2016, June 13th

ISFORT results with other surveys performed by other various organisations at regional or urban level (i.e. City of Milan¹⁰ and the Metropolitan Region of Turin¹¹)

In order to increase the comparability of statistics, it is suggested taking into account all different reasons for trips. This would allow survey results to illustrate a more realistic picture of citizens' mobility habits and to better assess general modal share trends over time.

RSM is working on a project idea to relate Rome to other European cities in order to set the Capital as benchmark, assess the weaker aspects of cycling mobility in the city and also learn lessons from other urban experiences. Remarks were also made on the different cultural approach related to the use of bikes around Europe. Before the lack of infrastructure there is a cultural attitude to change, and a radical signal should come from Local Authorities, but despite the communicated need for more cycling mobility there were no adequate investments.

The main obstacle for comparable statistics on walking and cycling in Europe is the absence of data detection standards, rules are not the same in all countries. Within the same country, regional or urban organizations have their own method. Create a common glossary with clear definitions would be a priority in order to improve comparability.

Other statistics

AUDIMOB survey includes other statistics on walking and cycling, e.g. questions on road safety, security from theft, viability of bike lanes, access to the road network, intermodal parking lots, opportunity to carry bikes on public transport. Time series for these data are not completed, only a few annuities are available. Around this other statistics, ISFORT releases short reports focused on specific aspects, gathered under the name "*Le fermate AUDIMOB sulla mobilità*" and available on ISFORT website.

Figure 1: *Le fermate AUDIMOB sulla mobilità*



Source: www.isfort.it – section *Le fermate AUDIMOB sulla mobilità*

¹⁰ Fiab Milano Ciclobby is the organisation appointed for data detection on cycling - official website available at <http://www.ciclobby.it/cms/>

¹¹ Agenzia Mobilità Piemonte AMP is the agency appointed for data detection on active modes – official website available at <http://mtm.torino.it/it>

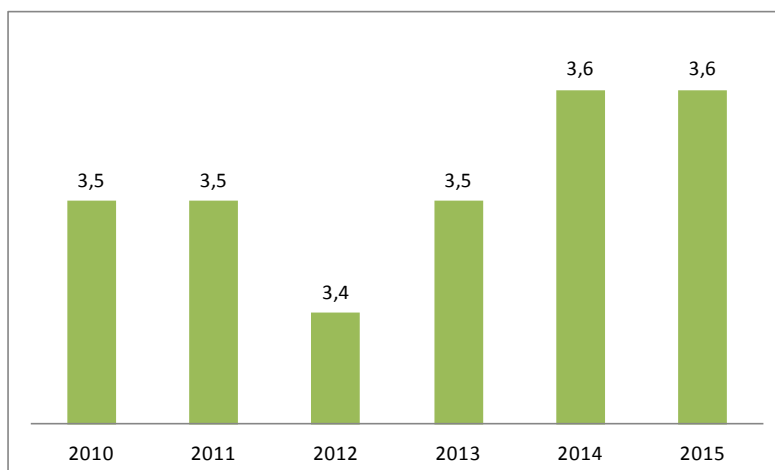
A RSM division called "Centro di Competenza sulla Sicurezza Stradale", collects regularly other statistics on mobility, whereof cycling (not walking). They are specific on accidents and other aspects related to security.

3 Active modes use

3.1.1 Walking

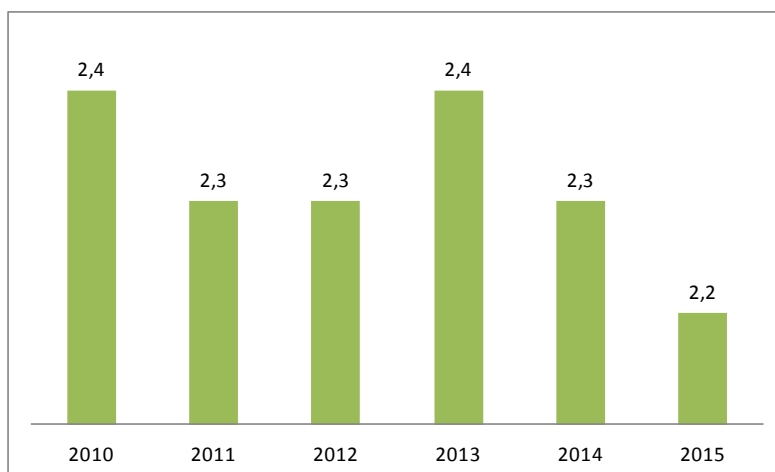
ISFORT considers a trip as "*any move to reach a destination*"¹². Less than five minutes walking trips are not included in data collection and waiting times included in the walking time is not considered as part of the trip. Walking stages in multi-modal trips are not included in definition of walking in AUDIMOB survey, not other active modes (e.g. skateboarding, roller skating) are.

Figure 2: Walking - Average daily distance in km travelled per person



Source: ISFORT

Figure 3: Walking - Average number of trips per day



Source: ISFORT

¹² MOVE-24 Country Questionnaire – Italy – ISFORT answer to question 4.1.

Average daily distance travelled walking has remained stable over the last five years. A slight decrease occurred in 2012, followed by a constant recovery in 2014, confirmed in 2015.

Moving on to the number of trips performed by citizens during the day, the trend is not stable. Highest values were recorded in 2010 and 2013, with a slight decrease in 2011 and 2012. Starting from 2013, the average number of walking trips performed per day show a constant slight decrease.

Rome

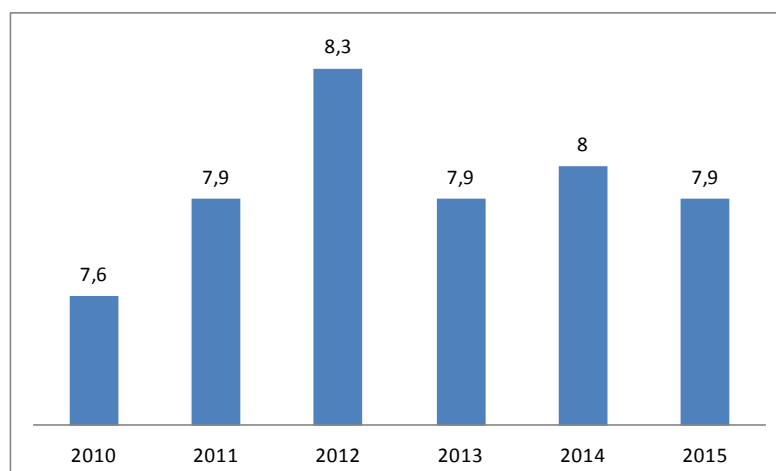
The definition of walking applied in Mobility Survey in Rome Municipality, year 2013, includes walking stages in multimodal trips. Waiting times included in the walking time are considered part of the trip, while other active modes (e.g. skateboarding, roller skating) are not considered as items to be recorder in the survey.

An insight on walking statistic provided by RSM reveals that the average daily distance travelled walking in 2013 was 1.37 km per person.

3.1.2 Cycling

The definition of cycling applied in the surveys is pedalling without any motorized support included. E-bike and other forms of motorized vehicles are not classified as cycling.

Figure 4: Cycling - Average daily distance in km travelled per person



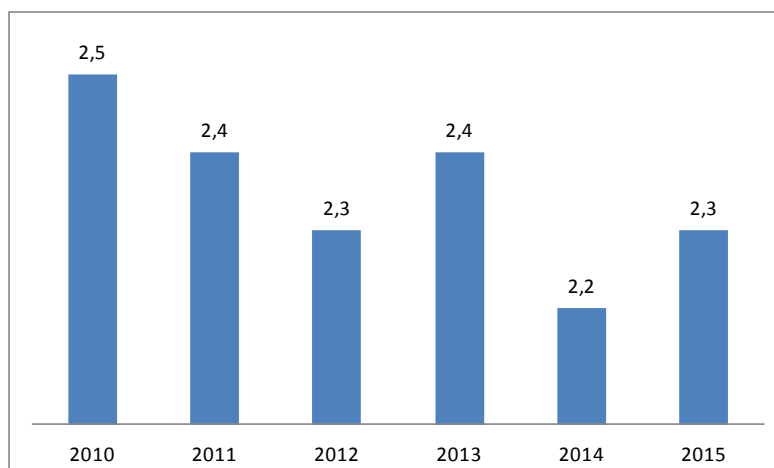
Source: ISFORT

According to the most recent data collected, the percentage of the population cycling in the country varies between 2 and 5%.

The average daily distance travelled per person by bike showed a significant increase from 2010 to 2012. The trend has changed from 2013, becoming stable at around 7.9 km on average. This figure only refers to bicycle users and not to the entire population.

With regard to the number of trips performed during a same day per person, a decrease occurred from 2010 to 2012. Values slightly fluctuated over the period 2012-2015.

Figure 5: Cycling - Average number of trips per day



Source: ISFORT

Rome

According to data collected in 2013, the percentage of the population cycling in the city is 1% of the sample. This share reflects the trend identified at national level showed by the last National Census completed in 2011 by National Statistical Institute, ISTAT.

An insight on cycling statistics provided by RSM reveals that the average daily distance travelled cycling in 2013 was 8.4 km per person.

4 Infrastructure

4.1 Walking infrastructure

In 2014, by means of City Council Resolution 70/2014, the draft text of the new *Piano Generale del Traffico Urbano*¹³ - General Plan of Urban Traffic (hereafter PGTU) - was approved, with its annexes: Road Regulation and Functional Classification, Perimeter of residential areas, and Masterplan of the mobility technologies. The PGTU describes the idea of mobility Rome wants to pursue in forthcoming years, and defines strategies and actions to be undertaken in order to achieve it.

The PGTU introduces the concept of Environmental Island in the city of Rome and guidelines for their implementation¹⁴. An Environmental Island is called "island" as it is an urban area enclosed within the network of the main roads and "environmental" as it is aimed at the recovery of the liveability of urban spaces. The discipline for Environmental Islands foresees limited access to vehicular traffic, with the systematic use of speed restrictions (Zone 30) over the entire internal roads. They may also be subject to the charging of parking and the generalized priority

¹³ Roma Capitale, Assessorato Trasporti e Mobilità (2015), Piano Generale del Traffico Urbano di Roma Capitale, full text available at

https://issuu.com/romamobilita9/docs/00_pgtu_2014___finale_29_gennaio_20/5

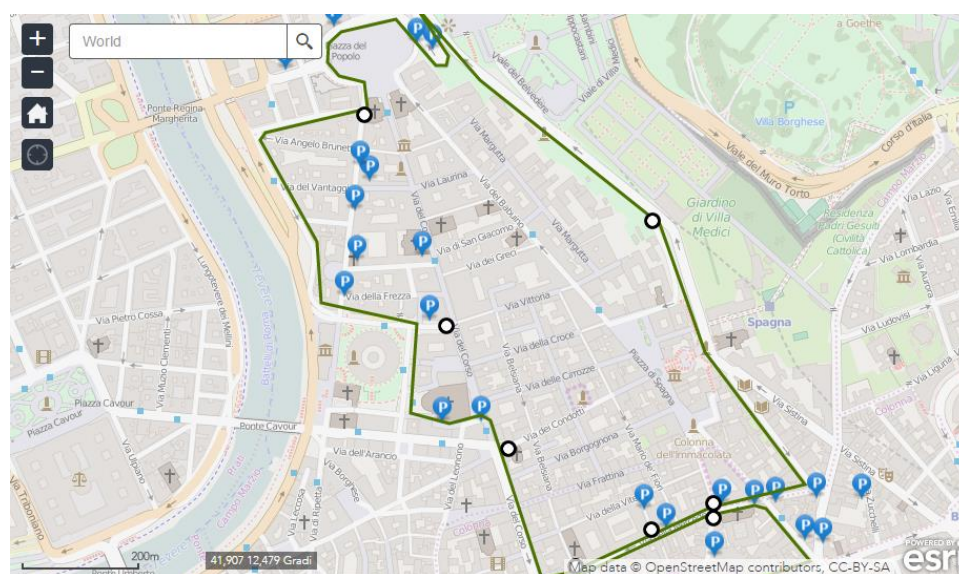
¹⁴ Roma Capitale, Assessorato Trasporti e Mobilità (2015), Piano Generale del Traffico Urbano di Roma Capitale, Page 88-95

access for pedestrians. All these conditions met, Environmental Islands may be also called Traffic Zone Pedestrian Privileged (ZTPP).

The area referred as to Trident Mediceo will represent the first Environmental Island in Rome, with more liveable spaces and parking zones for residents, new paths for pedestrians and bicycles, more protection and promotion of the historical and cultural resources of the whole area. Trident Mediceo includes the area between Piazza del Popolo, via del Babuino and Ripetta¹⁵. The following interventions are planned:

- › the full pedestrianization of the Spanish Steps
- › the pedestrianization of the secondary roads connecting to via del Corso
- › the redevelopment and partial pedestrianization of via del Babuino (transit allowed for authorized vehicles, but no parking)
- › the redevelopment and partial pedestrianization of via di Ripetta (transit is allowed, while parking is allowed for residents)
- › the reorganization of motorcycle parking spots, through reserved stalls at the edges of the area
- › the specific changes of the circulation scheme (alternating one-way)
- › the establishment of the Tridente Limited Traffic Zone, inside the "Historic City Center" ZTL

Figure 6: Borders, entrances and parking zones in Tridente Mediceo area



Source://www.agenziamobilita.roma.it/it/servizi/orari-ztl/tridente.html

¹⁵ An interactive map of the Tridente Mediceo is available at the following link:
<http://www.agenziamobilita.roma.it/it/servizi/orari-ztl/tridente.html>

4.2 Cycling infrastructure

Statistics on cycling infrastructures in Rome are regularly collected and uploaded. According to the most recent data, the total amount of cycling infrastructure is 120 km¹⁶.

As for pedestrian areas, guidelines about cycling infrastructure quality requirements are included in the PGTU, the latter in line with standards for cycling infrastructures foreseen within Regulation n.258/1992, National Highway Code.

The PGTU section devoted to PGTU opens with this statement *“Roma is markedly lagging compared to other Italian and European cities with regard to bike use. The latest survey conducted by the Agency for Mobility in 2012 still shows a low systematic use level (0.6%)”*. It continues saying that *“The implementation of interventions for cycling, in the past, saw the objective difficulties linked to improper or inadequate regulations of the sector. In the last decade EU addresses, up to local levels, have gradually recognized cycling as an important opportunity for urban mobility improvement”*.

Finally, it can be read that *“the PGTU primarily promotes the use of bicycles for systematic short distance trips (within 5 km) and for access to public transport services for longer-range and more demanding trips”*¹⁷

5 Data collection methods

5.1 Survey on mobility behaviour of Italian citizens, (AUDIMOB)

“Survey on mobility behaviour of Italian citizens, (AUDIMOB)”, is carried out using CATI (Computer-Assisted Telephone Interviewing) system. Starting from 2001, every year ISFORT has been collecting data for this survey.

Population

The survey is conducted using a random sample of total national population, stratified by region, by population density, by gender and age classes, being 16 and 80 minimum and maximum age limits. The most recent year in which data is collected is 2016. Every year, respondents are about 15 thousand, of which 20% living in cities with more than 250,000 inhabitants.

Data are reported at urban level, so that statistics from the different cities can be extracted. Results are separated per city on residence basis and depending on the origin/destination of the person in the time of the survey.

A description of the data collection method, the design of data collection, descriptive statistics and interactive analysis tools (interactive map divided into regions) are publicly available on ISFORT website¹⁸ and included in the AUDIMOB

¹⁶ An interactive map of cycling infrastructures in Rome is available at the following link: <http://www.agenziamobilita.roma.it/it/servizi/mobilita-sostenibile/piste-ciclabili-roma.html>

¹⁷ Roma Capitale, Assessorato Trasporti e Mobilità (2015), Piano Generale del Traffico Urbano di Roma Capitale, Page 96-103

¹⁸ ISFORT website, www.isfort.it

report, yearly released¹⁹. Questionnaires used for surveys, the codebook and metadata and the origin/destination (O/D) matrices are available only upon request, by means of an on line data request form²⁰. Microdata are not accessible.

The survey aims at investigating mobility behaviour during working days. People who didn't travel in the day are anyhow included in the sampling and reporting. In order to reduce distortive effects related to mobility (rare events as meteorological factors) interviews are distributed in different week days.

Trip

For data detection in AUDIMOB survey, a trip is considered as "*any move to reach a destination*"²¹. Less than five minutes walking trips are not included in data collection. Trips performed by professionals are not recorded in the survey.

The survey detects every trip performed the day before the interview, the mode used, the origin and destination (Municipality ISTAT code), the purpose of the trip, the frequency with which it is performed (i.e. every day, several times a day, weekly, monthly, occasionally), the travelled distance (in km) and time (in minutes).

No geographical boundaries are established in the survey design. Origin and destination are recorded using the Municipality Code provided by the National Statistical Institute, ISTAT²². When a trip is made within a city, the origin and destination codes are the same; when moving from one city to one other, origin and destination codes are different. If cities are in different regions, this is highlighted by ISTAT codes, as they entail the region code as well.

Trip purposes are recorded and activity-based boundaries are taken into account in the survey. Not all reasons provided by interviewees are listed in the report, rather they are reallocated in one of the following three categories:

- › work or study
- › family life managing
- › spare time

Distance

The reporting period of the survey is the day preceding the interview, always a working day. In order to achieve more reliable average results, data collection is performed along the year: May, June, July, October, November, December, starting from 2012. From 2000 until 2011, it was performed in February, March, April, May, June, October, and November.

Distance and time are collected separately and estimated by the person being interviewed (self-estimation).

The interviewer records data provided by the respondent using software. In order to correct not accurate distance estimates, the software has an embedded control system which warns in case of incongruity between transport mode used, distances declared and trip duration (e.g. too fast / too slow). This is performed by calculating the difference between the real distance from one city to another and the self-estimated distance provided by the respondent.

¹⁹ AUDIMOB Reports, available at the address: <http://www.isfort.it/>

²⁰ On line data request form, available at the address:
http://www.isfort.it/sito/statistiche/Regionali/Dati_regionali.asp

²¹ MOVE-24 Country Questionnaire – Italy – ISFORT answer to question 4.1.

²² www.istat.it, last accessed on 2016, June 13th

Moreover, the survey relies on an ex-post control system based on geographic coordinates, which calculates the difference between the real distance from one city to one other and the self-estimated distance provided by respondents, in order to assess the reliability of their estimations.

5.2 Mobility Survey in Rome Municipality

RSM collects data by means of two methods:

- › a survey on urban mobility, using a CATI (Computer-Assisted Telephone Interviewing) system,
- › a traffic counts systems, based on an automatic counting method, installed in the urban area

RSM also relies on National Census data, undertaken by ISTAT²³ at national level every ten years.

Population

Mobility Survey in Rome Municipality, year 2013, was carried out using CATI (Computer-Assisted Telephone Interviewing) system on a sample size of 36,000 citizens, representing 1.2% of the total urban population.

Only mobile population (people who can travel outside their homes) is included in the sample and the sample age limit is 14 years old.

Availability of data depends on its type. Data collected by Mobility Survey in Rome Municipality are not elaborated into an official publication with descriptive statistics freely available, for example a report. Furthermore, the description of data collection method, the design of data collection, questionnaires used for surveys, the codebook and metadata and the origin/destination (O/D) matrices are available only upon request. Microdata and interactive analysis tools are not accessible.

Trips

In Mobility Survey in Rome Municipality, year 2013, the definition of trip is “a *journey composed by the sum of single trips*”²⁴ and all transport modes used by a citizen during the trip are recorded, including walking and waiting time.

The survey foresaw activity based boundaries and it recorded only trips related to working reasons (and trips made by professionals).

Distance

The reporting period of the survey was a predefined survey day.

Distance and time were collected separately and estimated by interviewees (self-estimation). Moving on to the distance, the survey detected duration of the trip, later collected and converted into distance.

Traffic counts

Traffic counts use automatic counting methods. They count pedestrians and cyclists passage separately. RSM did not provide information on the duration of the counts and on the location chosen to install traffic count devices.

²³ www.istat.it, last acceded on 2016, June 13th

²⁴ MOVE-24 City Questionnaire – Rome – RSM answer to question 4.1

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SMARTSET Projects official website – available at the page <http://smartset-project.eu/partner/rome-mobility-agency>, last accessed on June, 24th

C.16 LATVIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
PTP-Cycle	Personalised Travel Planning for Cycling

SUMMARY TABLE

National surveys

Mobility survey of Latvian population 2008

City-level surveys

Automatic cyclist counts on the bridges in Riga real-time

Manual counts of cyclists irregular

PTP-Cycle 2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Latvia	2.7	pkm/day	total	2008
Riga	no data			

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Latvia	3.9	pkm/day	total	2008
Riga	no data			

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Latvia	no data	
Riga	7.8	definition unknown

Statistics on cycling infrastructure (km), by type of infrastructure

	Latvia	Riga
Cycle track	-	25
Cycle street	-	-
Bus and cycle lane	-	19.1
Contraflow cycling	-	-
Cycle lane	-	6
Advisory cycle lane	-	4
Total	-	-

1 Context

According to the Latvian Ministry of Transport and Communication, data on walking and cycling is currently not collected at a national level. The local governments carry out some counting activities at an urban level, but they are often irregular and not systematic.

However, in 2008 the Central Statistical Bureau of Latvia carried out a survey called "Mobility survey of Latvian population". The survey evaluated the daily mobility needs of the population. It covered all the trips undertaken by the respondent the day prior to the survey. It included information on the origin, destination, mode of transport and purpose of the trip. The next survey on passenger's mobility will possibly be carried out in 2018 and Eurostat Guidelines on Passenger Mobility Statistics 2016 will be used for methodology. Furthermore, the descriptive statistics of the results are not available.

According to Riga City Council Traffic Department, in the last 7-8 years there has not been any comprehensive study in Latvia or Riga on walking and cycling. In 2015, some data on cycling was collected as a part of the EU supported project "PTP-Cycle". However, the data was collected only for some cities. Furthermore, Latvian Cyclists Association ("*Latvijas riteņbraucēju apvienība*") counts twice per year a number of cyclists on the bridges in Riga.

Finally, the national census conducted in 2011 did not include questions on walking and cycling (Latvian National Census, 2011).

2 Challenges related to data collection

Friendliness

According to the interviews conducted with representatives from the Ministry of Transport and Communication and Riga City Council, walking is perceived friendlier than cycling in the country. On a scale from 0 to 10, '0' being bad and '10' being excellent, walking was assessed with a 7, whereas cycling only with a 5. The situation is a bit better in Riga, where walking is assessed with an 8 and cycling with a 6.

It was mentioned that walking infrastructure is successfully developed in the central parts of urban areas where pedestrian have full priority. However, outside the central parts and urban areas often there is no appropriate infrastructure in place. With regard to cycling infrastructure, it was noted that until now it was developed at the expense of pedestrians, for instance, by dividing the sidewalks in two parts. The respondents stressed the importance of providing separate space for both pedestrians and cyclists. This can be achieved by developing new cycling lanes in the centres of urban areas with high population density.

Difficulties

One of the main challenges in data collection is lack of budget from municipality, thus the projects are often implemented with the EU support.

EU Action

Furthermore, the respondents see the need of the EU actions to support data collection in Latvia. For instance, the EU could facilitate collection of statistics on

Other statistics

cyclist in the city centres and interrelation between the number of cyclists and the developed cycling infrastructure on the bridges.

Statistics about road safety such as cyclist and pedestrian deaths/injuries, accidents are collected at a national level.

3 Active modes use

3.1 Walking

There are no recent data on walking neither at a national nor at an urban level. However, the Mobility survey of Latvian population conducted in 2008 recorded walking as one of the modes of transport. On average, a person walked 2.7 km per day in 2008.

3.2 Cycling

Data on cycling was collected at a national level through the Mobility survey of Latvian population in 2008. On average, a person cycled 3.9 km per day in 2008.

In Riga, data on cycling is collected as a part of the "PTP-Cycle" project and by Latvian Cyclists Association, however it is not systematic and lacks common approach.

› PTP-Cycle project

PTP-Cycle¹ is a project aimed at changing travel behaviour among households, universities and workplaces in European cities including Riga.

During the first implementation phase of the project (2014), 2,034 households were visited by consultants and 1,128 participants of the public events had personalised travel planning conversations. In total, 1,512 questionnaires about mobility patterns were completed and 1,117 different marketing materials were distributed (PTP-Cycle, 2016).

According to the evaluation survey of the "PTP-Cycle" project, in 2015 7.8% of the population cycled, whereas in 2014 it was 6.1%. The definition of cycling used in the evaluation survey included pedalling without any motorised support and did not include e-bikes and mopeds.

› Latvian Cyclists Association

Latvian Cyclists Association has been organizing cycling counts since 2008 and they are the only organization that provides statistics on cycling trends in Riga. The counting is performed in order to record growth trends and to advise local government on the necessary cycling infrastructure.

According to Latvian Cyclists Association, the overall number of cyclist in Riga in the period 2013-2014 continued to grow steadily. In 2013, the most cyclists used

¹ More information about the project can be find in the following link: <http://ptpcycle-europe.eu/about/>

Vansu bridge in Riga, while the least Zemitanu bridge. Furthermore, the proportion of women has increased by 4% in 2013 and amounts to 35% of the total number of cyclists. Thus, the data confirms that the majority of everyday cyclists are still men (65%).

4 Infrastructure

4.1 Walking infrastructure

The walking infrastructure in Latvia is regulated by '[General planning, use and building regulations](#)' that determines general requirements in local development planning, land use and construction. Furthermore, the duties of pedestrians and passengers are defined in [the Rules of Road](#).

4.2 Cycling infrastructure

The cycling infrastructure in Latvia is regulated by '[General planning, use and building regulations](#)' that determines general requirements in local development planning, land use and construction. In addition, '*Road design specifications: Part 9 Cycle Traffic*'² determines cycling infrastructure design requirements. '[Regulations on the state and municipal road routine maintenance requirements and their follow-up](#)' cover roads, bridges and maintenance of bicycle paths.

There is no data on cycling infrastructure in the country, whereas in Riga there are 25 km of cycle tracks, 19.1 km of bus and bicycle lane, 6 km of cycle lane and 4 km of advisory cycle lane (interview with Riga City Council, Traffic Department).

5 Data collection methods

The data collection methods for the Mobility survey of Latvian population 2008 and PTP-Cycle 2014 project in Riga are presented in the sections below.

5.1 Mobility survey of Latvian population

Latvian Statistical Bureau conducted the mobility survey in 2008. The data was collected through face-to-face interviews and stratified random sampling was used.

Population

The urban population sample size was calculated accordingly to the population: 7 cities of Latvia separately, the total sample – 6,500 private households. Only people in age of 5 or older were participating in the survey. Total population and people who did not travel in the day were included in the sampling.

² It is not available free of charge, but it is possible to buy it.

Trip	The trip was defined as ' <i>a series of stages connecting two activities</i> '. All transport modes were recorded. The trip's purpose was also recorded. Professionals such as postal workers were not included in the survey.
Distance	The reporting period of the survey was predefined survey date. Geo-location was used to record the distance. The minimum distance recorded was > 1 km. Seasonal variations were not taken into account.

5.2 PTP-Cycle Riga 2014

As a part of the PTP-Cycle project, Riga City Council and other partners collected data on cycling in Riga. The main data collection method was survey with phone and face-to-face interviews and email/web interviewing.³ The most recent data was collected in 2015, however data is not periodically collected.

Population	The urban population size was 90,782 (for 2014) and random sampling was used. Only people in age between 18 and 64 were participating in the survey. Total population was included in the sampling. Furthermore, people who did not travel in the day were excluded from the sampling.
Trip	The trip was defined as ' <i>a trip from home to work or from university to home</i> '. All transport modes were recorded within greater city area. The survey was activity based and the purpose of travelling (e.g. work, study, etc.) was recorded. Professionals such as postal workers were included in the survey.
Distance	<p>The survey was based on general behaviour of the respondents and was not recorded for a specific time period (e.g. weekday before, last week, etc.), thus the data collection may not be very accurate/representative. The following questions were asked:</p> <ul style="list-style-type: none"> › How many times per week do you use the following forms of transport? <ul style="list-style-type: none"> › walking, bicycle, motorcycle, tram or bus, train, car › How many days a week do you usually go to work? › What is the distance from your home to the place of work (the distance "door to door")? › What is the average time spend traveling from home to work (one way)? <ul style="list-style-type: none"> › Grouping: up to 1 h, 1 h, 1.5 h, 2 h or more <p>Seasonal variations were not taken into account. Duration and distance were collected separately and no minimum distance/time was set.</p>

5.3 Big Data

No Big Data were used as a part of data collection.

³ The questionnaire is available upon request

5.4 Traffic counts

Latvian Cyclists Association uses both automatic and manual traffic counts for data collection in Riga. Automatic counts are located on the bridges crossing river Daugava and they are usually recording 24/7. Manual counts depend on the purpose of the counting and the projects carried out.

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C.17 LITHUANIA

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – LITHUANIA

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SUMMARY TABLE

City-level surveys				
City Bicycle Paths Special Plan (survey, counts & big data)				2011
Walking: average daily distance travelled per person				
no data				
Walking: average number of trips per day				
no data				
Cycling: average daily distance travelled per person				
no data				
Cycling: average number of trips per day				
	Number	Unit	Population	Year
Lithuania	no data			
Vilnius	2.9	trips/day/person	total	2011
Cycling: percentage of the population cycling in the country/city				
no data				
Statistics on cycling infrastructure (km), by type of infrastructure				
	Lithuania		Vilnius	
Cycle track	-		34	
Cycle street	-		-	
Bus and cycle lane	-		-	
Contraflow cycling	-		1	
Cycle lane	-		57	
Advisory cycle lane	-		20.8	
Total	897		139	

1 Context

In Lithuania, data on walking and cycling is not collected at national level. The only data collected at a national level by Lithuanian Statistics Office is the length of bicycle paths in Lithuania. This data is available for 2012, 2013 and 2015. The length of bicycle paths is collected by the municipalities and sent to the Statistic Office for collection.

In Vilnius, data on cycling is collected by the municipality and Vilnius Transport¹ in connection to 'Vilnius Plan' and 'Vilnius City Bicycle Paths Special Plan'. No data on walking is available at an urban level.

Furthermore, the national census conducted in 2011 did not include data on walking and cycling (Lithuanian National Census, 2013).

2 Challenges related to data collection

Friendliness

According to the interviews conducted with representatives from the Ministry of Transport and Communication and Lithuanian Statistics Office, walking is perceived friendlier than cycling in the country. On a scale from 0 to 10, '0' being bad and '10' being excellent, walking was assessed with a 7, whereas cycling only with a 4. The situation is a bit better in Vilnius, where walking is assessed with a 7 and cycling with a 5. Such a difference in favour of walking at both national and capital level can be explained by lack of infrastructure and habit of cycling. Finally, it was stressed that there is a room for improvement in both walking and cycling.

Difficulties

As data on walking and cycling is not collected at a national level, there is no national method for data collection and as such there is no possibility of data comparison. It was also pointed out that data collected at an urban level is sometimes unreliable and inaccurate.

EU action

Some of the respondents emphasised the EU role in supporting comparable statistics and suggested to establish a common EU methodology on data collection on walking and cycling and introduce requirements for it. The statistics could be published on EUROSTAT website.

Big data

In Vilnius, Big Data is used to collect different data on cycling, however the full potential of it is still not utilized. The data is collected through different types of applications like Starva, Endomondo, dviraciumieste.lt. For instance, for European Cycling Challenge in Vilnius, Cycling365 app is used to track the distance and number of participants (as of 19-07-2016 there were 495 participants and 29,183 km cycled).

Other statistics

At a capital level, the data on cycling is collected in connection with the development of new bicycle paths in Vilnius (Vilnius City Bicycle Path Special Plan, 2014). However, the results are not publically available.

¹ <http://www.vilniustransport.lt/en/>

Furthermore, statistics about roads' safety such as cyclist and pedestrian deaths/injuries, accidents are collected at a national level.

3 Active modes use

3.1 Walking

Data on walking is not collected at a national level.

In Vilnius, according to the Vilnius City Bicycle Paths Special Plan report 35.5 % of respondents used walking as a main mode of transport in 2011.

3.2 Cycling

Data on cycling is not collected at a national level. In Vilnius data on cycling is collected as a part of 'Vilnius City Bicycle Paths Special Plan' by Vilnius Transport. They use different information sources such as surveys, traffic counts and Big Data (e.g. Starva, Endomondo, dviraciumieste.lt and ArcGIS web map). Then all the information is carefully analysed and assessed and some conclusions are drawn.

According to the Vilnius City Bicycle Paths Special Plan report, on average person in Vilnius made 2.9 journey per day in 2011. People used the following modes of transport: cars (38%), walk (35.5%), public transport (24.6%), bicycles (0.6%) and other (Vilnius City Bicycle Path Special Plan Solutions until 2020, 2014). With the strategic focus on developing cycling infrastructure in Vilnius, it is expected that the use of bicycles will increase to 5% by 2020.

4 Infrastructure

4.1 Walking infrastructure

Ministry of Transport and Communication sets requirements and guidelines for the quality of pedestrian and cycling infrastructure in Lithuania. Those requirements are covered in '[Pedestrian and Bicycle Paths Design Recommendations R PDTP 12, 2012](#)'. They cover pedestrian and bicycle paths basic planning, design, installation and maintenance requirements.

According to Vilnius Transport, dedicated pedestrianised zones exist in the biggest cities such as Vilnius, Kaunas, Klaipeda and Siauliai. However, they are not mapped and therefore more detailed information is not available.

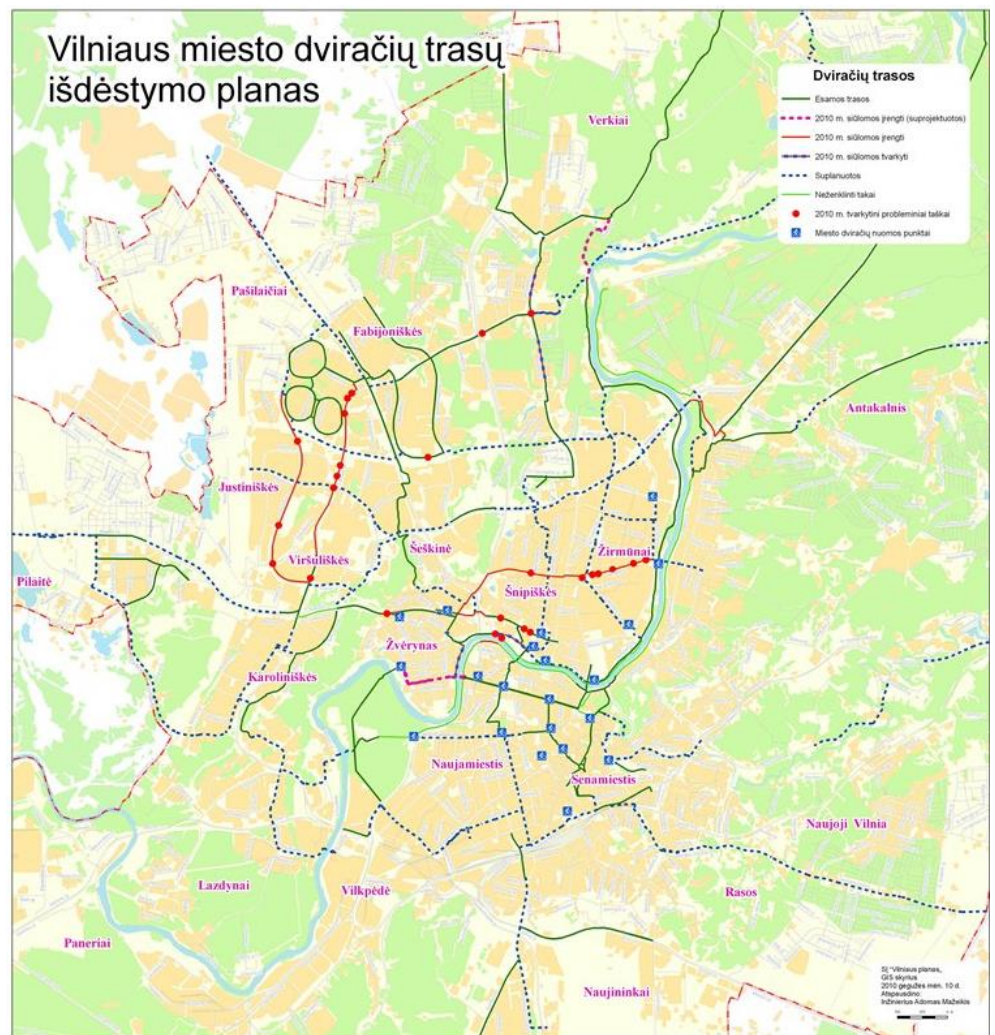
4.2 Cycling infrastructure

According to Lithuanian Statistics Office (2014), there are 897 km of bicycle paths in Lithuania, out of which 139 km in Vilnius. These numbers represent the separate bicycle paths and they are not differentiated per type. The only differentiation by

type is available in Vilnius. There are 34 km of cycle track, 57 km of cycle lane, 20.8 advisory cycle lane and 1 km of counter flow cycling.

As a part of 'Vilnius City Bicycle Paths Special Plan', the municipality plans to develop new bicycle paths in Vilnius. Figure 1 maps the existing bicycle paths, proposed to develop and reconstruct and planned paths. For instance, the green line represents the already existing bicycle paths.

Figure 1: Vilnius Bicycle Path Plan



Sources: http://www.vilnius.lt/lit/Vilniaus_miesto_dviracių_trasų_išdėstymo_/3605

As for walking infrastructure, the recommendations '[Pedestrian and Bicycle Paths Design Recommendations R PDTP 12, 2012](#)' cover main requirements for cycling infrastructure. They cover bicycle paths basic planning, design, installation and maintenance requirements.

In Vilnius, there is a special quality standard for urban planners called '[Bicycle Transport Quality Standard in Vilnius](#)' that covers safety, continuity, comfort, attractiveness, sustainability and 'must haves' check list.

5 Data collection methods

5.1 Vilnius City Bicycle Path Special Plan

As a part of Vilnius City Bicycle Path Special Plan, Vilnius Transport collects data about bicycle use in the city.

Methods

Vilnius Transport uses several methods to collect data, namely surveys, Big Data and traffic counts. The most recent data collect was in 2014 and it is repeated every 6 years. The descriptive statistics are not available online, whereas data collection description, questionnaire, codebook and metadata can be available upon request.

The population sample size is not available, but random sampling was used. Different survey methods such as phone and face-to-face interviews, email/web interviewing and GPS tracking were used. Only mobile population who can travel outside their home was included in the survey. Furthermore, people who didn't travel in the day are included in the sampling.

Trips

The trip is defined as '*a trip from the start point to the end point*'. Only the main mode is recorded and cycling is derived or estimated. Only trips within core and greater city area are considered. The survey is trip based and the purpose of travelling is recorded. Professionals such as postal workers are not included in the survey.

Distance

The reporting period of the survey is weekday before as well as 7-day diary and no seasonal variations are taken into account. As only main mode of transport is recorded, the length of a trip is recorded using GPS tracking from Service Providers. Only distance is collected.

5.2 Big Data

Big Data from Service Providers (GPS tracking) is used by Vilnius Transport to establish routes, validate travel surveys, assess and map the bicycle infrastructure and its friendliness. The following Big Data sources are used:

- › Strava (<https://www.strava.com>)
- › Dviraciumieste.lt (<http://dviraciumieste.lt/>)
- › Endomondo (<https://www.endomondo.com>)
- › European Cycling Challenge 2016 heat map (<http://cyclingchallenge.eu/gps-data-collection?teamid=571e185e88c537c65d9fa1ae>)

In addition, different information is then continuously collected in ArcGIS web map: <http://sisp.maps.arcgis.com/apps/webappviewer/index.html?id=9bd77b54d86a43c1afa924ff55700946> and inventory of bicycle infrastructure is performed. The ArcGIS map is then used to identify and solve infrastructural problems. It also helps to track the progress of improving the bicycle paths in Vilnius.

Furthermore, Vilnius Transport is cooperating with JCDecaux in collecting and analysing data about the use of rental bicycles [CycloCity Vilnius](#), so called 'orange

bicycles' in Vilnius, and based of this they generate data on trips, distance, duration and other.

5.3 Traffic counts

Both automatic and manual traffic counts are used in Vilnius. In some intersection in the city centre, detectors were installed recently to count the flow of cyclists and their average speed. The data is collected 24/7 and is stored on a server. Manual counts are also used to collect data. The information is then carefully analysed and compared with other sources and some conclusion are made based on all available data.

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C.18 LUXEMBOURG

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
MDDI	Ministry of sustainable development and infrastructure

SUMMARY TABLE

National surveys

Sondage Mobilité Douce du MDDI 2014

Walking: average daily distance travelled per person

no data

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

no data

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Luxembourg	23	cycled in the past week
Luxembourg	45	cycled in the past month
Luxembourg	60	cycled in the past year
Luxemb. City		<i>no data</i>

Statistics on cycling infrastructure (km), by type of infrastructure

	Luxembourg	Luxemb. City
Total	612	<i>no data</i>

FOOTNOTE:

"Cycled in the past year" is considered the best fit for cycling population.

1 Context

Data collection on cycling is limited in Luxembourg and no data is collected on walking. This country report contains information on both country and city level.

The data presented in this report was collected in 2014 for the *Sondage Mobilité Douce du MDDI*. This data collection exercise is carried out every three years.

2 Challenges related to data collection

Friendliness	The friendliness for walking and cycling in the country of Luxembourg is rated rather mediocre, with 6 out of 10 points for walking and 5 out of 10 points for cycling. The assessment concerning the city of Luxembourg is slightly better, with 8 out of 10 points for walking and 6 out of 10 points for cycling.
Difficulties	No distinct difficulties are encountered when collecting statistics on cycling. Good permanent counters exist. However, the information collected/processed is not adapted to the needs of this study. In the city of Luxembourg, the collection of statistics on cycling proves challenging, because of the large number of major road works.
EU action	It could be helpful, if the EU provided a definition of metrics, to enable comparability of data internationally.
Other statistics	In addition to the statistics presented in this country report, a national poll on cycling and walking was carried out in 2014. In addition, nationally representative polls on cycling and walking conducted in 2014. To be repeated in 2017.

3 Active modes use

3.1 Walking

Definition of walking includes walking stages in multi-modal trips but excludes walking times and other active modes, however no data on walking is collected.

3.2 Cycling

The definition of cycling applied in the survey includes e-bikes in addition to pedalling without motorised support. 23 % of the population replied that they cycled during the past week, an additional 22 % cycled during the past month and another 15 % cycled during the past year – amounting to a total of 60 % of the population having cycled during the past year.

4 Infrastructure

4.1 Walking infrastructure

No information on walking infrastructure are available.

4.2 Cycling infrastructure

Regarding cycling infrastructure, a document providing guidelines and regulations, particularly with regards to width, free height of different types of cycling infrastructure is currently in progress. At this stage, the document called "*Reglement Grand-Ducal*" is not publically available. The city of Luxembourg follows the guidelines described in the document "*Avis de la Commission de circulation de l'Etat - la circulation cycliste sur la voie publique*" (2001)¹.

This document, however, is outdated and will be updated in 2017. Dedicated pedestrianised streets/areas exist in Luxembourg City, while shared-space streets/areas exist in the city of Esch. No information is available on their area or distance.

According to the MDDI, at least 612 km of cycling infrastructure exist in Luxembourg as a country. This number cannot be further broken down to detailed infrastructure types. The following types of cycling infrastructure exist: Cycle tracks, bus and bicycle lanes, contraflow cycling, cycle lanes, and advisory cycle lanes.

According to the municipality, there are 156 of cycling infrastructure in the city of Luxembourg. Among those 1.6 km of cycle tracks, 2.4 km of bus and bicycle lane, 6.6 km of contraflow cycling, 19.1 km of cycle lanes and 10.2 km of advisory cycle lanes.

5 Data collection methods

5.1 *Sondage Mobilité Douce du MDDI*

The data presented was collected in 2014 for the *Sondage Mobilité Douce du MDDI*. This data collection exercise is carried out every three years. None of the data is publicly available, the following data types are available upon request: Data collection description, Data collection design, Questionnaire and Descriptive statistics. The collected data is not reported at urban level.

Population

181 interviews were carried out in urban areas (i.e. in Luxembourg City). The sampling is stratified by education, age, gender and nationality. Survey methods used for the *Sondage Mobilité Douce* are via phone (including CATI) and E-mail (including CAWI). Respondents have to be six years or older; apart from that the

¹ <http://www.pch.public.lu/fr/pistes-cyclables/circulation-cycliste-voie-publique-avis.pdf>

whole population including people who did not travel in the day are sampled in this survey.

Trips A trip is defined as one mode of transport as part of a mobility chain. For walking, there is a distinction between <100m and >100m. The survey is trip-based and all modes of transport are recorded.

Distance A predefined survey day is used as reporting period of the survey. Seasonal variations are taken into account, but only to that extent that people are asked, whether they changed their travel habits because of bad weather. Duration and length are recorded by self-estimation, while the distance is not collected at all.

5.2 Traffic Counts (Cycling)

The city of Luxemburg collects data on cycling through 12 counting stations located at strategic points for cycling traffic spread over the city. The counting method used in these traffic counts is automatic counting of the number of bikes crossing per hour with manual checks in case of suspected errors. Only cyclists are counted in these continuous traffic counts.

6 References

Ministry of sustainable development and infrastructure. *Sondage Mobilité Douce du MDDI, 2014.*

Guidelines on how to create cycling infrastructure. Available at www.pch.public.lu/fr/pistes-cyclables/circulation-cycliste-voie-publique-avis.pdf

C.19 MALTA

SEPTEMBER 2016
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DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
NHTS	National Household Travel Survey
DMRB	Design Manual for Roads and Bridges Regulations
SIBIT	Sustainable Interregional Bike Tourism project
BAG	Bicycle Advocacy Group

SUMMARY TABLE

National surveys

National Household Travel Survey	2010
BAG National Bike Count	2015

Walking: average daily distance travelled per person
no data

Walking: average number of trips per day
no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Malta	11.3	pkm/day	conference attendants	2015
Valletta	<i>no data</i>			

Cycling: average number of trips per day
no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Malta	0.1	definition unknown
Valletta	<i>no data</i>	

Statistics on cycling infrastructure (km), by type of infrastructure

	Malta	Valletta
Cycle track	8	-
Cycle street	-	-
Bus and cycle lane	3	-
Contraflow cycling	-	-
Cycle lane	7	-
Advisory cycle lane	-	-
Total	-	-

FOOTNOTE:

The attendants of the conference are not representative for the mobile population.

1 Context

Walking and cycling as transport modes are not adequately developed in Malta.

Recently, cycling infrastructures have been developed in the country mostly thanks to some European projects targeted on tourism services improvement.

The Authority for Transport in Malta is currently setting up the Integrated Transport Strategy toward 2025, covering all relevant transport modes (land, public transport, maritime, and aviation) for the short, medium and long term. However, no explicit mention of active modes as transport modes appears on the official Strategy webpage¹.

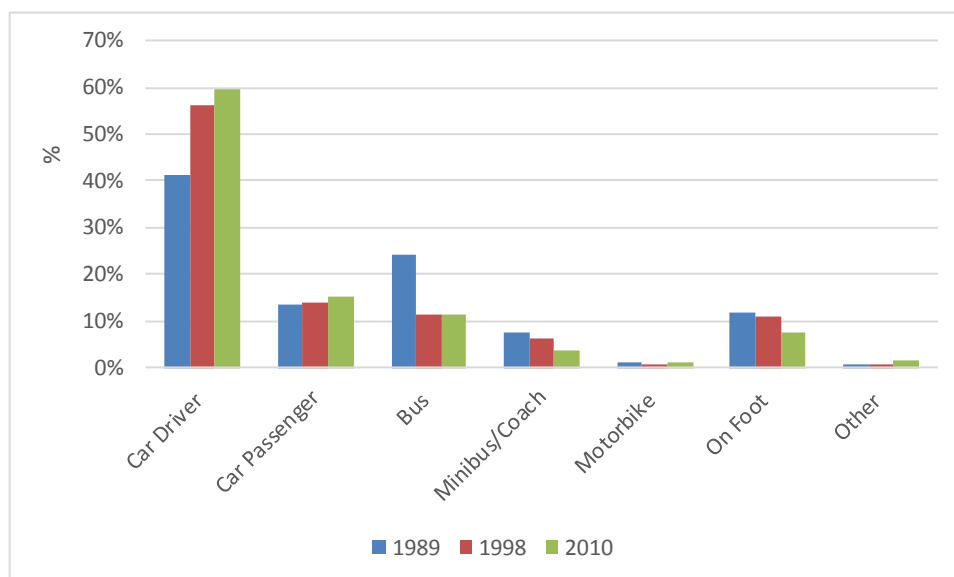
The Authority for Transport in Malta (also known as Transport Malta) is the regulatory authority for all modes of mobility in the island, specifically: Land Transport - Maritime Transport and Aviation. Transport Malta's mission is to improve and develop the transport sector in Malta by means of proper regulation and by the development of mobility infrastructures and services, for both businesses and citizens, locally and internationally².

In 2010, Transport Malta and the Ministry for Infrastructure, Transport and Communications, assigned to PricewaterhouseCoopers the task to conduct a National Household Travel Survey (hereafter NHTS, 2010). This survey was the third one specific on mobility in the country, after a first one performed in 1986 and a second one in 1998.

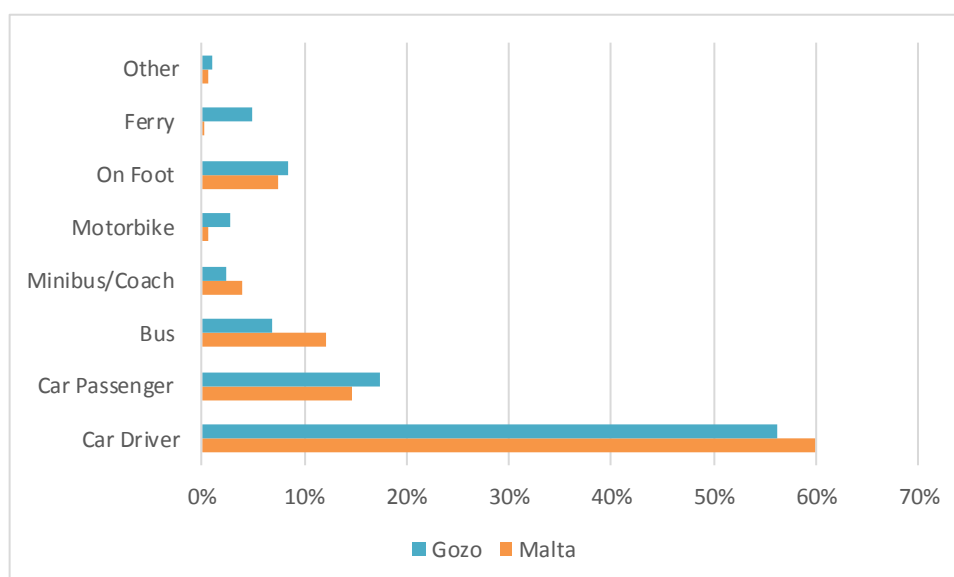
One of the most important result achieved by the National Household Travel Survey is an overview on the *modal split* (share of means of transport used for the different trips) and its evolution over the period 1989-2010. The graph below represents a visual representation of modal split evolution in Malta.

¹ Transport Malta (2016), National Transport Strategy and Master Plan, available at the website <http://www.transport.gov.mt/transport-strategies/strategies-policies-actions/transport-strategies-in-development/national-transport-strategy-and-master-plan>

² Authority for Transport in Malta official web site – available at <http://www.transport.gov.mt/organisation>

Figure 1 Comparisons of modes of transports³

Source: National Household Travel Survey, 2010

Figure 2 Comparisons of modes of transports³

Source: National Household Travel Survey, 2010

NHTS 2010 also provides a focus on Maltese main city as Gozo. Graph 2 shows the difference in the 2010 Modal Split, between Malta and Gozo.

For further statistics and information, NHTS 2010 is available at the following web link:

Transport Malta, Ministry for Infrastructure, Transport and Communications, PricewaterhouseCoopers (2010), National Household Travel Survey – available at the website <http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf> 20120502091559.pdf

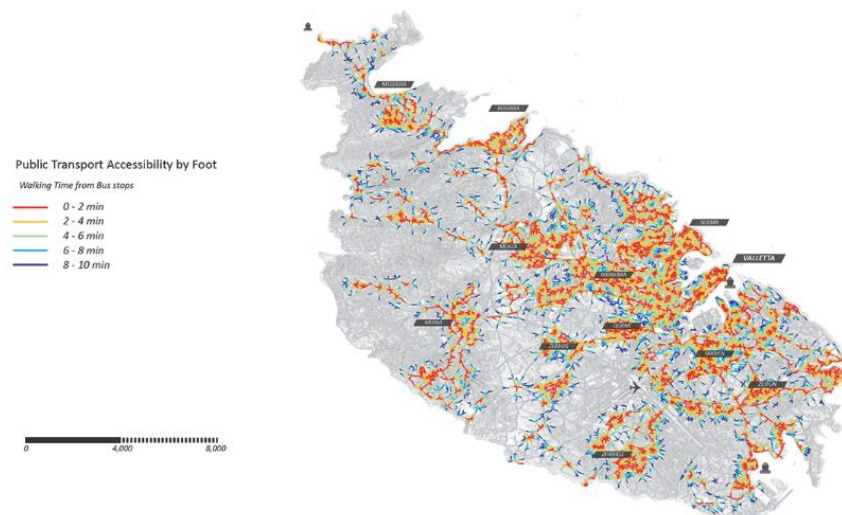
³ Cycling is considered as "other" in the graph

Transport Malta's Integrated Transport Strategy Directorate is setting up a National Transport Strategy (NTS) and a Transport Master Plan (TMP) covering all relevant transport modes (land, public transport, maritime, and aviation) for the short, medium and long term system evolution in the Island. Through the National Transport Strategy, "Government will develop a vision of where Malta wants to be in the long term, the strategic direction required to get there" (Transport Malta NTS National Transport Strategy 2050 and Transport Master Plan 2025). NTS will allow Malta to fulfil requirements to be able to access EU structural and innovation funds (2014-2020).

Together with the NTS and TPM, a National Transport Model (NTM) will be created to inform government and provide an integrated transport analysis. The ICT company Systematica⁴ is involved in NTM development, using innovative informative tools to define a diagnosis of Maltese transport sector in its state of art and to forecasts for multiple scenarios.

Data from NHTS2010 have been used to describe the state of the art on mobility habits in the country. More detail on Malta National Transport Strategy and Master Plan are available on Transport Malta dedicated web page⁵.

Fig. 1 Extract from NTM summary (2015)



Source: Systematica website – Malta NTM

BAG

Bicycle Advocacy Group (hereafter BAG) is an advocacy group for Maltese commuting cyclists. The group is as a platform for cyclists where they can share discussions and advices related to cycling services and infrastructures improvements, as well as common problems and difficulties. The Group also provides training for new cyclists, carries out advocacy work, political lobbying, networking with other organizations⁶.

⁴ Systematica website – Malta NTM available at the web page <http://www.systematica.net/?portfolio=malta-national-transport-model>

⁵ Transport Malta NTS available at <http://www.transport.gov.mt/transport-strategies/strategies-policies-actions/transport-strategies-in-development/national-transport-strategy-and-master-plan>

⁶ Bicycle Advocacy Group official web site – available at <http://www.bagmalta.org/>

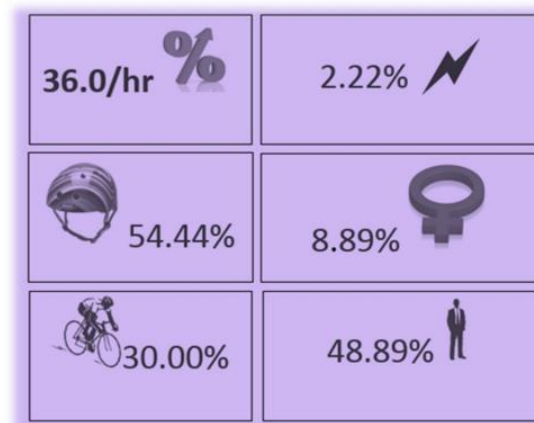
In February 2016, BAG organised a Cyclists' Consultation Conference⁷, to begin preparations for the launch of BAG Malta's road safety campaign, listen to cyclists' solutions, proposals and feedback on this topic, and present a wider perspective of the local cycling world. The Cyclist Consultation Conferences has also included an on line questionnaire addressed to participants (99 respondents) during the conference in order to investigate bike users' perception on road safety.

The complete report on Cyclists' Consultation Conference includes the rationale, the programme, questionnaire results descriptive statistics and final recommendation by BAG to improve road safety for cyclist⁸.

Moreover, in 2015, Bicycle Advocacy Group carried out a third national bike data collection based on manual counting method⁹, after a first and second one in 2012 and 2014. Volunteers from the BAG surveyed three different road intersections in Malta, recording the number of passages and other specific elements in people cycling in the area, such as the gender, their destination, the helmet use, and their attire. The aim of this data collection was to investigate on bike commuting trends.

The figure below is an overview of the main results. The number of cyclists passing over one-hour period was 36 on average and 90 in total. More than half of the sample had a helmet, about 9% of it were women, 2.2% used an e-bike, 30% were competitive riders, while a slightly under 50% of them had normal clothes¹⁰.

Figure 3 Summary of BAG National Bike Count 2015 Report PC03/15



Source: BAG National Bike Count 2015 Report PC03/15

The table below summarises results of this data collection and compares them with previous years. The total number of surveyed cyclists were 90, with an average of 36 passages per hour (a rise of 16.67% compared to 2014). The helmet use shows

⁷ Bicycle Advocacy Group (2016), Cyclists' Consultation Conference 2016 Report, Mosta, Malta

⁸ Ibidem

⁹ Bicycle Advocacy Group (2015), BAG National Bike Count 2015 Report PC03/15, Mosta, Malta

¹⁰ "The observation of normal clothing as opposed to the wearing of lycra is indicative of the acceptance of cycling as a normal way of getting around rather than the preserve of a sportsman or sportswoman simply getting to work" - Bicycle Advocacy Group (2015), BAG National Bike Count 2015 Report PC03/15, Mosta, Malta

a 2.75% increase while cyclists wearing normal clothes fell down of 8.09%. The survey also registered the e-bike use and the passage of competitive riders.

Figure 4 Comparison of BAG National Bike Count 2015, 2014 and 2012

2015 (36/hr)								
Overall	Sliema	St Julians	Luqa Airport	Helmet users	Normal clothing	Female riders	Pedelec use ¹	Comp riders
90	38	35	17	54.44%	48.89%	8.89%	2.22%	30.00%
36/hr	15.2/hr	14/hr	6.8/hr	Up	Down	Up	Down	New data
Up 16.67%	Up 7.89%	Up 22.86%	Up 23.53%	2.75%	8.09%	5.5%	0.39%	
2014 Like for Like adjusted – 75 (30/hr)								
	14.0/hr	10.8/hr	5.2/hr	51.69%	56.78%	3.39%	2.61%	
		Down 14.29%		Up 0.74%				
2012 St Julians/Balluta Only								
		13.2/hr		52.43%			16.00%	

Source: BAG National Bike Count 2015 Report PC03/15

The complete report entitled “BAG National Bike Count 2015 Report PC03/15” includes descriptive detailed statistics on data collected¹¹.

2 Challenges related to data collection

Friendliness	According to the respondents, the friendliness for walking and cycling in Malta is rated poor.
Difficulties	<p>the difficulties in collecting statistics on walking and cycling are related to the scarce number of human resources to involve as counters and also to a weak political determination.</p> <p>Moreover, Malta has a very low number of bicycle users, no walking advocacy and high motorization rate.</p>
Comparability	<p>Statistics on walking and cycling are not collected with regular frequency or in detail and for this reason they are not compared with others regions or city statistics.</p> <p>Nevertheless, in NHTS 2010 comparisons on modal split between Malta and other countries are provided. Moreover, because of the small size of Malta, in the survey descriptive statistics, the whole island is considered as a small European city, and compare to specific other cities within the EU¹².</p>
EU action	There is a need for the establishment of a coordinated European process to make available comparable statistics on walking and cycling among Member States and

¹¹ Ibidem

¹² Transport Malta, Ministry for Infrastructure, Transport and Communications, PricewaterhouseCoopers (2010), National Household Travel Survey – available at the website http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf_20120502091559.pdf

cities. This could also allow for the promotion of innovative methods to collect statistics such as big data, which are not used in Malta at present.

According to some stakeholders, EU support should consist on a call to action on counting cyclists and pedestrians.

Other statistics

Beside the number of walking and cycling trips performed, BAG collects statistics other statistics, i.e. gender split, e-bikes growth, helmet use and accident data. BAG does not use BIG data but growing GPS based data like Strava¹³ and the new local Vjagg App¹⁴ are potentially interesting. No other sources of specific information on walking and cycling in Malta with reliable data.

3 Active modes use

3.1 Walking

Definition

The definition of waling applied in NHTS 2010 includes walking stages in multimodal trips. Waiting times included in the walking time are considered part of the trip, while other active modes (e.g. skateboarding, roller-skating) are not considered as items to be recorder in the survey as walking.

Statistics

According to walking statistics provided by Transport Malta, the average number of trips per day is only available with walking and cycling modes in combination. In 2014 the amount of average number of combined walking and cycling trips were more than 93,000 per day¹⁵. In 2010, walking and cycling, together, represented 7.6% of the daily mobility modal share¹⁶.

3.2 Cycling

Definition

The definition of cycling applied in the surveys is pedalling without any motorized support included. E-bike and other forms of motorised vehicles are not referred as to cycling mobility. BAG uses similar definition for cycling, however e-bikes are included.

Statistics

As previously stated, in 2010, walking and cycling represented together 7.6% of the daily mobility modal share¹⁷. At present and according to Transport Malta sources, the percentage of the population cycling in the country is unknown.

¹³ Strava Support web site – available at the web page <https://support.strava.com/hc/en-us/articles/216917707-Bad-GPS-Data-What-Why-How>

¹⁴ Viagg App provided by the University of Malta – description available at the webpage <http://www.um.edu.mt/iccsd/projects/demandresponsivetransport/vjagg>

¹⁵ Transport Malta (2014), National Transport Strategy and Master Plan – available at the website <http://www.transport.gov.mt/transport-strategies/strategies-policies-actions/transport-strategies-in-development/national-transport-strategy-and-master-plan>

¹⁶ Transport Malta, Ministry for Infrastructure, Transport and Communications, PricewaterhouseCoopers (2010), National Household Travel Survey – available at the website <http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf> 20120502091559.pdf

¹⁷ Ibidem

According to BAG, the percentage of the population cycling in the country is 0.1%. The results from the survey carried out by BAG with a sample of the participants of the Cycling Conference indicated an average daily travelled distance of 11.3 km among the participants. We shall keep in mind the bias of the results due to the restricted group involved in the survey.

4 Infrastructure

4.1 Walking infrastructure

Data on walking infrastructure is not available.

Standards

The Design Manual for Roads and Bridges Regulations (DMRB) is the reference document in Malta for walking infrastructure quality and standards requirements. Based on the UK Design Manual for Roads and Bridges, the handbook has been prepared and adapted for use on national road schemes in Malta. Where the DMRB does not provide information, the UK version is used instead. The document is available at the following webpage:

Transport Authority (2003), The Design Manual for Roads and Bridges Regulations (DMRB), Malta – available at the webpage
[http://www.transport.gov.mt/admin/uploads/media-library/files/ROAD%20GEOMETRY%20JULY%202003%20\(DMRB-Malta\).pdf](http://www.transport.gov.mt/admin/uploads/media-library/files/ROAD%20GEOMETRY%20JULY%202003%20(DMRB-Malta).pdf)

4.2 Cycling infrastructure

Standards

As for walking, the Design Manual for Roads and Bridges Regulations (DMRB) is the reference document in Malta for cycling infrastructure quality and standards requirements. Besides, other guidelines are provided by the Highway Code¹⁸, with special regard to cycling infrastructures classification and definition.

Statistics

At present, the type of infrastructures more spread in Malta are bus and bicycle lanes type, whose extension is 5.5 km. According to BAG information, in Malta there are 8 km of cycle track, 3 km of bus and bicycle lanes and 7 km of cycle lanes.

Moreover, thanks to the EU funded project SIBIT (Sustainable Interregional Bike Tourism project) during 2007-2013 funding programme, over 1000 km of new cycling routes have been created in Malta and Gozo (2 in Malta and 1 in Gozo). These routes combine cycling experience together with some cultural and historical points of attraction and are mainly conceived to improve the touristic offer in the island¹⁹.

¹⁸ Transport Malta (2001), Malta Highway Code, available at the website <http://www.transport.gov.mt/roads-infrastructure/the-highway-code>

¹⁹ <http://www.visitmalta.com/en/cycling>

5 Data collection methods

5.1 National Travel Household Survey

The National Household Travel Survey²⁰ is undertaken approximately once every ten years. The first survey was in 1986, the second one in 1998 and the most recent one in 2010.

Data is available in a multidimensional matrix, with the 41,771 trips distributed according to origin, destination, mode of transport, time of trip, purpose of trip. Given the amount of data available, any combination of variables may be used to extract specific queries. A multidimensional matrix is neither available nor accessible. The only publicly accessible data is represented by the NHTS report, based on a sample of data which are considered to be important in terms of planning and national interest. Data collection description is publicly available and data collection design is available upon request.

NHTS results are reported at urban level, on residence basis according to the Transport Zone level (120 zones in Malta, 2014). NHTS2010 collected data about access to and from Valletta, looking in particular at public transport use and the recently introduced park-and-ride scheme, rather than with a focus on active modes of transport. The Valletta results showed an encouraging trend and a modal shift towards more sustainable modes in the last 12 years. The share of the bus has actually risen to over 53%, with the share of car drivers falling from 41.8% to 30.9% in 2010. The share of the coach/mini-bus increased from 1.6% to 4.0%, showing that there was a significant take-up in the park-and-ride scheme²¹.

Population

The sample selection for NHTS was taken from the local council electoral register and proportioned to a statistically representative number of households at a district level (with districts as defined by the National Statistics Office²²). Therefore, the total population was included in the sampling, without age limits. The list of households was selected according to the size of the local council areas within each district²³. In 2010 the population included in the survey was 6,000 households containing a total of 16,952 persons, whereof 6,666 actual responses. Between them, these people declared to have made 41,771 trips during the survey day²⁴.

Methods used for data collection were Phone interview (including Computer-assisted telephone interviewing - CATI), Face-to-face interviews (including

²⁰ Transport Malta, Ministry for Infrastructure, Transport and Communications, PricewaterhouseCoopers (2010), National Household Travel Survey – available at the website http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf_20120502091559.pdf

²¹ Ibidem

²² Malta National Statistic Office official website – available at the webpage <http://nso.gov.mt/en/Pages/NSO-Home.aspx>

²³ Transport Malta, Ministry for Infrastructure, Transport and Communications, PricewaterhouseCoopers (2010), National Household Travel Survey – available at the website http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf_20120502091559.pdf

²⁴ Ibidem

Computer-assisted personal interviewing - CAPI) and postal sending questionnaires.

Trips

The definition of Trip in the survey is “*a single mode stage of a journey*”²⁵. All transport modes are recorded; as an example a trip made of a walking trip followed by a trip by bus followed by another walking trip, corresponds to three different trips. Walking trips lasting less than 5 minutes are not taken into account.

Boundaries used are trip based, the trip purpose is recorder in the survey and classified as home based trips to workplace, home based trips to other destinations, non-home based trips to other destinations.

Distance

NHTS was made in a predefine day, established a priori without taking into account seasonal variations. The duration and distance of trips are collected separately and they are based on respondent self-estimation. A minimum time threshold of 10 minutes is required for every trip.

5.2 National Bike Count 2015

The National Bike Count 2015 carried out by BAG was based on traffic counts methods for cycling trips²⁶ while the Cyclists’ Consultation Conference carried out in 2016 was a survey based on a questionnaire. Both of them have a periodicity of one or two years, depending on the human resources (mainly volunteers) available.

Data collection description, data collection design, the questionnaire and the resulting descriptive statistics are available only upon request.

Both the National Bike Count and the Cyclists’ Consultation Conference are reported at urban level, on counts bases (at nodes/junctions) and on residence basis the second one.

Population

The questionnaire of Cyclists’ Consultation Conference was completed by a sample of 99 randomly selected persons. They were selected among the conference participants who received the questionnaire by email.

Trips

The definition of Trip in the survey is “Any journey (including sports activity) carried out on a bicycle”²⁷. Only trips involving cycling were recorded, also when estimated as a part of multimodal trip.

With regard to the National Bike Count 2015, geographical boundaries were used as only trips in specific locations provided with counters were detected. These locations were 1. The Strand, Sliema. 2. Ballutta Bay Promenade, St Julians. 3. Airport Roundabout. 4. Qormi Roundabout (between Luqa, Mdina/Zebbug, Marsa and Qormi). According to the bikers’ attires, they were classified by counters as either commuters or athletes.

Distance

National Bike Count 2015 were performed in a predefined survey day (2.5 hour morning rush hour traffic) established a priori without taking into account

²⁵ MOVE-24 Country Questionnaire – MALTA – Transport Malta, answer to question 4.1.

²⁶ Bicycle Advocacy Group (2015), BAG National Bike Count 2015 Report PC03/15, Mosta, Malta

²⁷ MOVE-24 Country Questionnaire – MALTA – BAG, answer to question 4.1.

seasonal variations. Only distance, based on respondent self-estimation, was recorded.

6 References

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Visit Malta Official Website, available at <http://www.visitmalta.com/en/cycling>

Malta National Statistic Office official website – available at the webpage <http://nso.gov.mt/en/Pages/NSO-Home.aspx>

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C.20 NETHERLANDS

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
OVIN	Onderzoek Verplaatsingen in Nederland
CBS	Statistics Netherlands

SUMMARY TABLE

National surveys

OVIN survey	2014
Annual bicycle count (manual & automated)	annual
App de Fiets!	real-time

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Netherlands	0.81	pkm/day	total	2015
Amsterdam	1.19	pkm/day	total	2013-2015

Walking: average number of trips per day

	Number	Unit	Population	Year
Netherlands	0.47	trips/day/person	total	2015
Amsterdam	0.71	trips/day/person	total	2013

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Netherlands	2.55	pkm/day	total	2015
Netherlands	0.232	pkm/day	total (e-bikes)	2015
Netherlands	2.335	pkm/day	total (not e-bikes)	2015
Netherlands	5.56	pkm/day	cycling	2015
Amsterdam	3.27	pkm/day	total	2013-2015
Amsterdam	0.02	pkm/day	total (e-bikes)	2013-2015
Amsterdam	3.25	pkm/day	total (not e-bikes)	2013-2015

Cycling: average number of trips per day

	Number	Unit	Population	Year
Netherlands	0.72	trips/day/person	total	2015
Netherlands	0.048	trips/day/person	total (e-bikes)	2015
Netherlands	0.715	trips/day/person	total (not e-bikes)	2015
Amsterdam	0.85	trips/day/person	total	2013-2015
Amsterdam	0.01	trips/day/person	total (e-bikes)	2013-2015
Amsterdam	0.84	trips/day/person	total (not e-bikes)	2013-2015

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Netherlands	43	cycle every day
Netherlands	87	contrary to 13% that never cycle
Amsterdam		no data

Statistics on cycling infrastructure (km), by type of infrastructure

	Netherlands	Amsterdam
Cycle track	30,203	525
Cycle street	181	1.7
Bus and cycle lane	0	0
Contraflow cycling	-	-
Cycle lane	6,554	52.7
Advisory cycle lane	0	0
Total	36,938	579.4

FOOTNOTE:

The negation of the percentage of the population that never cycles is considered the best fit for cycling population.

1 Context

The Netherlands is Europe's leading country in terms of cycling, with approximately four in ten respondents (43%) of the Eurobarometer survey cycling daily, and only 13% never cycling. For walking, the country is at the other end of the spectrum, with fewer than half (42%) of respondents reporting that they walk every day (Eurobarometer, 2013).

The main source of statistics on walking and cycle use is the OVIN survey published by Statistics Netherlands (CBS). The most recent survey was conducted in 2015 and published in July 2016.

For Amsterdam, an oversampling is performed to obtain a representative sample of the capitals population, using the same questionnaire.

2 Challenges related to data collection

Friendliness	The rating '7' for both walking and cycling is a personal estimation, absolutely not a number substantiated by data and not an official number.
Underrepresentation	There is an underreporting of walking and to some extent also of cycling in most travel surveys, and OVIN is no exception; respondents tend to forget reporting of short distances (to bus station etc.).
Need for EU action	<p>EU action may be useful, for example draft guidelines for defining what trips should be collected.</p> <ul style="list-style-type: none"> • Other statistics SWOV collects data on traffic safety: http://www.swov.nl/NL/Actueel/Nieuws/20111021-Fietsspecial.htm • CROW Publicatie 24, Fietsberaad 2013. Feiten over de elektrische fiets. 85p. www.fietsberaad.nl
Big Data	<p>There is exploratory research on the use of big data for mobility statistics, but not specifically for walking and cycling.</p> <p>The App "de Fiets!" is increasingly used by volunteers. This is used to derive cycling statistics, which can be provided to national, provincial and local authorities.</p>

3 Active modes use

There is no strict definition of walking and cycling. However, according to the OVIN description (CBS, 2015), some other active modes (which are not precisely defined either) are included, e.g. cycling as passenger is included in cycling, walking with a pram is included in walking.

O/D matrices are not published, but can be calculated based on postcodes of the trip origins and destinations.

3.1 Walking

Skates, skaters (similar to skates, but with 5 wheels, used for long distances), kick scooters are recorded separately, but they are processed as “other”, so they are excluded from the active modes statistics.

Walking stages in multi-modal trips are recorded separately, yet in the processing only the main mode is used, so walking as part of a multi-modal trip is not represented in the statistics.

The statistics per person per day are calculated by dividing the total numbers of km (or trips) by the total (sample) population. Therefore people who didn't travel on that day are included.

Statistics

Table 3.1 Statistics on the average km/day and number of trips walked

	Km/day	Number of trips	Year
The Netherlands	0.81	0.47	2015
Amsterdam	1.19	0.71	2013-2015 average

3.2 Cycling

Cycling includes cycle passengers. Electric and non-electric bicycles are calculated separately.

Similar to walking, cycling stages in multi-modal trips are recorded separately, yet in the processing only the main mode is used, so cycling as part of a multi-modal trip is not represented in the statistics. Also, the statistics per person per day are calculated by dividing the total numbers of km (or trips) by the total (sample) population. Therefore people who didn't travel on that day are included.

Table 3.2 Statistics on the average km/day and number of trips cycled

	km/day	Number of trips/day	Year
The Netherlands	2.55	0.72	2015
The Netherlands Electric bicycles	0.2	0.048	2015
The Netherlands Not electric bicycles	2.3	0.715	2015
Amsterdam¹	3.27	0.85	2013-2015 average
Amsterdam Electric bicycles	0.02	0.01	2013-2015 average
Amsterdam Not electric bicycles	3.25	0.84	2013-2015 average

4 Infrastructure

Generally, there is not much information available about the kilometres of pedestrian streets and advisory cycle lanes in the country. However, information can be obtained in some cities if there is a wish for this.

The National Highway Code includes a definition of advisory cycle lane (fietsstrook). There is also a distinction between pedestrians, bicycle and mopeds in the use of infrastructure. There is signalisation about pedestrians and cyclists, and for pedestrians and cyclists.

4.1 Walking infrastructure

The cycling association has maps of footpaths which can be used as bike shortcuts (Routeplanner.fietsersbond.nl).

4.2 Cycling infrastructure



Ontwerpwijzer fietsverkeer are guidelines published by CROW. An updated version was published June 13, 2016. The guidelines differentiate types of cycling networks, and provide requirements on design speed, acceleration and breaking,


¹ These are trips in The Netherlands made by inhabitants from Amsterdam (private household members)

stability, curbs, view, slopes, coherence of the network, straightness, safety, comfort, attractiveness.

The Dutch cyclist association has the only database in The Netherlands having all the cycling tracks (Zeegers & Kamminga, 2014). These are used in the route planner (Routeplanner.fietsersbond.nl). The cycling network database is permanently updated by 500 volunteers. They map all the new cycling tracks, and 15 characteristics, including:

- Province.
- Municipality (415 municipalities, division situation medio 2011)
- 0 - 1 - 2 cycling directions
- Length of the cycle track section
- Type of road – profile: cycle track adjacent to the road

[=G11  _ or G13 ],

cycle and motorcycle track [=G12a  _],

- Mixed profile, i.e. similar but service road, advisory cycle lane, cycle street.
- Pavement: asphalt/concrete, paving clinkers, tiles, other, unknown)
- Cycle path width: measured as the number of bicycles that can cycle next to each other (0, 1, 2, 3, 4, 5, 6).
- Inside/outside built-up area

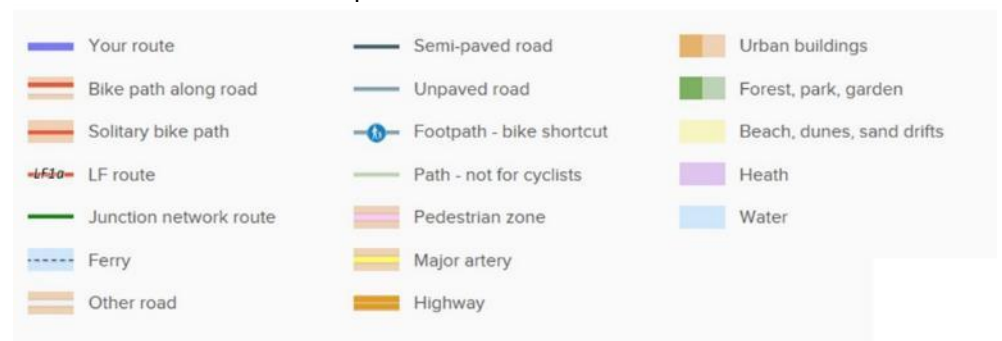


Figure 1. Cycling infrastructure data in the database of the Dutch Cycling association.
<http://en.routeplanner.fietsersbond.nl>

The database makes a distinction between one or two way cycle paths. The cycle path length is weighted: 2-way = 1. Since most 1-way cycle paths are at each side of the road, their weight = 0.5. Thus the total weighted length of both sides is equal to the length of the road segment.

Contraflow cycling on roads with 1-way motorized traffic is common in The Netherlands, but it is not considered as a separate cycling infrastructure. The cycling database includes if a road is 1 or 2 way for cycling, not the information for the cars. Therefore, the length of contraflow cycling is not available.

The recorded lengths of different types of cycling infrastructure (total 36,938 km) are issued from the database of March 2016. The database is continuously updated.

Figure 2. Cycling infrastructure data on The Netherlands

Cycling infrastructure	Km
Cycle track	30,203 km
Cycle street	181 km
Bus and bicycle lane	0 km
Contraflow cycling	NA
Cycle lane	6,554 km
Advisory cycle lane	0 km

Source: Dutch Cycling association (March 2016)

For Amsterdam, the length of the cycling paths in the Fietzersbond database is 579.4 km (**Error! Reference source not found.**). In the statistics of the city, it is 619.4 km (Gemeente Meerjarenplan Fiets 2012-2016). The < 7% difference could be due to a different way of treating 1-way cycling paths.

Figure 3. Cycling infrastructure data on Amsterdam

Cycling infrastructure	Km
Cycle track	525 km
Cycle street	1.7 km
Bus and bicycle lane	0 km
Contraflow cycling	NA
Cycle lane	52.7 km
Advisory cycle lane	0 km

Source: Dutch Cycling association (March 2016)

The increase in e-bike use creates safety problems related to infrastructure. The main issues are: the width of the cycling tracks, the underestimation of cyclists speed at intersections, and the quality of the pavement (CROW-Fietsberaad, 2013).

4.3 Standards in the National Highway code

The national highway code has specific definitions, traffic rules and signalisation for cyclists and pedestrians, translated and summarised as:

bicycle lane: part of the road delimited by a solid line or dashed line, on which a bicycle is drawn;

moped: motorcycle which, according to the data in the vehicle register or the issued registration certificate, is designed for a maximum speed of 25 km/h (...);

pedestrians include people walking while holding a motorcycle, moped or bicycle, or moving with the help of support devices other than vehicles.

5 Data collection methods

5.1 OVIN

The main source of statistics on walking and cycle use is the OVIN survey. The most recent survey was conducted in 2015.

Population

The total sample size is 42,721. This is not only urban population. In several provinces a larger sample of the population is surveyed. However, this is not normally the case for cities. There is one exception: the urban region of Amsterdam is reported separately.

The sampling based registered addresses are used to differentiate statistics by level of urbanisation (Figure 4). Around each respondents address, the number of addresses within a radius of 1 km is used to determine urbanisation levels:

- Extremely urban: > 2,500 addresses per km²
- Very urban: 1,500 – 2,500 addresses per km²
- Moderately urban: 1,000 – 1,500 addresses per km²
- Little urban: 500 – 1,000 addresses per km²
- Not urban: < 500 addresses per km²

The statistics for active modes use can thus be related to urban population.



Figure 4. Number of walking and cycling trips per person per day, by level of urbanisation

The oversampling in a province is performed upon request. This oversampled population is not reported in the national statistics.

OVIN is based on a sampling over the total population, i.e. every person registered in a municipality. The sampling is **not based on households, but on individuals**.

The population registered in a municipality is included. Exceptions: people living in homes, institutions.

Trips

The normal daily mobility is recorded, excl. vacation mobility. This is mobility during vacation, incl. the trip towards the vacation destination. Vacation is defined as a stay outside the house for recreation or pleasure, with at least 4 consecutive nights not spent with family or friends.

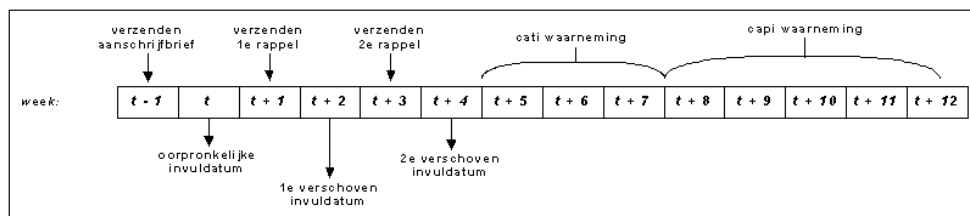
Trips made as part of a profession are recorded separately. To reduce the response burden, only start time, end time and total distance are recorded.

The professional trips are not included in the calculations of trips, distances and travel times per person per day (since 2014). They are included in the total person-km statistics.

In the number of trips per day a tour (origin and destination are the same), is counted as 1 trip.

Factor distance

The survey is spread throughout the year. Each respondent fills in 1 day. The predefined day may be modified if the response is not obtained in time:



5.2 National Census

No information on walking and cycling was found in the National Census publications.

5.3 Traffic counts

At national level, there is an annual bicycle count during one week in September, together with Flanders (Belgium). During this count manual and automatic counting methods are used. There is also an app that cyclists can download on their smartphone, and which is used to track cycle trips and calculates statistics.

Some provinces publish annual reports and/or factsheets, e.g.:

- http://www.gelderland.nl/bestanden/Documenten/Gelderland/05Verkeer-en-vervoer/2016-Q3/160527_fietsintensiteiten_2012_2015.pdf
- <http://www.meetel.nl/projecten-item/items/fietstellingen-provincie-overijssel-17.html>

5.4 Big Data

"App de Fiets!" Is an app that can be downloaded by cyclists. It currently has 55,000 downloads (18/07/2016). The app measures how to get from A to B, at which speed, at which times, with how many and where delays occur. Or, where the potential lies for a bicycle highway. It is used to calculate national, regional and

local statistics on distances, speed and trips. The data can be downloaded at a small cost. It is important to notice that there is a difference between these cycling statistics and those obtained from the travel survey. The average pkm recorded is 5.56 pkm/day. The difference can be explained by the fact that the app only measures distances cycled by cyclists, while the OVIN statistics divide the reported km cycled per day by the total population. Another reason may be the sampling bias of the population that downloads the app.

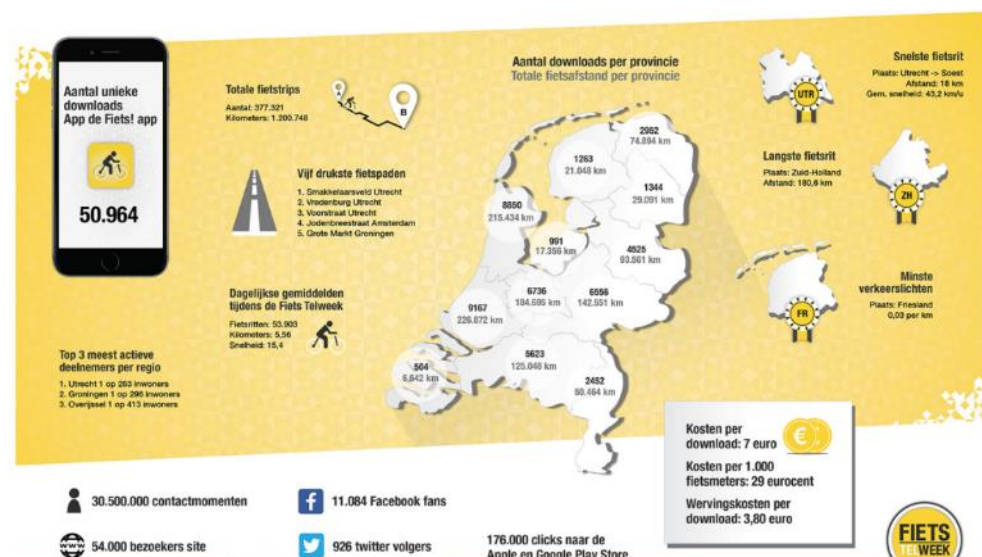


Figure 5. Statistics calculated based on the cycle app. www.fietstelweek.nl

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<http://www.ois.amsterdam.nl/download/414-verplaatsingen-naar-vervoerswijze-per-persoon-per-dag-afstand-en-reistijd-1994-2013-1.xlsx>. Last consulted 07/07/2016

<http://en.routeplanner.fietzersbond.nl/#route?locations=n642089,n563518&routetype=70&preferences=63>. Last consulted 18/07/2016

National Highway code. <http://wetten.overheid.nl/BWBR0004825/2014-03-20#HoofdstukI>. Last consulted on 08/07/2016

Ontwerpwijzer fietsverkeer <http://www.crow.nl/publicaties/ontwerpwijzer-fietsverkeer-2016?Vakgebied=infrastructuur;&page=1&searchsort=score&pagesize=10>. Last consulted on 08/07/2016

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C.21 NORWAY

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
NRPA	The Norwegian Public Roads Administration
ORVU	Oslo reisevaneundersøkelse
RVU	Den nasjonale reisevaneundersøkelse

SUMMARY TABLE

National surveys

National Travel Survey (RVU) 2013/2014

City-level surveys

Oslo Travel Survey (ORVU) 2013

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Norway	2.2	pkm/day	total	2013-2014
Oslo	1.3	pkm/weekday	total	2013

Walking: average number of trips per day

	Number	Unit	Population	Year
Norway	0.7	trips/day/person	total	2013-2014
Oslo	0.47	trips/weekday/p	total	2013

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Norway	5.1	pkm/day	total	2013-2014
Oslo	4.2	pkm/weekday	total	2013

Cycling: average number of trips per day

	Number	Unit	Population	Year
Norway	0.15	trips/day/person	total	2013-2014
Oslo	0.21	trips/weekday/p	total	2013

Cycling: percentage of the population cycling in the country/city

no data

Statistics on cycling infrastructure (km), by type of infrastructure

	Norway	Oslo
Total	<i>no data</i>	190

1 Context

Every four years Norway runs a national travel survey. In Oslo, a travel survey is also made every four years. Furthermore, additional initiatives towards increased cycling and walking are taken in Oslo. For example, Oslo runs a cycle project focusing on making Oslo a cycling city for everybody in the city.¹

As part of collection of data contact has been made with the Municipality of Oslo, in which a cycling project is running. Employees of this project have helped providing data based on their knowledge of the initiatives in Oslo regarding walking and cycling.

As addition to this, statistics have been used from the Oslo travel survey (ORVU) and the national travel survey (RVU).

Furthermore, contact has been made with *Transportøkonomisk Institutt* (Institute of Transport Economics - Norwegian Centre for Transport Research) where a researcher has been consulted in regards to challenges with data collection on walking and cycling.

Furthermore, The Norwegian Public Roads Administration has been consulted and delivered information to this case study.

2 Challenges related to data collection

Friendliness

In Norway, the friendliness for walking is rated 7 out of 10 for pedestrians as a rough overall estimate, based on the assessment that most Norwegian towns and cities are small/medium sized, with less traffic jam, noise and pollution than many other European cities. Pedestrians have right-of-way at pedestrian crossings, and drivers are generally considerate and obeying. The provision of sidewalks, pedestrian and bicycle lanes is fairly good, although with potential for improvements. Historic centres are most attractive than outskirts and sometimes with long distances, topography differ considerably.

The friendliness for cycling is rated 5-6 for bicyclists, based on an assessment that it varies a lot among Norwegian towns and cities, while some cities (Trondheim and Kristiansand) are bicycle friendly and also several medium sized and small towns.

In Oslo, the friendliness for walking is rated 8, and cycling is rated to 4. It has to be taken into account that these are personal assessments, which are not based on a random selection of answers by people.

Difficulties

One of the main issues with travel surveys is that the response rate is very low. Another problem is that people have a tendency of forgetting some of the short trips they make by foot or by bicycle. This reduces their apparent share of mode.

¹ About the cycle project. <https://www.oslo.kommune.no/politikk-og-administrasjon/etater-og-foretak/sykkelprosjektet/>

Different methodologies can also be challenging – both if trying to make a comparative analysis based on different travel surveys, and when trying to communicate why some surveys show a different mode share than other surveys.

In RVU trips that do not have a clear purpose/destination are not measured. E.g. taking a walk in the neighbourhood in the afternoon, or cycling in the forest without any destination. There are also problems related to measuring walking/cycling (especially the distance and time) when combined with other modes of transport on a trip. In general, there is a problem in the RVU with measuring the distance with different means of transport – this is due to errors in the precision of the start/end location of a trip (given by the respondents and then registered by the interviewer) and errors in respondents' self-evaluation of the distance on a trip.

Traffic counts in Norway Several municipalities have sporadic manual counts and automatic counters. A challenge with automatic counters is to know how accurate the different kinds are and what their systematic bias is, especially if comparing different locations. There are some challenges with automatic counters (inductive sløyfer) with snow and ice, as there also may be some problems with video in rain, snow, and darkness.

So far traffic flow data has not been analysed in a systematic way to know how pedestrians and bicyclists react to rain, low temperatures, wind etc. There is room for improvements as well as more experience when it comes to tools and methods for before and after studies, for both infrastructure projects, awareness and campaigns.

Traffic counts in Oslo The automatic counts in Oslo are primarily linked to passing cyclists, but there are a couple of places where also the pedestrians are counted.

The quality of the counting equipment can be problematic- not all cyclists that pass a counting site actually get counted. Few tests have been done in Oslo comparing manual and automatic counts. At some sites the automatic counts only catches as little as 50 % of the cycle-traffic, at other sites they count up to 10 % more cyclists than actually passes the site. Another issue is that cyclists sometimes use the pavement instead of the cycle lane, or that they use the lane for cars, which means that they will not be counted, and that the overall number of cyclists will be (further) underestimated. However, combining manual counts at the counting sites reduces the significance of the problem through making it possible to calculate the approximate number of cyclists if that information is needed for a specific project, for instance.

Another difficulty, again related to the quality of the equipment, is that the battery sometimes gets flat, or something else happens so that it does not register the passing cyclists for some while. When looking at the monthly data (for instance), the numbers cannot necessarily be trusted unless it is checked manually that the counting equipment did indeed count cyclists every day of the month, and that the pattern throughout the month looks normal. This is a time-consuming task, and a better and more automatic way of checking out the quality of the data would be very welcome.

Another third issue concerning the automatic counts is how representative the growth in the automatic count sites is to the general growth of cycling. Oslo has a target goal of a 25% modal share for cycling within 2025, which means that the average growth from 2013 needs to be 12%. So far in 2016 (January throughout May month), the growth in the automatic count sites has been 16 %. Does this

mean that Oslo is on the right track, or is the growth higher in the specific counting places than other places in the city?

Comparability

NPRA claims that both the National travel survey and the local and regional bicycle surveys are standardised, so that it is possible to compare. The challenge will be the number of respondents in each city, which will limit the possibility to split into subgroups.

In Oslo, they inform that the methodology used in the Oslo travel survey (ORVU), is somewhat different than the national travel survey (RVU). ORVU is limited to people between 18-75 and the national travel survey has a age limit on 13 year (no upper limit). Furthermore, ORVU is based on everyday travel and does not include weekend travel as RVU. The Municipality of Oslo is using the numbers from the ORVU, but when comparing the modal share with that of other cities, it is necessary to use the numbers from RVU. This is not a problem per se, but it can be hard to communicate in a comprehensible manner.

In regards to comparison in general especially between other countries, there are often differences in regards to how a trip is defined and measured in the different national travel surveys which will have consequences for how walking/cycling is measured.

EU action

NRPA highlights that it would be good to have standardised categories that should be used for travel surveys and for statistics from traffic counters. COST action C6, COST Action 358 and "Measuring Walking" (www.measuring-walking.org) project (Cost Action 358/Walk21 have gathered background information for such a work.)

In Oslo, they see the need for comparable statistics to the extent that this would provide better knowledge about the effect of different measures that could be used in planning for better infrastructure. If comparable statistics does not provide anything else besides a way of comparing modal share, etc., then the costs might likely be greater than the benefits. This is due to the importance of having a methodology within a country/city that ensures a comparable time-series and a way of benchmarking the city's own efforts.

An initiative to be taken could be making a standard for how to measure a trip, how to measure distance and time when different modes of transport are combined on a trip, and then also apply new technology for measuring use of different means of transport, distance and time with different means of transport. Overall, there is a wish for more precision in the measurements.

Big data

Transportøkonomisk Institutt is working on using big data but nothing has been applied yet.

The Norwegian Public Roads Administration (NPRA) informs, that there have been research and pilot projects on different ways to gather data on pedestrian movements etc. (tracing mobile phones, tracing both travel route and transport mode from mobile data, etc.).

Datalnn is going to be NPRA's big data tool. In Datalnn data will be collected from all datalogs in the country. Based on this analysis will be made and big data methods will be used.

The department of safety and environment at *Transportøkonomisk Institutt* is constantly trying out new methods to measure walking and cycling (in a traffic

safety perspective, primarily). This is done by using different mobile applications, and they have also developed one themselves.

Other statistics

NRPA collect data on all traffic accidents, also involving pedestrians and bicyclists. In Oslo all bicycle accidents were recorded at hospitals 2015 and all pedestrian accidents will be recorded in 2016. Harstad hospital record all accidents and has for a long time, this used to be done at four hospitals before but has ended. In Trondheim there was a pilot study (1996) where all hospital recorded bicycle accidents were located at maps.

3 Active modes use

3.1 Walking

There is no specific definition of walking in RVU but there is an "other" category which could be used to describe wheelchairs and other equipment described as pedestrians in traffic regulations.

The respondents are asked about waiting time when using public transport.

Statistics

Table 3.1 Statistics on the average km/day and number of trips walked per person

	pkm/day	Number of trips per person	Year
Norway²	2.2	0.7	2013/2014
Oslo³	1.3*	0.47	2013

*pkm/weekday

3.2 Cycling

There is no specific definition of cycling in RVU. It is possible to choose the active mode e-bike when answering the survey, but results are not reported separately.

Five percent of the trips in Norway are made by cycling. In Oslo, the percentage is also five. However, it depends on whether Oslo region (Oslo Omegn) also is included. Then the average percentage is 4.5 for Oslo.⁴

² Hjorthol, R., Engebretsen, Ø., Uteng, T. P., 2014, Den nasjonale reisevaneundersøkelsen 2013/14 – nøkkelrapport
<https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwisifD2nM3NAhXDBiwKHTdvB6UQFggdMAA&url=https%3A%2F%2Fwww.toi.no%2Fgetfile.php%3Fmmfileid%3D39511&usq=AFQjCNFdwv3Tq90k99PEeasyG6ZO1aJg&sig2=f-A-Vzj--nskAsEfeX-zhQ>

³ Oslo Kommune, 2013, Reisevaneundersøkelse (RVU) for Oslo 2013,
[http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20\(RVU\)%20for%20Oslo%202013%20travel%20study%20Oslo.pdf](http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20(RVU)%20for%20Oslo%202013%20travel%20study%20Oslo.pdf)

Statistics

Table 3.2 Statistics on the average km/day and number of trips cycled per person

	pkm/day	Number of trips per person	Year
Norway⁵	5.1	0.15	2013/2014
Oslo⁶	4.2*	0,21	2013

*pkm/weekday

The National Road Directive in Norway are counting cycles on a continuously basis. It is possible to see data for month and year and the development from year to year. It is stated, that the counts only are representative for the actual counting spot.⁷

4 Infrastructure

The NPRA informs that a total of 11.8 km of pedestrian zones are recorded, 4.7 of these in Oslo. These represent 58 sections (one pedestrian street might be recorded as more than one section). These are mainly shopping streets closed for motorised traffic except exceptions for goods delivery etc.

A total of 9,729.4 km of walking and bicycle paths. Data for *state*, *region*, *municipality* and *private* walking and bicycle paths is available. These bicycle paths are either combined pedestrian and bicycle paths or have pedestrian facilities parallel to the bicycle path.

For 161 km the streets have bicycle lanes marked at the same level as car traffic, on one or both sides of the street.

⁴ Hjorthol, R., Engebretsen, Ø., Uteng, T. P., 2014, Den nasjonale reisevaneundersøkelsen 2013/14 – nøkkelrapport
<https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwisifD2nM3NAhXDBiwKHTdvB6UQFggdMAA&url=https%3A%2F%2Fwww.toi.no%2FgetFile.php%3Fmmfileid%3D39511&usg=AFQjCNFdwv3Tq90k99PEeasyG6ZO1aJg&sig2=f-A-Vzj--nskAsEfeX-zhQ>

⁵ Hjorthol, R., Engebretsen, Ø., Uteng, T. P., 2014, Den nasjonale reisevaneundersøkelsen 2013/14 – nøkkelrapport
<https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwisifD2nM3NAhXDBiwKHTdvB6UQFggdMAA&url=https%3A%2F%2Fwww.toi.no%2FgetFile.php%3Fmmfileid%3D39511&usg=AFQjCNFdwv3Tq90k99PEeasyG6ZO1aJg&sig2=f-A-Vzj--nskAsEfeX-zhQ>

⁶ Oslo Kommune, 2013, Reisevaneundersøkelse (RVU) for Oslo 2013,
[http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20\(RVU\)%20for%20Oslo%202013_travel%20study%20Oslo.pdf](http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20(RVU)%20for%20Oslo%202013_travel%20study%20Oslo.pdf)

⁷ Page with access to traffic counts on cycles.
<http://www.vegvesen.no/fag/Trafikk/Nokkeltall+transport/Trafikk/Trafikktellinger>

There are some different sources for these statistics, providing estimates but not exact figures. One source is annual reporting by the municipalities (The KOSTRA database, Norway Statistics). Another is the National Road Data Base (Norwegian Public Roads Authorities). These estimates vary between 7,600 Km and 9,900 km of bicycle paths, a majority of these being municipal responsibility.

4.1 Walking infrastructure

In Norway, there is a National Walking strategy, which is produced by The Norwegian Public Roads Administration (NPRA). It is a nationwide strategy for walking. Chapter 5 covers infrastructure specifically.⁸ The city of Oslo is currently in the process of developing a local walking strategy. The street and road design manual for the city of Oslo provides comprehensive regulations for planning and design of streets and roads in Oslo.⁹

4.2 Cycling infrastructure

Employees of a cycle project "Sykkelprosjektet" have informed that The Municipality of Oslo have the following cycling infrastructure:

- › Cycle streets
- › Bus and bicycle lanes
- › Contraflow cycling
- › Cycle lanes.

However, there are no statistics about the kilometres in total and the statistics which is available is of very poor quality. In the Municipality of Oslo they are operating with about 190 km. In a report about the cycle network in Oslo 250 km of cycle infrastructure is mentioned. According to employees in the Municipality of Oslo, this also seems to include trails and the like for pedestrians meaning that the cyclist need to take these into account when cycling some of the places.¹⁰ The Municipality of Oslo is working towards a cycling road network covering 525 km.¹¹

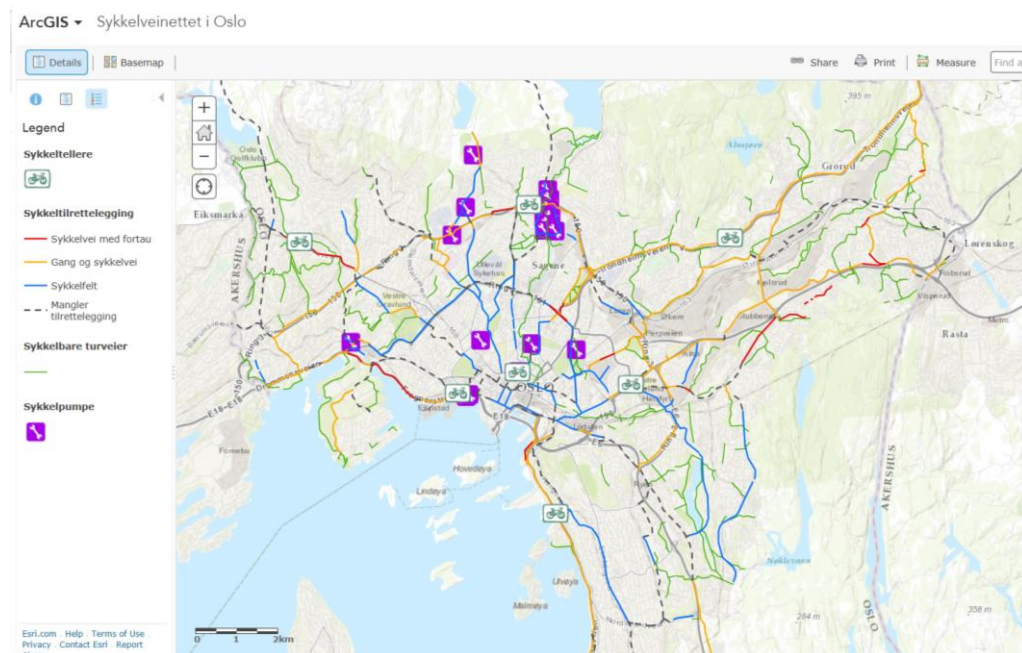
⁸ Statens Vegvesen, 2012, Nasjonal gåstrategi - Strategi for å fremme gåing som transportform og hverdagsaktivitet.
http://www.vegvesen.no/_attachment/528926/binary/851213?fast_title=Nasjonal+g%C3%A5strategi.pdf

⁹ Oslo Kommune, 2011, Gate- og veiutforming for Oslo kommune,
<https://www.oslo.kommune.no/getfile.php/Innhold/Plan%2C%20bygg%20og%20eiendom/Veiledere%2C%20normer%20og%20skjemaer/Gate-%20og%20veiutforming%20for%20Oslo%20kommune.pdf>

¹⁰ Nordström, T., Kummel, L., Hernbäck, J., Ståhle, A., Manum, B., 2014 Sykkelnettet - Kartlegging av sykkelnettets kvaliteter og defekter Underlagsrapport for Oslos sykkelstrategi,
<https://www.oslo.kommune.no/getfile.php/Innhold/Politikk%20og%20administrasjon/Etater%20og%20foretak/Sykkelprosjektet/Dokumenter/Kartlegging%20av%20sykkelveinettet.pdf>

¹¹ Statens Vegvesen, Oslo Kommune, 2016, Plan for sykkelveinettet i Oslo.
<https://www.oslo.kommune.no/getfile.php/Innhold/Politikk%20og%20administrasjon>

At the following webpage the cycling infrastructure can be seen:



<http://www.arcgis.com/home/webmap/viewer.html?webmap=15f55d0441294bfca8b2aae44ca8b7e7>.

The infrastructure is divided into the following categories:

- › Cycle lane together with sidewalk
- › Walking and cycle road
- › Cycle roads
- › Roads that can be cycled.

The Oslo Standard for Bicycle Planning is one of the main initiatives in the city's bicycle strategy. It translates the city's goals for bicycle modal share, sense of safety, accessibility and traffic safety for cyclists into practical solutions for building bicycle infrastructure.¹² The street and road design manual for the city of Oslo provides comprehensive regulations for planning and design of streets and roads in Oslo.¹³

</Etater%20og%20foretak/Sykkelprosjektet/Dokumenter/Plan%20for%20sykkelveinettet%2011.04.2016.pdf>

¹² Oslo Kommune, 2016, Oslostandarden for sykkeltilrettelegging
https://www.oslo.kommune.no/getfile.php/Innhold/Politikk%20og%20administrasjon/Etater%20og%20foretak/Sykkelprosjektet/Dokumenter/2016-06-14%20Oslostandarden_h%C3%B8ringsutgave_mindre%20%281%29.pdf

¹³ Oslo Kommune, 2011, Gate- og veiutforming for Oslo kommune
<https://www.oslo.kommune.no/getfile.php/Innhold/Plan%20bygg%20og%20eiendom/Veiledere%20normer%20og%20skjemaer/Gate-%20og%20veiutforming%20for%20Oslo%20kommune.pdf>

5 Data collection methods

Data has been provided for the national travel survey (RVU) and the Oslo travel survey (ORVU). For both surveys data is collected every fourth year. From 2016 the RVU will be collected on a continuously basis. The most recent year of collecting data was 2013/2014 for RVU and 2013 for ORVU.

RVU consists of a total of 61,314 respondents and is also reported at urban level, covering the four biggest cities (Oslo, Stavanger, Trondheim and Bergen) as well as regions divided in two (Oslo and the other cities together: Stavanger, Trondheim and Bergen). Furthermore, the six biggest cities (the abovementioned excluded) are reported together, as well as smaller cities and the rest of the country.

ORVU consist of 9,000 respondents.

Population

In RVU, around 10,000 interviews are randomly distributed all over the country. In addition to these, there are the following regional interviews (the numbers are rounded and do also include the first mentioned 10,000):

- › Nedre Glomma (Fredrikstad og Sarpsborg) (1,720)
- › The region of Oslo (Oslo, Akershus, as well as Moss, Spydeberg, Askim, Hobøl, Lunner, Hole and Røyken) (13.800)
- › Hamar (1,540)
- › Elverum (1,530)
- › Lillehammer (1,560)
- › Gjøvik (1,560)
- › The region of Drammen (Drammen, Lier, Nedre Eiker, Øvre Eiker and Kongsberg) (1,940)
- › Ringerike (800)
- › The city regions in Vestfold (Horten, Holmestrand, Tønsberg, Stokke, Nøtterøy, Tjøme, Sandefjord and Larvik) (3,600)
- › Grenland (Skien, Porsgrunn, Bamble and Siljan) (2,110)
- › The region of Arendal (Arendal, Risør, Grimstad og Tvedestrand) (1,540)
- › The region of Kristiansand (Kristiansand, Lillesand, Birkenes, Vennesla, Songdalen and Søgne) (1,550)
- › Nord-Jæren (Stavanger, Sandnes, Hå, Klepp, Time, Gjesdal, Sola, Randaberg, Strand and Rennesøy) (3,770)
- › The region of Bergen (Bergen, Voss, Fusa, Samnanger, Os, Sund, Fjell, Askøy, Vaksdal, Osterøy, Meland, Øygarden, Radøy, Lindås and Austrheim) (4,190)
- › The region of Molde (Molde og Fræna) (1,540)
- › Ålesundsregionen (Ålesund, Skodje, Sula, Giske and Haram) (2,620)
- › Kristiansund (1,250)
- › The region of Trondheim (Trondheim, Rissa, Orkdal, Midtre Gauldal, Melhus, Skaun, Klæbu, Malvik, Stjørdal and Leksvik) (4.590)

- › Bodø (1,690)
- › Tromsø (2,550)
- › Harstad (1,020)
- › Hammerfest (520)
- › Alta (1,030)
- › Sør-Varanger (490).

In RVU, the respondents receive a letter about the census before the interview. The age limit is 13. There is no upper limit. The people who did not travel in the day are included in the sampling.

In ORVU, a stratification by regions was made. When conducting the survey, both telephone and email/web interviewing are used. The age limits are 18-75 and the people who did not travel in the day are included in the sampling.

Trips

RVU defines a trip as any movement outside the lot where one lives, regardless of length, duration or purpose. For every trip the purpose of the trip is reported. It is also possible to answer questions about trips to other countries and cities in other countries (Sweden, Denmark and Finland). It is not completely clear how this is used in the reporting. The questionnaire also contains questions about longer trips to foreign countries.

In ORVU, a trip is defined as having a movement where the person has an activity at the destination. The geographical boundaries are trips that start and/or end in Oslo municipality made by residents of Oslo. The purpose of the trip is collected.

Distance

In both RVU and ORVU, the reporting period covers a predefined survey day. In RVU the interviews represent an average day since the interviews are distributed on every day in a 12 month period. This is not the case in ORVU where seasonal variations are not taken into account. Both surveys are using self-estimation for duration and length and these are collected separately. As part of the data collection in RVU, addresses on the starting and ending points of the specific trips are collected. In this way, it is possible to check the consistency in the answers estimated by the respondents. It is possible for the respondents to answer the exact number of minutes used.

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- › Oslo Kommune, 2013, Reisevaneundersøkelse (RVU) for Oslo 2013,
[http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20\(RVU\)%20for%20Oslo%202013_travel%20study%20Oslo.pdf](http://projects.cowiportal.com/ps/A080738/Documents/Project%20documents/03%20Country%20Research/NO/City%20documents/Reisevaneundersøkelse%20(RVU)%20for%20Oslo%202013_travel%20study%20Oslo.pdf)
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C.22 POLAND

SEPTEMBER 2016
EUROPEAN COMMISSION
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ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
CAPI	Computer Assisted Paper Interview
PAPI	Paper and Pencil Interviewing

SUMMARY TABLE

National surveys

Pilot study on the mobility behaviour of the population in Poland 2015

City-level surveys

Warsaw Traffic Study 2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Poland	1	pkm/day	walking	2015
Warsaw	no data			

Walking: average number of trips per day

	Number	Unit	Population	Year
Poland	no data			
Warsaw	0.36	trips/day/person	total	2015

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Poland	5.7	pkm/day	cycling	2015
Warsaw	no data			

Cycling: average number of trips per day

	Number	Unit	Population	Year
Poland	no data			
Warsaw	0.1	trips/day/person	total	2015

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Poland	55	contrary to 45% that never cycles
Warsaw	no data	

Statistics on cycling infrastructure (km), by type of infrastructure

	Poland	Warsaw
Cycle track	626	-
Cycle street	-	-
Bus and cycle lane	-	-
Contraflow cycling	45	-
Cycle lane	-	-
Advisory cycle lane	48	-
Total	2,610	-

FOOTNOTE:

1) The walking and cycling population are not representative for the mobile population.

1 Context

Both the information presented in the questionnaires and the report are based solely on the data found on-line. Despite requests for participation in the study sent to numerous contact points provided by DG MOVE, we have not received any feedback.

In general, data on walking and cycling at the country level is quite scarce. The recent traffic study¹ done at the country level, *Badanie pilotażowe zachowań komunikacyjnych ludności w Polsce* (Pilot study on the mobility behaviour of the population in Poland) focused mainly on the usage of cars and public transport.

The study was commissioned by Central Statistical Office of Poland² and co-financed by the European Union (EU) under one of the Operational Programs (OPs).

In case of Warsaw, the main source of information was a traffic study³ performed also in 2015. In this case, the information on cycling and walking was more complete, although as in the global study the focus was on usage of cars and public transport.

The study for Warsaw was commissioned by the Capital City of Warsaw. The traffic study for Warsaw was done on average every 10 years since 1969.

2 Challenges related to data collection

Friendliness

There is no information on the friendliness of walking on the country and city level. In case of cycling the rates are as follows (information base on the acquired information, Scale: 0 - 10, being "0" bad and "10" Excellent):

- › Poland – 5
- › Warsaw – 7

Difficulties

In general, the main problem encountered during gathering of information in case of studied for both Poland and Warsaw was a cautious approach of the public to any kind of data collection. This resulted in high amount of refusals to fill the questionnaire (or filling it only partly).

¹ „Badanie pilotażowe zachowań komunikacyjnych ludności w Polsce”, October 2015
(http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultstronaopisowa/5851/1/1/raport_koncowy_badanie_pilotazowe_zachowan_komunikacyjnych.pdf)

² <http://stat.gov.pl/>

³ "Warszawskie badanie ruchu 2015", November 2015
(<http://transport.um.warszawa.pl/warszawskie-badanie-ruchu-2015/wyniki-wbr-2015>)

Other statistics

In case of Poland, the traffic questionnaire contained questions on amount of bicycles in the household, frequency of bicycle usage, mains reasons to use the bicycle, amount of people in a household using public bicycle systems.

For Warsaw there is information on safety of cycling, frequency of bicycle usage, friendliness of cycling, bicycle traffic etc. in a number of different studies done for the city.

3 Active modes use

3.1 Walking

In case of the global study, walking is a trip of over 100 m done on foot. Walking stages in multi-modal trips are also included.

For Warsaw study, walking is done only on foot for a distance of over 100m. Walking stages in multi-modal trips are NOT included.

Statistics

Poland

- › Average daily distance walked – 1 km (only walking population)

Warsaw

- › Average number of trips per day – 0.36

3.2 Cycling

In case of the global study, cycling is moving using a bicycle, put together with walking as un-motorised transport.

In case of Warsaw, cycling is usage of bicycle only when the destination is not recreational and the ride is not sport or touring related.

In Poland it is estimated that 55% of population cycles, including recreational usage, with 45% of the population cycling at least once a week.

Statistics

Poland

- › Average daily distance cycled – 5.7 km (only cycling population)

Warsaw

- › Average number of trips per day – 0.1

4 Infrastructure

4.1 Walking infrastructure

Regulation of the Minister of Transport and Maritime Economy of 2 March 1999 on the technical conditions for public roads and their location (Rozporządzenie Ministra Transportu i Gospodarki Morskiej z dnia 2 marca 1999 r. w sprawie warunków technicznych, jakim powinny odpowiadać drogi publiczne i ich usytuowanie)⁴.

The regulation covers more or less the following:

Placement of the walking infrastructure, minimal width, longitudinal and transverse slope, steps, pedestrian crossings etc.

Cities can have their own guidelines, specifying but not contradicting the national guides. Warsaw has its own guidelines and standards for planning, design and construction of pedestrian infrastructure⁵.

Most of the bigger cities have at least one pedestrianised or shared space area.

4.2 Cycling infrastructure

Official statistics for Poland were not acquired, the figures below are a summary of information obtained for different cities.

There are about 2610 km of different cycling infrastructure in different cities of Poland⁶. Most of the obtained information indicate only the summary length of the cycling infrastructure. However, information for some of the cities differentiated between types of infrastructure (listed below). It is important to note that for the reasons mentioned above, the figures below will not sum up to the mentioned total length of the infrastructure.

- › cycle track – 626 km
- › contraflow cycling – 45 km
- › cycle lane – 48 km

⁴ <http://isap.sejm.gov.pl/Download?id=WDU20160000124&type=2>

⁵ Rozwój ruchu pieszego w Warszawie:

1) Standardy projektowania i wykonania,
2) Wytoczne projektowania i wykonania

<http://www.transport.um.warszawa.pl/rozw-j-ruchu-pieszego-w-warszawie>

⁶ Warszawa, Wrocław, Gdańsk, Kraków, Łódź, Poznań, Lublin, Białystok, Rzeszów, Szczecin, Toruń, Bydgoszcz, Olsztyn, Gliwice, Katowice, Tarnów, Grudziąć, Gdynia, Częstochowa, Suwałki, Opole, Radom, Elbląg, Tychy, Bytom, Słupsk, Kielce, Inowrocław, Bielsko-Biała, Gorzów Wielkopolski, Piła and Łomża
<http://wrower.pl/miasto/dlugosci-sciezek-rowerowych-w-polskich-miastach.html>

Figure 4-1 Plan of cycling routes in Warsaw⁷



Regulation of the Minister of Transport and Maritime Economy of 2 March 1999 on the technical conditions for public roads and their location (Rozporządzenie Ministra Transportu i Gospodarki Morskiej z dnia 2 marca 1999 r. w sprawie warunków technicznych, jakim powinny odpowiadać drogi publiczne i ich usytuowanie) - <http://isap.sejm.gov.pl/Download?id=WDU20160000124&type=2>

The regulation covers more or less the following:

Placement of the cycling infrastructure, minimal width, longitudinal and transverse slope, steps, pedestrian crossings etc.

Cities can have their own guidelines, specifying but not contradicting the national guides. Warsaw has its own guidelines and standards for planning, design and construction of cycling infrastructure⁸.

⁷ "Warszawski Raport Rowerowy", 2015 - <http://transport.um.warszawa.pl/aktualnosci/na-g-wnej/nowy-warszawski-raport-rowerowy-2015>

⁸ Guidelines for planning, design and maintenance of bicycle routes in Warsaw (Wytyczne do planowania, projektowania i utrzymania dróg rowerowych w Warszawie) - http://www.zm.org.pl/download/projekty/wytyczne_rowerowe-086.pdf

5 Data collection methods

5.1 Pilot study on the mobility behaviour of the population in Poland

In case of country data, the questionnaire was mainly filled based on the pilot mobility study finalised in October 2015⁹. The information on periodicity of such studies was not obtained. The description of data collection and their design, the survey questionnaire, obtained result etc. are publicly accessible. The results are reported at urban level on the basis of residence.

Population	For this study, the sample size of the population was 25,291. The sampling spatial distribution method was stratification by region and population density with oversampling of some areas. The study was based on the face-to-face surveys (including CAPI) and other methods (CAWI, mixed PAPI and CAPI). The age limit was 16 years. The survey included total population with people who did not travel on selected days.
Trip	<p>The survey used the following definition of a trip:</p> <p>A trip is a movement of people from the place of origin to the destination in one direction. A trip may contain several travels on different modes of transport, including reaching (walking) the means of transport (it does not include: recreational walks or jogging, walking on a distance below 100m and professional activities)</p> <p>The national survey used trips within core city area, trips within greater city area and cross-border trips as boundaries. The purpose of the trip was recorder in the survey.</p>
Distance	The survey was conducted between February and June 2015, recording activities during working days and during weekends. Although the survey period includes different seasons, it does not indicate if this variation was taken into account. The duration and length of the trips was recorded based on self-estimation and separately. The minimum threshold of the distance to be recorded was 100m.
Big data	Big data is currently not used.

5.2 Warsaw Traffic Study

The questionnaire for Warsaw is mainly based on the Warsaw Traffic Study¹⁰ and Warsaw Cycling Report¹¹, both done in 2015. The traffic study is on average done every 10 years, the cycling report is issued yearly. The data type from the traffic

⁹ „Badanie pilotażowe zachowań komunikacyjnych ludności w Polsce”, October 2015

(http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultstronaopisowa/5851/1/1/raport_koncowy_badanie_pilotazowe_zachowan_komunikacyjnych.pdf)

¹⁰ "Warszawskie badanie ruchu 2015", November 2015

(<http://transport.um.warszawa.pl/warszawskie-badanie-ruchu-2015/wyniki-wbr-2015>)

¹¹ "Warszawski Raport Rowerowy", 2015 -

<http://transport.um.warszawa.pl/aktualnosci/na-g-wnej/nowy-warszawski-raport-rowerowy-2015>

	study (like data collection description, data collection design, questionnaire, codebook and metadata, descriptive statistics) are publicly available.
Population	The sample size in the traffic study was 17,000 with random sampling used as spatial distribution method. Face-to-face survey method was used, including people of 6 years and over. The survey covered total population including people who did not travel in the day. In addition to the survey, the study used also traffic counts, however, applying only to cycling (also motorised vehicles and public transport) and not walking.
Trip	The Warsaw study defined a trip as a sequence of movements performed by various means of transport to achieve the intended purpose (e.g. Work). One trip included all transport mode used. The survey covered trips within core and greater city areas. The purpose of a trip was recorded and the survey excluded professional activities.
Distance	The survey was conducted between April and September 2015, recording activities during working days, weekday before. Although the survey period includes different seasons, it does not indicate if this variation was taken into account. The duration and (length not recorded) of the trips was recorded based on self-estimation. The minimum threshold of the distance to be recorded was 100m.
Big data	Big data is currently not used..

6 References

Main reference documents used to fill the questionnaires for Poland and Warsaw:

Praca badawcza pt. „*Badanie pilotażowe zachowań komunikacyjnych ludności w Polsce*”, etap III – raport końcowy

Centrum Badań i Edukacji Statystycznej GUS, Jachranka, October 2015

http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultstronaopisowa/5851/1/1/raport_koncowy_badanie_pilotazowe_zachowan_komunikacyjnych.pdf

“*Warszawskie Badanie Ruchu 2015 wraz z opracowaniem modelu ruchu*”, Partners in Business Strategies, Via Vistula, Wydziału Transportu Politechniki

Warszawskiej, Sopot, Kraków, Warszawa, November 2015

<http://transport.um.warszawa.pl/warszawskie-badanie-ruchu-2015/wyniki-wbr-2015>

C.23 PORTUGAL

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ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
IMT	Institute of Mobility and Transports

SUMMARY TABLE

National surveys

National Census 2011

Walking: average daily distance travelled per person

no data

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

no data

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Portugal	0.5	for commuting
Portugal	4.5	for leisure
Lisbon	<i>no data</i>	

Statistics on cycling infrastructure (km), by type of infrastructure

no data

FOOTNOTE:

Statistics on the percentage of the population cycling were not used for comparison with other countries because they only concern working population and leisure trips

1 Context

The transport modal split in Portugal follows the EU average, where the car is still the most used mode. Active modes have not received particular attention nor investments from the Governments until recently and are, therefore, still not well developed in the country.

The Institute of Mobility and Transports (IMT) is responsible for the data collection of statistics in the transport sector but there are no travel surveys carried out at national level.

The only statistics available at country level on walking and cycling is based on the result of the National Census. According to its results of 2011, walking was performed by 16% of the population on commuting trips while cycling was only practiced by 0.5% of the population.¹

In order to promote the use of active modes, the IMT has developed the National Plan to Promote Cycling and Other Active Modes 2013-2020 with the objective to promote policies targeted to walking and cycling and to increase the share of these modes for commuting trips.

Active modes use in Lisbon is also similar to the ones presented at country level, with good level of walking and small share of cycling.

2 Challenges related to data collection

Friendliness

Despite the high number of people walking in the country on commuting trips, the friendliness of walking in the country is rated low (4) due to the non-existence, non-continuity or poor conservation of footways. The lack of resting and shadowed areas, together with the poor illumination of the footways contribute to the low comfort and safety of the users.

The environment for Cycling in Portugal still presents considerable challenges its users. Most of existing cycling infrastructure is dedicated for leisure and there are only few cycling routes at urban level, what contributes to the low score given for the friendliness of cycling (4).

Difficulties

Walking and cycling have received increased attention in recent years, but focus has been mostly on walking due to its high share in the transport split. Cycling is still incipient in the country, however recent projects and programmes have indicated an increased interest for promoting cycling at national level and on different municipalities.

EU action

According to the IMT, EU standards are needed to define harmonised concepts of walking and cycling infrastructure, as well as methodology for the data collection of active modes use, including the periodicity of such surveys.

3 Active modes use

3.1 Walking

Walking is performed by 16% of the population of commuting purposes, according to the National Census 2011.

Although the National Census does not publish a common definition for walking, according to the ANSR (National Authority for Road Safety in Portugal), the classification of pedestrians includes other active modes of transport such as skating and inline roller.

Lisbon has developed the Accessibility Plan for the city, which aims to define a strategy to enhance the accessibility for pedestrians in the capital. According to the Municipality of Lisbon, a travel survey with focus on walking is currently being developed and should be implemented soon.

3.2 Cycling

In Portugal, the population that use the bicycle as main mode of travel when commuting is very low. According to the National Census 2011, only 0.5% of the population cycles for commuting and 4.5% for leisure.²

The National Plan to Promote Cycling and Other Active Modes 2013-2020 aims to develop an environmental to increase the share of the population using the bike as main mode of transport.

4 Infrastructure

The importance of walking and cycling has increased in recent years. As a result, the National Highway Code in Portugal has been recently modified to include regulations aiming at promoting the safe increase of active modes use.

The concepts of "vulnerable user" and "shared space" have been introduced to the code in 2013 to create the framework and define the hierarchy for active modes use.

4.1 Walking infrastructure

The walking infrastructure in the country presents considerable challenges for the users. When existing, footways are historically narrow in the country and the walking infrastructure suffers from non-continuity and poor conservation.

² Ficha Técnica – os velocípedes 2004-2013, ANSR, available at: <http://www.ansr.pt/Estatisticas/FichasTematicas/Documents/2014/FICHA%20TEM%C3%81TICA%20-%20VELOC%C3%8DPEDES.pdf>

The concept of shared space areas has been recently implemented in Portugal and it refers to low speed zones (20 km/h) where different modes of transport can coexist.

Lisbon is currently considering the implementation of 19 shared space areas.³

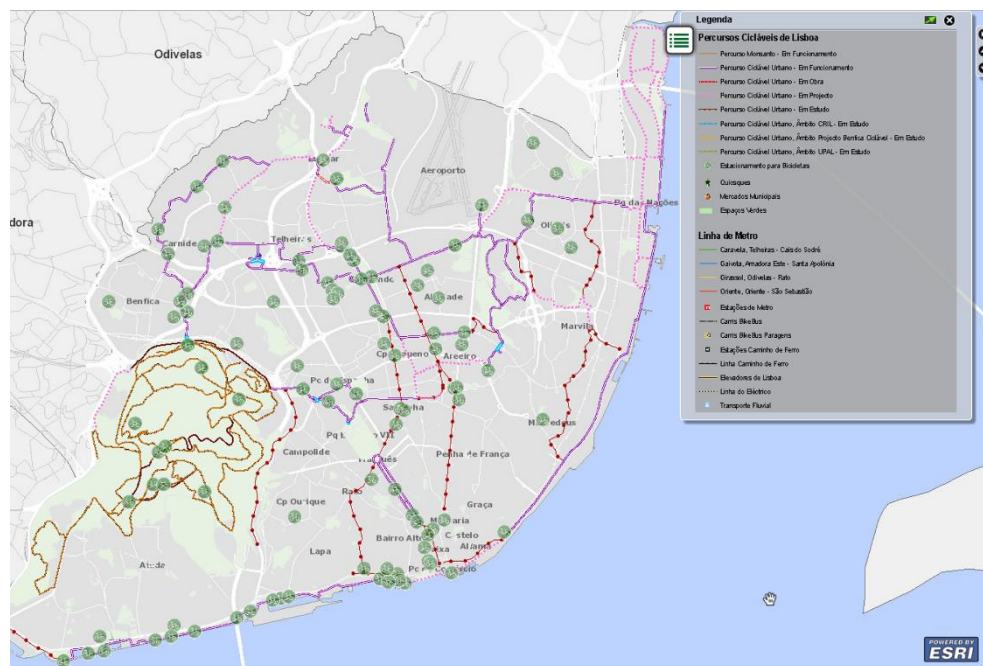
The guidelines for the design and implementation of walking infrastructures in Lisbon are defined in the guide *Acessibilidade e Mobilidade para Todos* (Accessibility and Mobility for All) published by the Lisbon Municipality. According to the guide, the minimum width for a footway is 1.5 m.

4.2 Cycling infrastructure

There are no regulations for the design of cycling infrastructures at national level. Regulations for the design of cycling infrastructure were also not identified for Lisbon.

Although data related to infrastructure is not collected at any national institution, a database with the main cycling routes is available online via *Ciclovia*⁴. According to *Ciclovia*, there are more than 607 km of cycling infrastructure in Portugal.

The cycling infrastructure available in Portugal is published at the page *Lisboa Ciclável*⁵, which provides the information about existing and planned routes.



³ available at:

<http://transportesemrevista.com/Default.aspx?tabid=210&language=pt-T&id=40088>

⁴ <http://www.ciclovia.pt/ciclovias/tipologia.php>

⁵ <http://lisboaciclavel.cm-lisboa.pt/>

5 Data collection methods

5.1 National Census

The only data collection method covering walking and cycling used in Portugal is the National Census 2011.

The question included in the Census asks to the respondents to indicate the main mode of transport used for commuting.

The data available is restricted to the percentage per mode and does not include more detailed information with regards to distance, duration nor frequency.

6 References

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Instituto de Mobilidade e dos Transportes (2012). *Plano de Promoção da Bicicleta e Outros Modos Suaves*.

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C.24 ROMANIA

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
INSSE	National Institute of Statistics in Romania
RATB	<i>Regia Autonomă de Transport București</i>
EuroRAP	European Road Assessment Programme

SUMMARY TABLE

City-level surveys

Bucharest Master Plan for Urban Transport	2007
Bicycle User Needs and Improvement Proposals for Dedicated Cycling Infrastructure (SpiCycles Project)	2007
GfK Cars & Drivers	2014

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Romania	no data			
Bucharest	1.1	pkm/day	walking	2008

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Romania	no data			
Bucharest	6.4	pkm/day	cycling	2008

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Romania	10	at least once a day
Romania	13	a few times a week
Bucharest	no data	

Statistics on cycling infrastructure (km), by type of infrastructure

	Romania	Bucharest
Cycle track	-	5.97
Cycle street	-	-
Bus and cycle lane	-	-
Contraflow cycling	-	-
Cycle lane	-	-
Advisory cycle lane	-	-
Total	-	5.97

FOOTNOTE:

- 1) The walking and cycling population are not representative for the mobile population.
- 2) Cycling a few times a week is considered the best fit for the cycling population.

1 Context

The National Institute of Statistics in Romania (INSSE) is the responsible body for data collection in the transport sector.

There are not travel surveys carried out at national level and data on transport is derived from Road Traffic Census every carried out every 5 years. The most recent published data is from 2010 but the results of the 2015 surveys shall be published in the coming months. No data on walking or cycling is collected through these surveys.

The only official data available is the number of bicycles per household, collected through the *Cercetarea Statistica a Budgetelor de Familie* (Family budgets survey) carried out by INSSE annually, which indicates an increase in the number of bicycles per household in the country.¹

A study carried by GfK Romania indicated that around 20% of the rural population use the bicycle as the main mode of transport.²

The INSSE has also demonstrated interest to apply for an EU grant for carrying out a national passenger mobility survey, which will include information on walking and cycling.

Data for Bucharest was collected through two specific studies:

- › Bucharest Master Plan for Urban Transport (2007): travel surveys were collected as part of the preparation of the Bucharest Master Plan prepared by consulting company WSP. The surveys included questions on walking and cycling.
- › *Nevoile Utilizatorilor de Biciclete din București și Propuneri de Îmbunătățire a Infrastructurii Dedicat Deplasării cu Bicicleta* (Bicycle User Needs and Improvement Proposals for Dedicated Cycling Infrastructure) (2007) was carried out by *Regia Autonomă de Transport București* (RATB) as part of SpiCycles project. The results of this study were published as part of the Cycling on the rise (2009)³.

2 Challenges related to data collection

Friendliness

Walking is very common in urban and suburban areas. Nevertheless, the poor quality and discontinuity of infrastructures and issues such as illegal parking and

¹ <http://www.zf.ro/companii/creste-numarul-de-biciclete-din-gospodarii-se-observa-o-schimbare-de-mentalitate-tinerii-au-fost-in-strainatate-s-au-adaptat-stilului-occidental-si-l-au-preluat-si-in-romania-15524215/poze/>

² GfK Cars & Drivers, 2014. Study not available online.
<http://www.gfk.com/insights/press-release/romania-pedaleaza-mai-mult-la-sat-decat-la-oras/>

³ <http://esteaest.unep.ch/phocadownload/spicycles%202009%20cycling%20on%20the%20rise.pdf>

aggressive driving behaviour has an important negative impact in the friendliness of walking in some cities. All these issues contribute to the high level of pedestrian fatalities registered in the country, which is significantly higher than the EU average.

Cycling is still not popular in urban areas in Romania. Due to the lack of cycling infrastructure in most of the cities, the friendliness for cycling is still low. Nevertheless, cities have been recently investing in promoting cycling and constructing cycling infrastructure, what might represent an increase in the friendliness of cycling in the next years.

EU action

According to INSSE, EU action is important in order to produce harmonised statistics on walking and cycling.

A common methodological approach for the production of the mentioned statistics would facilitate the data collection process and the comparability of the results.

The EU should also continue the financial support that is given to Member States in the form of grants for the implementation of statistical surveys on passenger' mobility at national level.

3 Active modes use

3.1 Walking

Although there is no data collection on walking at country level, the Eurobarometer 2013 indicates that 81% of Romanians walk at least once a day and another 11% a few times a week.

For Bucharest, the available data⁴ indicates that the length of the average walking trips is 1.1 km and the modal split of walking is 15%.

3.2 Cycling

According to data collected by the INSSE⁵, there was a decrease in the number of bicycles per household from 2013 to 2014. However, the number of bicycles has presented almost 7% increase in the last year, demonstrating the increased interest of the population for cycling.

Table 1: Number of bicycles per 100 households in Romania

	2013	2014	2015
No. of bicycles	31.2	30.5	32.6

Source: Cercetarea Statistica a Budgetelor de Familie, INSSE, 2016.

The Eurobarometer published in 2013, indicate that 10% of the population cycles at least once a day and 13% a few times a week.

⁴ Cycling on the Rise, Spicycles Consortium, 2009.

⁵ Cercetarea Statistica a Budgetelor de Familie, INSSE, 2016.

In the capital, Bucharest, the number of cyclists is lower according to surveys carried out in 2008⁶ and 2009⁷, which indicate modal split of less than 1% for cycling.

According to the later study, the average length travelled per day by the cycling population in Bucharest is 6.04 km per person.

4 Infrastructure

A study carried by the EuroRAP⁸ in 2014 inspected 545 Km of the Romanian road network part of TEN-T network and one of their main findings is that pedestrian facilities do not exist in 99% of the inspected road network. In the few places where existent, the cycling infrastructure was classified as very poor. These results are not related to urban infrastructure.

4.1 Walking infrastructure

The largest cities in Romania have pedestrianised zones, for example Bucharest, Cluj-Napoca and Timisoara. Most of the pedestrianised areas are located in the historic centres of the cities and some of those have recently passed through considerable renovation with the support of EU funding.

Although footpaths are common in urban and suburban areas, common problems encountered are related to insufficient width, illegal parking and absence or discontinuity of the infrastructure. All these issues contribute to the high level of pedestrian fatalities registered in the country, which is significantly higher than the EU average. Between 2001 and 2014, the average annual reduction of pedestrian fatalities was only 3%.

4.2 Cycling infrastructure

Some Romanian cities collect data related to their existing cycling infrastructure. However, a national database that compiles the information from the different cities is not existent.


The plan for the cycling infrastructure in Bucharest aims at constructing 97.70 km of routes as presented in the map below.

⁶ Bucharest Urban Master Plan, 2008.


⁷ *Nevoile utilizatorilor de biciclete din bucurești și propuneri de îmbunătățire a infrastructurii dedicate deplasării cu bicicleta*, RATB - Spicycles Consortium, 2009.

⁸ SENSor Star Rating Report - Romania, 2014, EuroRAP. Available at http://www.eurorap.org/wp-content/uploads/SENSoR-Star-Rating-Report_RO_v3.0_sdl_20141212.pdf


MODALITATI DE AMENAJARE A PISTELOR DEDICATE PENTRU BICICLISTI CU SEPARATOARE




MODALITATI DE AMENAJARE A PISTELOR DEDICATE PENTRU BICICLISTI PE STRAZI CU SENS UNIC SI TRAFIC REDUS



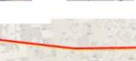
MODALITATI DE AMENAJARE A PISTELOR DEDICATE PENTRU BICICLISTI IN SPATII COMUNE CU CEE PIETONALE




MODALITATI DE AMENAJARE A PUNCTELOR DE INCHEIERE




SCHEMA DE AMENAJARE IN VIZOR A UNUI CENTRU DE INCHEIERE DE CAPACITATE MARE




MODALITATI DE AMENAJARE A PARCARILOR PUBLICE IN ZONE INSTITUTIONALE, REZIDENTIALE SAU DE AGREMENT





PROIECT PRIVIND IMPLEMENTAREA SISTEMULUI DE TRANSPORT CU BICICLETA IN ZONA CENTRALA A MUNICIPIULUI BUCURESTI



PROFILI TRANSVERSALE TIP DE AMENAJARE PREVAZUTE



PROFILI TRANSVERSALE TIP DE AMENAJARE PREVAZUTE IN ALTE STUDII SI IMPLEMENTATE

Trasee principale piste biciclisti

Trasee secundare piste biciclisti

Puncte de deservire/biciclete

PRINCIPALI INDICATORI TEHNICO-ECONOMICI A INVESTITIEI

	Mil. Lei	Mil. Euro	Indexul TVA
Valoarea totala a investitiei	441 000,00	9 084,20	
De la care C=10%	37 083,00	7 677,00	
Durata de incalzire investitie - 10 ani			
Beneficiu net anual	11 220,00	2 360,00	
De la care C=10%	11 220,00	2 360,00	
Costul anual	20 000,00	4 210,00	
De la care C=10%	18 000,00	3 837,00	
Capacitati:			
Numarul de biciclete	50		
Longhine totale (m)	57 70		
Latime (m)	1,0		
Costul de instalare (m)	10		
Costul de mentenanta (m)	10		
Costul de operare (m)	10		
Costul de operare (m)	10		
Costul de operare (m)	10		

The most recent mapping of the cycling infrastructure was undertaken in 2017 by RATB as part of the SpiCycle Project that mapped the existing routes (in dashed blue). The mapping demonstrates that only a fraction of the planned networks had been implemented.

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A recent study carried out in 2015⁹ has mapped the development of the cycling infrastructure in Bucharest. The results indicate a recent increase of the coverage of the cycling infrastructure in the city and the awareness campaigns to promote the use of the mode. According to the study, there are approximately 5.97 km of cycle tracks in the city.

5 Data collection methods

There are currently no official data collection surveys at country level, which collect data on walking and cycling.

In Bucharest, the most recent data collection was undertaken in 2007 for the purpose of the Bucharest Master Plan for Urban Transport.

5.1 Bucharest Master Plan for Urban Transport

A travel survey questionnaire was undertaken as part of the data collection for the purpose of the preparation of the Bucharest Urban Master Plan. The data collection was planned and implemented by an external consultant responsible for the development of the Urban Master Plan.

Data availability	<p>Information related to the data collection description and design, including the questionnaire and survey guide is available online.</p> <p>Results are presented in a report, but the format of the data presented is not relevant for this study.</p>
Population	<p>In total, 31,768 people were interviewed as part of the travel survey exercise. Respondents were selected using random sampling and face-to-face interview method was used for the data collection.</p>
Trip	<p>A trip is defined as "travel in one direction between two locations for a particular purpose" and all transport modes were recorded. The trip purpose was also recorded and the following options were given:</p> <ul style="list-style-type: none"> › home › holiday home › work › employers business › education › shopping › personal business › visiting friends › recreation

⁹ Infrastructura pentru biciclete din Bucuresti, 2015.
https://issuu.com/marianivan/docs/raport_-_infrastructura_biciclete_d

- › bringing children to/from kindergarten/school
- › other

Duration and distance

The distance of the trip can be estimated based on the Origin – Destination detailed addresses recorded for each trip. Journeys on foot between different modes of transport are also included.

The duration is calculated based on the times recorded for each trip. The duration between departure and arrival times include waiting times and transfers to other modes of transport.

There are no minimum thresholds for trips.

5.2 Other data collection methods

5.2.1 GfK Cars & Drivers (2014)

The study was carried out by GfK Romania in June 2014 as part of their monthly market survey, GfK Cars & Drivers.

According to information available, the study involved population aged 15 or over and the margin of error of the study is 3%.

The publication of the detailed report, including Microdata, is not publicly available.

5.2.2 *Nevoile Utilizatorilor de Biciclete din București și Propuneri de Îmbunătățire a Infrastructurii Dedicat Deplasării cu Bicicleta* (2007)

The study was carried out by RATB s part of SpiCycles project. The results of this study were published as part of the Cycling on the rise (2009)¹⁰.

A travel questionnaire was distributed to around 400 regular and occasional bike users, as well as potential users. The survey collected data on the cycling habits of the population and cycling infrastructure.

The study also presents guidelines for planning and construction of cycling infrastructure in the city.

6 References

CFCU – Oficiul de Plati si Contractare PHARE (2007). *Master Plan General pentru Transport Urban – Bucuresti, Sibiu si Ploiesti, Raport Final Bucureti*. Available at: http://www4.pmb.ro/wwwt/l52/docs/31_01_2008.pdf

¹⁰

<http://esteast.unep.ch/phocadownload/spicycles%202009%20cycling%20on%20the%20rise.pdf>

SpiCycles Consortium (2009). Cycling on the rise - Public Bicycles and Other European Experiences. Available at:

<http://esteeast.unep.ch/phocadownload/spicycles%202009%20cycling%20on%20the%20rise.pdf>

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C.25 SLOVAKIA

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
NGO	Not-governmental organisation

SUMMARY TABLE

National surveys

National traffic counts 2015

National Census 2011

Transport Mobility Survey 2015

City-level surveys

Cycling Survey in Kosice 2014

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Slovakia	10.54	pkm/day	mobile	2015
Kosice	no data			

Walking: average number of trips per day

	Number	Unit	Population	Year
Slovakia	1.4	trips/day/person	mobile	2015
Kosice	no data			

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Slovakia	1.13	pkm/day	mobile	2015
Kosice	5	pkm/day	mobile	2014

Cycling: average number of trips per day

	Number	Unit	Population	Year
Slovakia	0.2	trips/day/person	mobile	2015
Kosice	2	trips/day/person	mobile	2014

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Slovakia	7	definition unknown
Kosice	no data	

Statistics on cycling infrastructure (km), by type of infrastructure

	Slovakia	Kosice
Total	918.66	22.7

FOOTNOTE:

The statistic for pkm/day walking is unrealistic and not used for comparison

1 Context

Walking	Walking is marginalised and there is little interest in supporting measures to promote it. There is currently no data collected on the extent of walking.
Cycling	<p>At national level, the first mobility survey was conducted in 2015. National traffic counts are carried out every 5 years. In addition the National Census includes information on the traffic mode most frequently used for commuting. Otherwise information is collected by NGOs in different cities.</p> <p>A number of data collection activities has also been implemented in 2012-2014 in connection with the preparation of the Strategy on Cycling (Narodna Strategia rozvoja cyklistickej dopravy a cykloturistiky v slovenskej republike).¹ E.g. in 2012 the Transport Research Centre carried out a survey in 138 cities to estimate the total length of cycling infrastructure in cities.</p> <p>In some cities, the NGOs use traffic counts to monitor the extent of cycling. Traffic counts are often introduced when new bike lanes are built (recently e.g. in Prešov). In some cities (e.g. Košice) project based surveys and various assessments are available.</p> <p>At national level surveys, traffic counts and national census is used to collect data. The main data collection includes the Mobility Survey within the National Transport Model, Traffic Counts and National Census 2011. The national Mobility Survey was first conducted in 2015. Traffic counts are carried out periodically (every 5 years).</p> <p>The Statistical Office does not have data on the extent of cycling & walking nor on the existing infrastructure. The consultant has also contacted Ms Gejza Legen (formerly Agency for Regional Development of Košice), who was able to provide some general information for Slovakia and provide data for the city of Košice. Kristína Marošová (National Coordinator for Cycling) provided data for Slovakia and requested information to be provided from Stakeholders in Bratislava. However, by the time of submission of the Country Report no data to inform the study was received.</p> <p>Accordingly, data was collected from the City of Košice that has recently made a number of efforts to increase its attractiveness for cyclists. The Cycling Union of Košice was founded in 2009 to support the development of favourable conditions for cycling in the city and to promote cycling as means of health and environmental friendly transport. The Union initiated the development of a Strategy for the development of cycling, which was adopted by the Košice city council. The document was recently updated (2013).²</p>

¹ <http://www.cyklodoprava.cz/file/narodna-strategia-rozvoja-cyklistickej-dopravy-a-cykloturistiky-v-slovenskej-republike-2014-2020/>

² http://web.vucke.sk/files/cestovny_ruch/strategia-rozvoja-cyklistickej-odopravy-cykloturistiky-ksk-2013.pdf.

2 Challenges related to data collection

Friendliness	<p>Walking is marginalized and there are few supporting measures to promote it. There were a few initiatives that supported walking indirectly - e.g. the Healthy Cities project of the World Health Organisation. In some cities there are organisations to support walking, but overall the support is indirect and not institutionalised.</p> <p>Scoring by stakeholders on walking friendliness (national level): (5)</p> <p>As far as cycling is concerned there is a National Coordinator for Cycling (narodni cyklokoordinátor) within the Ministry of Transport and a number of - mainly regional - activities to support cycling and to build bike lanes. For the future, the vision is to make a considerable investment to build new bike lanes (300 mio. EUR). Whether this will be realised is to be seen.</p> <p>There is a strong cycling lobby/cycling alliance in Bratislava, Banská Bystrica, Prešov and Košice. Support also is provided by the Eurovelo network. E.g. the cycling group in Prešov Kostikras carries out regular campaigns to support cycling and participates in other activities to support cyclists in the city.</p> <p>Scoring by stakeholders on cycling friendliness (national level): (3)</p>
Difficulties	<p>Stakeholders name the following main difficulties: insufficient amount of data, insufficient number of counting devices, lack of interest at local level.</p> <p>As for cycling, until recently there was no information collected for the entire population. One of the stakeholders consulted mentioned that it is difficult to evaluate the quality and the comparability of the data collected.</p> <p>There is no data on the extent of walking.</p>
Comparability	<p>In the past (10 years ago) there have been sporadic activities for different cities to register the number of cyclists per municipality. There was a competition among the Slovak cities as to who registers most cyclists.</p> <p>In 2015 a survey was conducted in Prešov, Banská Bystrica and Martin on the modes of transportation used and the ways to improve the current situation.³</p> <p>The ambiguity in distinguishing between transport cycling paths and tourist cycling path was mentioned as one of the main challenges in comparing statistics.</p>
EU action	<p>Comparable statistics would be very useful, for instance a system that could collect data from the different municipalities and aggregate them at a central level. However, stakeholders point out that in order to implement something like this, there would need to be some motivation for the municipalities to do so.</p> <p>Other stakeholder suggested the following actions could be a) a report that would present the actual state on cycling and walking data in EU countries, b) guidelines or recommendations on states (and the capital cities) what data need to be collected, using what methods...c) create a database of relevant data information on cycling and walking (separate section in Eurostat transport database).</p>

³ <http://www.nechajmeautodoma.eu/uncategorized/prieskum-dopravnej-mobility/>

Other statistics	<p>There are statistics regarding road safety (e.g. injuries or traffic accident participants per transport modes).</p> <p>In addition, in connection with the European Mobility Week a number of seminars and other activities to support active modes of transportation are typically organised. There is also a dedicated transport office in Žilina that may have some information in relation to the analysis of the effects of the planned transport infrastructure.</p>
Big data	Big data are not used but there is a potential of data from service providers and from sensor networks.

3 Active modes use

3.1 Walking

Definition	Walking stages in multi-modal trips are included, waiting times are include and other active modes are included
Statistics	At national level, the average is:

Table 1: Average daily distance travelled per person – walking

	Person Km per day	Trips per person per day	Year
Slovakia	10.54	1.4	2015

3.2 Cycling

Definition	<p>In the mobility survey within the National Transport Model (Prieskum mobility v rámci Dopravného modelu SR) cycling is defined as pedalling without any motorised support and e-bikes.</p> <p>In Košice, the definition of cycling is pedalling without any motorised support. E-bikes are not included.</p>
------------	---

Statistics

Mobility survey within the National Transport Model (Prieskum mobility v rámci Dopravného modelu SR)

The average of cycling use is:

Table 2: Average daily distance travelled per person – walking

	Person Km per day	Trips per person per day	Year
Slovakia	1.13	0.2	2015
Košice	5	2	2014

Data is also available for various cities and is mainly collected through ad hoc project-based surveys, assessments and – in some cities – also traffic counts. Below a number of examples:

2014 Traffic count

In 2014 the Transport Research Centre carried out a count on a number of selected tracks in selected cities. The count took place in between July and October 2014 at two locations in each region as a minimum. The count was carried out by means of automatic traffic counts used for the period of minimum 7 days. The methodological document for the count is available at:

<https://drive.google.com/file/d/0B8ZKlfljStQhYzNTekFQNINib2c/view?pref=2&pli=1>

And shows an average per 17 locations in the summer period of 506 cyclists per day. Detailed results and the map with the location of the counts can be accessed at: <http://www.cyklodoprava.sk/cyklodoprava/intenzity-cyklistov/>

Automatic counts in Žilina

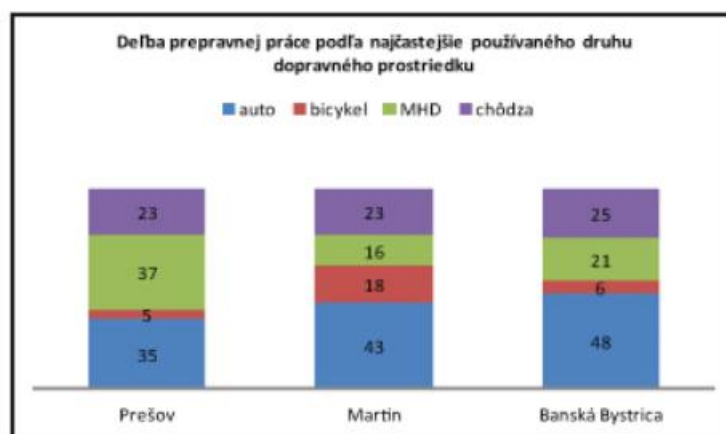
In January 2014 there were automatic counts in Žilina. The total amount of cyclists counted was 4,827 (January). The results are available at:

<http://www.cyklodoprava.sk/januar-priah-cyklistom-v-ziline-urcite/>

The Transport Mobility Survey 2015

In the 2015 Transport Mobility Survey the inhabitants of Prešov, Martin and Banská Bystrica were asked to indicate what means of transport they use in connection with travelling to work, shopping and leisure. The total of 771 valid answers were received.

Figure 3-1 The Transport Mobility Survey



Source: <http://kostitras.sk/prieskum-dopravnej-mobility-2/>

Blue: car, red: bike, green: public transport and purple: walking.

In Prešov only 5% of the people interviewed has used a bike while 23% walks. In Martin the shares are 18% and 23% respectively and in Banská Bystrica the shares are 6% and 25% respectively.

According to the surveys, 7% of the population cycles in the country.

4 Infrastructure

4.1 Walking infrastructure

There are regulations at national level the technical norm STN 73 6110 Projektovanie miestnych komunikácií provides a regulation for the planning, design and operation of roads (incl. pedestrian zones, paths, cross walks, etc.).

There are also land use and city transport plans (in particular socio-economic strategic plans). The plans provide specifications for the width and the survey of payments and on accessibility.

All Slovak cities over 50 000 inhabitants (Bratislava, Košice, Trnava, Žilina, Trenčín, Nitra, Banská Bystrica, Prešov, Martin, Poprad) have pedestrianised zones. The total area is 527,776 m².

4.2 Cycling infrastructure

Slovakia

The most recent figure is 918.66 km; out of which 131.1 km cycle lanes.

In connection with the preparation of the Strategy on cycling in 202 the Transport Research Centre carried out a survey in 138 Slovak cities. Only 67 cities answered the survey. The total length of cycling infrastructure was 150 km.⁴ The categorisation of the bike lanes is somewhat different and not directly comparable to the one used in the Excel sheet:

- › 15% of the bike lanes were solely for cycling
- › 23% for cycling and walking (divided)
- › 22% for cycling and walking (not divided)
- › 34% was led along the traffic
- › 6% was led together with other traffic

The total length of routes for the purpose of cycling tourism was 10,099 km.⁵

Detailed information on the existing infrastructure per region can be accessed at: <http://www.cyklodoprava.sk/cyklodoprava/cyklisticke-komunikacie/>

Košice

For Košice, the latest data is from 2013. The length was 22.7 km.

Regulations

There are regulations and detailed technical norms on the cycling infrastructure:

⁴

<https://docs.google.com/file/d/0B4uEPLR3pTqyQURPMXhWZFBZX1E/edit?pref=2&pli=1>.

⁵ <http://www.cyklodoprava.cz/file/narodna-strategia-rozvoja-cyklistickej-dopravy-a-cykloturistiky-v-slovenskej-republike-2014-2020/>.

- › Zákon č. 135/1961 Zb. – Zákon o pozemných komunikáciách (Law no. 135/1961 Col on roads) provides a definition of different categories of roads, including cycling roads.
- › Technical norm STN 73 6110 on planning of local communications and STN 01 8082 on cycling tourism signs provide additional guidelines.

The technical norm provides regulation for the planning, design and operation of cycling infrastructure. Standards for cycling infrastructure are not stated in the National Highway Code but in the Technical Standards.

5 Data collection methods

Data collection methods

At national level surveys, traffic counts and national census is used to collect data. The main data collection includes the Mobility Survey within the National Transport Model, Traffic Counts and National Census 2011. The national Mobility Survey was first conducted in 2015. Traffic counts are carried out periodically (every 5 years).

A limited amount of data is also available from project-related surveys and assessments or from traffic counts. This data collection method is characterised by the fact that data is collected locally (in some cities) and different data collection methods are used. Data are typically not collected periodically, but rather on an ad hoc basis.

Data collected

In addition to the national traffic count, some cities carry out traffic counts. For some cities data is available on the modes of transportation used (e.g. share of population cycling). The available data is reported in section 3.2. Mobility Survey within the National Transport Model

The urban population sample size of the survey was 9,426. The sampling method was stratification by region. Phone and email/web-interviewing were used for the survey. The total population was included, but persons who did not travel in the day were not included. The reporting period was a predefined survey day. Seasonal variations were not taken into account. Duration and distance were collected separately. The data was based on self-estimation. There was no minimum distance/time threshold.

5.1 Cycling Survey in Košice

For Kosice there is data on the amount of km cycled from a survey. The sample was selected on a random basis from the total population of 242,000. Face-to-face survey method was used. There was no age limitation. Only people who can travel outside their home and who travelled on the particular day are included. The survey is trip based. A trip is defined as any travel from starting point to destination point using a bike. Only main mode of transport is recorded. Trip purposes included are work and leisure. Professionals are not recorded.

The reporting period was the day of the survey. The length is based on self-estimation. Only distance was collected.

5.2 Big data

Big data are not used.

5.3 Traffic counts

In connection with the E-road Traffic Census a national count was carried out in 2015. The count combined manual with automatic counts. The count was carried out in 4-hour intervals during workdays Tuesday-Thursday (7:00-11:00 and 13:00-17:00) and Friday (14:00-18:00) and Sunday (16:00-20:00) during the rest of the year and the holiday period.

During the National Traffic Count, pedestrians were not counted.

The National Traffic Count is being carried out every 5 years. In 2015/2016 there were ca. 2660 counting posts throughout SK.

Traffic counts are also used in some cities. Typically on an ad hoc basis. In Prešov data from automatic counts were compared with the manual surveys carried out in 2013 and 2014 to see to what extent the data from automatic counts corresponds to the data from the manual counts. Detailed results can be accessed at <http://kostitras.sk/automaticke-scitace-cyklistov-v-presove/>.

5.4 National census

The last national census was carried out in 2015. It include information on the transportation modes used for commuting. Data are not publicly accessible.

6 References

Websites:

<http://www.cyklodoprava.sk/> - cycling information and news in Slovakia

<http://kostitras.sk/> - cycling group in Prešov

<http://www.nechajmeautodoma.eu/> - campaign to support cycling

<http://www.cykloslovensko.sk/index.php?link=hir/3.php> - cycling NGO

Other documents:

Narodna Strategia rozvoja cyklistickej dopravy a cykloturistiky v slovenskej republike (2013): <http://www.cyklodoprava.cz/file/narodna-strategia-rozvoja-cyklistickej-dopravy-a-cykloturistiky-v-slovenskej-republike-2014-2020/>

Strategie rozvoje cyklistickej dopravy a cykloturistiky (Košice):

http://web.vucke.sk/files/cestovny_ruch/strategia-rozvoja-cyklistickej-odopravy-cykloturistiky-ksk-2013.pdf, Abstract in English:

http://web.vucke.sk/files/cestovny_ruch/strategy-development-cycling-transport-kosice-self-governing-region-abstract.pdf

C.26 SLOVENIA

SEPTEMBER 2016
EUROPEAN COMMISSION
DG MOBILITY AND TRANSPORT

ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

COUNTRY RESEARCH – SLOVENIA

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FINAL	26/09/2016	COUNTRY REPORT - SI	Mateja Jozicic	Thiago Tavares	Thérèse Steenberghe

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
SURS	the Statistical office of the Republic of Slovenia
ESI Funds	European Structural & Investment Funds
CETRA	Central European Transport Model
MOL	Municipality of Ljubljana
LUR	Ljubljana Urban Region

SUMMARY TABLE

National surveys

Central European Transport (CETRA) model	2011
Research on Energy Efficiency in Households	2015

City-level surveys

Traffic counts for cycling	real-time
Statistical survey on travel behaviour in the Municipality of Ljubljana and the Ljubljana wider urban region	2012

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Slovenia	no data			
Ljubljana	0.65	pkm/day	total	2013

Walking: average number of trips per day

	Number	Unit	Population	Year
Slovenia	no data			
Ljubljana	0.97	trips/day/person	total	2013

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Slovenia	no data			
Ljubljana	1.69	pkm/day	total	2013

Cycling: average number of trips per day

	Number	Unit	Population	Year
Slovenia	no data			
Ljubljana	0.31	trips/day/person	total	2013

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Slovenia	15	for commuting (work/school)
Ljubljana	13	definition unknown

Statistics on cycling infrastructure (km), by type of infrastructure

	Slovenia	Ljubljana
Total	no data	225

FOOTNOTE:

Statistics on the percentage of the population cycling in the country only concern students and working population.

1 Context

There is relatively not much data on walking and cycling available in Slovenia yet, especially at national and sub-urban levels. There is some more data at urban level, especially for the cities. Most available data is for Ljubljana, Maribor follows it.

No travel surveys have been conducted at national level. On the urban level, however, in Ljubljana there are travel surveys of good quality performed approximately every 10 years (1994, 2003, and 2013) and in Maribor they are currently conducting one.

At national level, for the purposes of the Transport Development Strategy of Republic Slovenia in 2015¹, the so-called Central European Transport (CETRA) model has been used to estimate the data. Another research that has been done nationally is the Research on Energy Efficiency in Households (REUS)²; while this survey is not primarily oriented towards travel mobility, some useful data for walking and cycling at national level can be drawn from it.

Up to 2002, the Statistical Office of Slovenia (SURS) collected some limited data in the National Census at national and urban levels: the most common travel mode for school/work trips (walking and cycling combined). The latest 2011 census however, is register-based and does not include travel at all. The information provided by SURS is that they are planning to carry out a survey on passenger mobility in 2017. This survey might provide data such as the share of walking and cycling in the total passenger mobility.

As for the traffic counts, these have been used only at urban level and only for cycling.

Data collection with regard to cycling and walking has been spread to different authorities and institutions, making it difficult to draw a well-informed overview both on the local and the national level. For the purpose of this study, the following stakeholders involved in the data collection have been contacted:

- › Ministry of Infrastructure, Department for Sustainable Mobility and Transport Policy
- › Statistical Office of the Republic of Slovenia
- › Urban Planning Institute of the Republic of Slovenia
- › Jozef Stefan Institute, Energy Efficiency Centre
- › Municipality of Ljubljana, Department of Economic Affairs and Transport
- › University of Maribor, Faculty of Civil Engineering, Transportation Engineering and Architecture

¹http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DMZ/Strategija_razvoja_prometa_v_RS/Strategija_razvoja_prometa_v_RS-končna_različica.pdf

²<http://www.pozitivnaenergija.si/raziskava/raziskava-reus/predstavitev-rezultatov/reus-2015>; <http://www.pozitivnaenergija.si/raziskava>; http://www.pozitivnaenergija.si/sites/www.pozitivnaenergija.si/files/javnepredstavitev_reus_2015.pdf

Also, Development Agency Sinergija has been contacted as they work on the mobility projects, but as they are not involved in data collection, they could provide only answers to some general questions.

2 Challenges related to data collection

Friendliness

The average score given both by the respondents of the national and urban questionnaires for the friendliness of their cities for walking is 7,6 and for the friendliness of their cities of cycling is 5,6 out of 10. It is important to take into account that this is an average score of subjective assessments of the experts or professionals working in the mobility-related fields, rather than a more representative sample of citizens. Also, the majority of the respondents come from Ljubljana, where cycling and walking infrastructure is the most developed in the country. At national level, therefore, a lower score for both active modes would be expected.

Difficulties

Apart from the fact that not much data is available overall, the main difficulties related to the existing data collection are the following:

- › Lack of systematic data collection on walking and cycling; SURS for example does not collect any information on walking and cycling.
- › Data is scattered among different authorities/institutes/organisations.
- › Data is collected randomly, no periodic collecting.
- › Small samples, low responses on surveys, underreporting of trips.
- › The indicators are not harmonized.
- › Additional cycling counters would be needed for daily collecting. No pedestrian counters exist yet.

Also, very little data is publicly available and can be found online.

Comparisons

Not many comparisons have been done yet with different countries or regions and it is difficult to find information on such comparisons. At the moment there is an ongoing survey in Maribor, and comparison of results between cities of Ljubljana and Maribor will be done in the near future.

With regard to the REUS project, since its purpose is to prepare projections of energy use, they are mostly trying to make comparisons in order to make assessment of the potential for improvement.

The largest difficulty for comparisons is the lack of data for Slovenia. It is also difficult to find data for other countries since data is not available on Eurostat.

EU action

The big majority of the respondents agree that it would be very useful to have harmonized data and statistics on cycling and walking at EU level so as to be able to draw comparisons and tackle the gaps, especially on the national level, but also at urban level (e.g. to perform comparisons based on different city sizes). Some respondents also suggested that unless the EU demands it, there will be no data

available on the national level. In order to access the ESI funds on urban mobility, appropriate statistical data should be collected.

Also, a need for comparable statistics on walking and cycling has been emphasized in the light of energy and transport transformation needed to reach 2050 targets - low carbon society and circular economy. Rather than collecting data separately with regard to active modes, perhaps it could also make sense to join the efforts with such all-encompassing initiatives which collect different types of data.

The priority actions that have been pointed out are the following:

- › Definition of common methodologies for collection of data (to make sure the data is fully comparable).
- › Dissemination of experiences between member states.
- › Improvement of statistics in member states.

Other statistics

There are statistics available with regard to the traffic accidents involving pedestrians and cyclists.

Big data

The big data sources are not used at all in Slovenia for collecting data on cycling and walking. Big data is not recognised as much as it could be and the awareness about it is very limited (e.g. from mobile phones operators).

3 Active modes use

3.1 Walking

Data on walking trips, times and distances has not been collected at national level. In the CETRA model, it was estimated that in 2011 18% of the people in the country walked to work/school. In the National Census from 2002, walking and cycling were combined and accounted together for 13% of trips to work and 27% of trips to school. The National Census 2002 also provided data per city: in Ljubljana walking and cycling were combined and accounted together for 14% of trips to work and 34% of trips to school. In these estimations and statistics, walking stages in multi-modal trips were not included, nor were other active modes.

At urban level, the 2013 Statistical survey on travel behaviour in the Municipality of Ljubljana and the Ljubljana wider urban region provided useful data on walking both on the city-level and the wider urban level. In the definition of walking, walking stage in multi-modal transport were included as well as other active modes. Waiting times were however not included in the walking time. Comparison of the results with the previous survey from 2003 was presented. The statistics on walking available in this survey include:

- › Average number of walking trips per day in the Municipality of Ljubljana (MOL): 0.97
- › Average number of walking trips per day in the Ljubljana Urban Region (LUR): 0.71

- › Average daily distance travelled per person in the MOL: 0.65 pkm/day [not included in the report of the survey, but the authors of the survey from the University of Maribor provided information]
- › Average daily distance travelled per person in the LUR: 0.58 pkm/day [not included in the report of the survey, but the authors of the survey from the University of Maribor provided information]
- › Percentage of travel by transport mode on a working day; for walking: MOL 2013 – 34.8%, compared to MOL 2003 – 19%; LUR 2013 - 27%, compared to MOL 2003 – 13.3%
- › Percentage of travel by transport mode on all days
- › Percentage of travel by transport mode on non-working days
- › Percentage of travel by transport mode and purpose
- › Percentage of walking trips by age
- › Percentage of walking trips by gender
- › Percentage of walking trips by status

3.2 Cycling

Similarly as above, data on cycling trips, times and distances have not been collected on the national level. In the CETRA model done in 2011, it was estimated that 15% of the people in the country walked to work/school. In the National Census from 2002, walking and cycling were combined and accounted together for 13% of trips to work and 27% of trips to school. The National Census 2002 also provided data per city: in Ljubljana walking and cycling were combined and accounted together for 14% of trips to work and 34% of trips to school. In these estimations and statistics, pedalling without any motorised support was included but e-bikes and other forms of motorised vehicles were not included.

At urban level, the 2013 Statistical survey on travel behaviour in the Municipality of Ljubljana and the Ljubljana wider urban region, provided useful data on cycling both on the city-level and the wider urban level. Same as on the national level, in the definition of cycling pedalling without any motorised support was included, but e-bikes and other forms of motorised vehicles were excluded. Comparison of the results with the previous survey from 2003 was also presented. The statistics data on cycling available in this survey include:

- › Average number of walking trips per day in the MOL: 0.31
- › Average number of walking trips per day in the LUR: 0.08
- › Average daily distance travelled per person in the MOL: 1.69 pkm/day [not included in the report of the survey, but the authors of the survey from the University of Maribor provided information]
- › Average daily distance travelled per person in the LUR: 1.29 pkm/day [not included in the report of the survey, but the authors of the survey from the University of Maribor provided information]
- › Percentage of travel by transport mode on a working day; for cycling: MOL 2013 – 11.1%, compared to MOL 2003 – 9.9%; LUR 2013 – 3.1%, compared to MOL 2003 – 4.4%

- › Percentage of travel by transport mode on all days
- › Percentage of travel by transport mode on non-working days
- › Percentage of travel by transport mode and purpose
- › Percentage of cycling trips by age
- › Percentage of cycling trips by gender
- › Percentage of cycling trips by status

The Municipality of Ljubljana also automatically collects data from the cycling counters on all days in a year, and provides information that currently 13% of the population of Ljubljana cycles.

4 Infrastructure

4.1 Walking infrastructure

In Slovenia regulations and guidelines applies on walking infrastructure quality/standards requirements, both on the national and local levels.

- › ***Pravilnik o projektiranju cest (Regulations on road design)***³: Rules on road design also include general standards for pedestrian infrastructure design
- › ***Prometna politika MOL (Traffic Policy of the Municipality of Ljubljana)***⁴: Possible ways of designing pedestrian areas and criteria that has to be taken into account. It also applies to cyclists.

The majority of Slovenian bigger cities have all dedicated pedestrianised zones in the core city centre, for example Ljubljana, Maribor, Celje, Ptuj and Kranj. There is no information available on the size of these areas, apart from Ljubljana (100,000 m²). Pedestrian areas are regulated by national laws and are marked by traffic signs.

Shared-space areas are a very new concept which has been introduced as a test on one location in Ljubljana and there are plans to include it also on other locations and in other cities. But the problem at the moment is that the national law does not allow them yet. For the time being, only 'areas of slow traffic' are defined by law, which are parts of the road, the road in the village or parts of the settlement, which are primarily intended for pedestrians and as such marked with prescribed traffic sign:

3

http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DC_splosno/pravilnik_projektiranje.pdf

⁴ <http://www.ljubljana.si/si/zivljenje-v-ljubljani/promet-infrastruktura/>



Območje umirjenega
prometa

4.2 Cycling infrastructure

There are no statistics on cycling infrastructure on the national level. The statistics are available on the urban level. In Ljubljana there are approximately 225 km of cycling infrastructure.

These are available regulations and guidelines about cycling infrastructure quality/standards requirements:

- › **Pravilnik o projektiranju cest (Regulations on road design)**⁵: Rules on road design also include general standards for cycling infrastructure design
- › **Navodila za projektiranje kolesarskih površin (Guidelines for design of cycling areas)**⁶: Guidelines: technical elements, crossings, parking, surfaces, details and signalisation.
- › **Zasnova državnega kolesarskega omrežja v Republiki Sloveniji** (The design of the national cycle network)⁷: Possible ways of designing cycling lanes/areas and the criteria that has to be taken into account.
- › **Prometna politika MOL (Traffic Policy of the Municipality of Ljubljana)**⁸: Possible ways of designing cycling infrastructure and the criteria that have to be taken into account.

As it is outlined in the 2015 Transport Development Strategy of Republic of Slovenia⁹, these are some of the gaps at national level:

- › There is no regulation of national cycling infrastructure
- › The cycling network is not completed and connected; this is why the cycling traffic cannot develop properly.

It was recognized that a strategic plan has to be done to solve these issues.

⁵http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DC_splosno/pravilnik_projektiranje.pdf

⁶http://www.di.gov.si/fileadmin/di.gov.si/pageuploads/Stran_navodila_in_vzorci/kolesarji_prelom_web_06-2012.pdf

⁷http://predlagam.vladi.si/webroot/files/772_publikacija_kolesarji.pdf

⁸<http://www.ljubljana.si/si/zivljenje-v-ljubljani/promet-infrastruktura/>

⁹http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DMZ/Strategija_razvoja_prometa_v_RS/Strategija_razvoja_prometa_v_RS-končna_različica.pdf

Other useful information:

Interactive maps, cycling journey planner and other useful information for Ljubljana Urban Region: <http://www.gremonapot.si/kolesarstvo/kolesarske-poti.aspx>
(<http://www.gremonapot.si/cycling/cycling-routes.aspx>)

Useful guide for inclusive planning and promotion of cycling done by the project Mobile 2020, containing useful information on the situation in Slovenia:
http://www.mobile2020.eu/fileadmin/files_si/downloads/Mobile_prirocnik_small_01.pdf

5 Data collection methods

5.1 *Potovalne navade prebivalcev v Mestni občini Ljubljana in Ljubljanski urbani regiji* (Statistical survey on travel behaviour in the Municipality of Ljubljana and the Ljubljana wider urban region)

Population

- › Done at urban level: for MOL and LUR
- › Conducted approx. every 10 years: 1994, 2003, the most recent in 2012
- › Type of data available upon request: report, data collection description, data collection design, questionnaire, codebook and metadata, descriptive statistics, origin/destination matrices.
- › Population size: Members of a bit more than 2,000 households (note: 3 x bigger sample in 2003)
- › Sampling spatial distribution method: stratification by region; stratification by different Ljubljana municipalities (the number of households per municipality + number of people per household were taken into account)
- › Survey methods: face-to-face (incl. CAPI), email/web interviewing (incl. CAWI)
- › Age limit: More than 7 years old, but the questionnaire had to be filled in by the respondents of minimum 18 years old
- › Population included in the sampling: total population

Trips

- › Trip definition: New trip is considered every time the purpose of journey, means of transportation (or a number of passengers in a car) changes. Also, a walking trip is considered when it lasts more than 2 min/200m and when walking is the only transport mode of a trip.
- › Only main mode recorded, walking NOT derived (estimated) as part of multimodal trip
- › Geographical boundaries: trips within a greater city area
- › Survey is trip-based

- › The trip purpose is recorded
- › Professionals are not recorded

Distance

- › Reporting period: weekday before
- › Seasonal variations are taken into account: The surveying took place between 8 October 2013 and 19 November 2013, school holidays were excluded; the authors of the survey took into account the weather conditions and assessed they were not extreme but rather average so the weather was assessed to not have much influence on the results (unlike the survey of 2003).
- › Duration and length recording method: geo-location. There was no parallel GPS-tracking on a smaller sample; based on the comparable surveys in Geneva, Zurich and Graz where GPS-tracking was performed in parallel, a correction factor of 2.14 was used for the Ljubljana study to correct 'underreporting'
- › Distance and duration are collected separately
- › There is a minimum distance/time threshold for the recorded data. For walking: only trips of more than 2 min/more than 200 m are taken into account.

5.2 Research on energy efficiency in households (REUS)

This research is not primarily oriented at travel mobility, therefore its use for this purpose is limited.

Population

- › Done at the national level, results not reported on the urban level
- › Done in 2009, 2010, 2011, 2012 and the latest in 2015
- › Publicly accessible data: data collection description and descriptive statistics
- › Available upon request: data collection design, questionnaire, descriptive statistics, micro data.
- › Population sample size: 1,006
- › Sampling spatial distribution method: size of household, type of settlement, region, type of building
- › Survey methods: face-to-face (incl. CAPI), email/web interviewing (incl. CAWI)
- › Age limits: 18-75 years
- › Total population included in the sampling
- › People who did not travel in the day are included.

Trips

- › Different types of trips are analysed: going to work in the city of residence, going to work outside the city of residence, going to kindergarten, school or faculty, going for shopping in city of residence, going for shopping outside the city of residence, going on an excursion/trip (i.e. to mountains), going on vacation

- › Only main mode recorded, walking NOT derived (estimated) as part of multimodal trip
- › Only main mode recorded, cycling NOT derived (estimated) as part of multimodal trip
- › Geographical boundaries: Trips mainly made in Slovenia, but could also be made in other countries
- › Activity-based survey
- › The trip purpose is recorded.
- › Professionals are not recorded.

Distance

- › Reporting period: Season - warm part of year. Meaning that information is averaged.
- › Seasonal variations not taken into account.
- › Duration and length recording method: self-estimation
- › Distance is not collected.
- › There is no minimum distance/time threshold for the data recorded.

5.3 Other data collection methods

5.3.1 Transport Development Strategy of Republic Slovenia (2015) - data estimated by CETRA model

- › Done only once in 2011
- › Data publicly accessible: data collection description, data collection design, questionnaire, codebook and metadata
- › Micro data available upon request
- › The results are reported at urban level on the basis of residence and time
- › For cycling: pedalling without any motorised support was included but e-bikes and other forms of motorised vehicles were not included.
- › For walking: walking stages in multi-modal trips were not included, so as were not included other active modes

5.4 Traffic counts

Cycling counters in Ljubljana

- › Cycling counts record information every day all year long.
- › 10 cycling counters in Ljubljana: Dunajska cesta, Celovška cesta (x2), Drenikova cesta, Hala Tivoli, Emonika, Pivovarna Union, Tržaška cesta, Roška cesta, Šmartinska cesta

5.5 National Census

- › As of 2011 the census is register-based and doesn't include travel anymore
- › Census 2002: The most common travel mode for school / work trips is recorded (walking and cycling combined) on the national and urban levels.
- › For Slovenia 2002: 13% of trips to work (cycling and walking combined), 27% of trips to school (cycling and walking combined)
- › For Ljubljana 2002: 14% for work trips and 34% for school trips (walking & cycling combined)

5.6 Big Data

Big data is not used in Slovenia.

6 References

Mitja Klemenčič, Marjan Lep, Beno Mesarec, Branko Žnuderl (April 2014) Potovalne navade prebivalcev v Mestni občini Ljubljana in Ljubljanski urbani regiji [Statistical survey on travel behaviour in the Municipality of Ljubljana and the Ljubljana wider urban region], Final report, not published.

Rajko Dolinšek (InformaEcho), Raziskava Energetske Učinkovitosti Slovenije [Research on Energy Efficiency in Households of Slovenia] - REUS 2015, Survey report,

http://www.pozitivnaenergija.si/sites/www.pozitivnaenergija.si/files/javnapredstavitev_reus_2015.pdf;

<http://www.pozitivnaenergija.si/raziskava/raziskava-reus/predstavitev-rezultatov/reus-2015>; <http://www.pozitivnaenergija.si/raziskava>

Websites

Ministry of Infrastructure of Republic of Slovenia, Strategija Razvoja Prometa v RS [Transport Development Strategy of Republic Slovenia], (29 July 2015),

[http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DMZ/Strategija_razvoja_prometa_v_RS-koncna_razlicica.pdf](http://www.mzi.gov.si/fileadmin/mzi.gov.si/pageuploads/DMZ/Strategija_razvoja_prometa_v_RS/koncna_razlicica.pdf)

Weblinks to legislative documents mentioned in the reports are in the footnotes.

C.27 SPAIN

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
EDM	Encuesta domiciliaria de Movilidad -
CRTM	Consortio Transportes Madrid

SUMMARY TABLE

National surveys

Barómetro de la Bicicleta en España	2015
National Census	2011

City-level surveys

Mobility Household Survey of Madrid	2004
Results from 2004 survey expanded based on traffic counts	2014

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Spain	no data			
Madrid	1.5	pkm/day	walking	2014

Walking: average number of trips per day

no data

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Spain	no data			
Madrid	4.5	pkm/day	cycling	2014

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Spain	10	cycle every day
Spain	27	cycle at least once a week
Madrid	no data	

Statistics on cycling infrastructure (km), by type of infrastructure

	Spain	Madrid
Cycle track	-	179
Cycle street	-	64
Bus and cycle lane	-	-
Contraflow cycling	-	1
Cycle lane	-	25
Advisory cycle lane	-	157.6
Total	-	447.35

FOOTNOTE:

- 1) 'The walking and cycling population are not representative for the mobile population.
- 2) 'Cycling at least once a week is considered the best fit for the cycling population.

1 Context

The most recent National Travel Survey in Spain covering both walking and cycling is the *Encuesta de Movilidad de las Personas Residentes* (Mobility Survey of the Population in Spain), which was carried out for the last time in 2006/2007. The methodology applied in the survey was very comprehensive and allowed a good analysis of the distance and duration performed by the population using different modes of transport, including walking and cycling. Unfortunately, this travel survey was discontinued.

The statistics presented on this report are based on more recent data collection exercises applied in Spain and Madrid, which consider walking and/or cycling:

- › *Barómetro de la Bicicleta en España (2015)*: This cycling barometer was commissioned by *La Red de Ciudades por la Bicicleta* (City Network for Cycling) as a follow up of the cycling barometer carried out in 2011 under coordination of the Traffic Directorate of the Ministry of Spain. The barometer provides valuable quantitative and qualitative information with regards to cycling in Spain.
- › *Census (2011)*: The census in Spain includes questions regarding the frequency of walking and cycling for the purpose of work or education, including number of trips and average duration.
- › *Encuesta domiciliaria de Movilidad - EDM* (Mobility Household Survey) (2004, updated in 2014): this survey was designed by the *Consortio Transportes Madrid – CRTM* (Transport Consortium Madrid) with the objective to understand the mobility patterns of the population of Madrid, as well as their socio-economic and behavioural characteristics.

2 Challenges related to data collection

Friendliness	<p>In Spain, 52% of the population believes that the city where they live in is cycle friendly¹. In Madrid, the score given for cycling friendliness was 6 out of 10 while the walking friendliness was rated 7 out of 10.</p> <p>The large number of vehicles and the limited number of adequate infrastructures or walking and cycling have been presented as the main reasons for preventing the further development of walking and cycling in the country.</p>
Difficulties	There is a lack of investment in data collection of walking and cycling statistics and a unified criteria or methodology is not existent.
Data comparison	The absence of data from the different regions in Spain is one the main challenges to deal with when comparing walking and cycling data.
EU action	The respondents consider that EU action is important in defining a common criteria for the data collection of walking and cycling statistics.

¹ Barómetro de la bicicleta 2015

Other data sources

In addition to the EDM, Madrid also collects accidents and bike sharing data. Although Big Data is still not used in the city, there is a will to take advantage of it in the future.

3 Active modes use

3.1 Walking

There is no clear definition of walking in the surveys carried out. According to the Census 2011, around 14% of the population walks to work at least once a week.

Statistics

Data from Madrid indicate an average of 2,157,129 walking trips per day and the average daily distance per person is 1.5 km.

According to the Census, around 77% of the trips by foot are less than 19 min.

Table 1: Average trip duration for walking in Spain

Trip duration	Walking
Less than 10 min	43%
10 – 19 min	34%
20 – 29 min	14%
30 – 44 min	6%
45 min – 1h	2%
1h – 1h30	1%
>1h30	0%

Source: prepared by the author based on Census 2011, INE.

3.2 Cycling

In Spain, all different types of pedalling activities, including e-bike, are considered in the survey. The information on the type of bike of the responded is presented separately in the country report.

According to the Spanish Bicycle Barometer 2015, there was a considerable increase in the use of bicycle in the last four years. The latest results present that 10% of the population cycles every day to work or study and an additional 17% cycles at least once a week. Nevertheless, these statistics are considerably different from the results of the National Census 2011, where only 1.8% of the population use the bike daily to go to work. The main reason might be that only the main modes of transport are recorded in the Census, resulting in a misrepresentation of cycling and walking.

More than 60% of cyclists in Spain are men between 25 and 54 years. Almost 8 out of 10 bicycle users have medium or high education and 3 out of 4 are either working or studying.

Statistics

The average daily distance travelled by cyclists in Madrid is 4.5 Km and 10,500 cycling trips per day are estimated for the population.

Data from the Census indicate that most of the cycling trips (37%) are between 10 and 19 min.

Table 2: Average trip duration for cycling in Spain

Trip duration	Cycling
Less than 10 min	28%
10 – 19 min	37%
20 – 29 min	19%
30 – 44 min	10%
45 min – 1h	4%
1h – 1h30	2%
>1h30	1%

Source: prepared by the author based on Census 2011, INE.

4 Infrastructure

4.1 Walking infrastructure

The City of Madrid publishes rules and specifications for walking infrastructure and pedestrianised zones through the *Instrucción para el Diseño de la Vía Pública* (Guide for urban infrastructure design)². It provides regulations and rights for the pedestrian as well as the distance and area requirements according to the different types of infrastructure. The following types of walking infrastructure:

- › *aceras* (footpaths): 6 m width (4 m in special cases)
- › *sendas* (footpaths segregated from the road and located in areas without access to building): 3 m width
- › *calles peatonales* (pedestrianised streets)
- › *calles de prioridad peatonal* (shared spaces)

In Madrid, there are 319,367 m² of dedicated pedestrianised zones.

4.2 Cycling infrastructure

According to the *Barómetro de la Bicicleta en España (2015)*, 6 out of 10 Spanish citizens live in cities where there is cycling infrastructure. There is a high correlation

² Instrucción para el Diseño de la Vía Pública – Chapter 8. available at: <http://www.madrid.es/UnidadesDescentralizadas/UDCUrbanismo/PGOUM/InstruccionViaPublica/Ficheros/fic8.pdf>

between the size of the city and the presence of cycling infrastructure in the city. On average, the bigger the city, more cycling infrastructure is available.

For most of the respondents (61%), the quality of the cycling infrastructure is good but the quantity of cycling routes is not sufficient (64%).

85% of the inhabitants of the larger cities in Spain (more than 500,000 inhab.) indicated that their cities have bike sharing systems, but only 13% use the scheme.

The specifications and regulation for cycling infrastructure is also presented by the *Instrucción para el Diseño de la Vía Pública*³. The following types of infrastructure are defined in the manual:

- › cycle track
- › cycle street
- › cycle lane
- › advisory cycle lane
- › bus and bicycle lane (normally only at bus platforms)

In total, there are 447.35 Km of cycling infrastructure in Madrid, which could be further classified as follows:

Type of infrastructure	Length
Cycle track	179 km
Cycle street	64 km
Contraflow cycling	1 km
Cycle lane	25 km
Advisory cycle lane	157.6 km

5 Data collection methods

At country level, the most recent surveys identified were *Barómetro de la Bicicleta en España (2015)* and the Census (2011). For Madrid, the information provided was based on the *Encuesta domiciliaria de Movilidad – EDM (2014)*

5.1 Barómetro de la Bicicleta en España

This cycling barometer was commissioned by La Red de Ciudades por la Bicicleta (City Network for Cycling) and it provides valuable quantitative and qualitative information concerning cycling in Spain.

³ Instrucción para el Diseño de la Vía Pública – Chapter 9.2. available at: <http://www.madrid.es/UnidadesDescentralizadas/UDCUrbanismo/PGOUM/InstruccionViaPublica/Ficheros/fic9.2.pdf>

	This barometer follows similar principles as of the previously implemented barometers, carried out in 2011, 2010, 2009 and 2008 under coordination of the Traffic Directorate of the Ministry of Spain.
Data availability	The data collection design and methodology is publicly available. The results are presented in a descriptive report which analyses the different patterns of mobility per gender, age, geographical location and others.
Population	<p>The survey interviewed 1,903 people, being 1,600 phone interviews to general population and 300 online interviews for bicycle users.</p> <p>Sampling is random and covers the entire country. Stratification is done by region.</p> <p>Respondents need to be between 12 and 79 years of age and people who didn't travel in the day of the survey are also included.</p>
Trips	The survey is activity based however the questions asked are related to the travel patterns of the respondent throughout the year. Trip purpose can be classified as work, study, daily affairs, leisure or sport. There is no differentiation between professional transport carriers, what could affect the results of the survey.
Duration and distance	Duration and distance are not collected as part of the survey.

5.2 Encuesta domiciliaria de Movilidad para Madrid - EDM (2004, updated in 2014)

The survey was designed by the *Consorcio Transportes Madrid – CRTM* (Transport Consortium Madrid) with the objective to understand the mobility patterns of the population of Madrid, as well as their socio-economic and behavioural characteristics. The latest travel survey was carried out in 2004, however the results are updated annually on the basis of walking and cycling counts.

5.3 National Census

The census in Spain is carried out every ten years and it includes questions regarding the frequency of walking and cycling for the purpose of work or education, including number of trips and average duration.

Population	<p>The sample taken into account was 5.7 million people, representing 12% of the total population of the country. The stratification is done by region but it is also possible to receive microdata per urban area.</p> <p>The interviews were done either face-to-face or by email. Although there are no age limits for the Census as a whole, the surveys with regards to mobility patterns only consider people older than 16 years.</p>
Trips	Only trips to work or school are recorded. For each trip, only the main mode of transport is recorded. If more than one mode is used, only the two modes which represent the longest distances travelled should be reported. This approach tends to misrepresent trips made walking or cycling.

Duration and distance The average duration of trips are reported in the questionnaire. The distance is calculated automatically based on the addresses given by the respondent (home and work) but these data are not published.

The distance per trip and the estimation of duration per trip could be possibly calculated by using the microdata. The microdata was not received by the consultant.

5.4 Traffic counts

Traffic counts of pedestrians and bicyclists are carried out annually in Madrid in order to update the results EDM survey.

6 References

Instituto Nacional de Estadística (2011) *Censos de Poblacion y Viviendas en España*.

Consortio de Transportes Madrid (2004), *Encuesta Domiciliaria de Movilidad en la Comunidad de Madrid*. Available at (in Spanish): http://www.crtm.es/media/157705/edm_2004.pdf

Red de Ciudades por la Bicicleta (2015). *Barómetro de la Bicicleta en España*. Available at (in Spanish): <http://www.ciudadesporlabicicleta.org/web/wp-content/uploads/Bar%C3%B3metro%20de%20la%20Bicicleta%20en%20Espa%C3%B1a%202015%20-%20Red%20de%20Ciudades%20por%20la%20Bicicleta.pdf>

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
RVU	Den nationella resvaneundersökningen (National Travel Survey)

SUMMARY TABLE

National surveys

The national travel survey (RVU) 2014-2015

City-level surveys

Stockholm travel survey report 2015

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Sweden	1.13	pkm/day	total	2011-2015
Stockholm	1	pkm/day	total	2015

Walking: average number of trips per day

	Number	Unit	Population	Year
Sweden	0.56	trips/day/person	total	2011-2015
Stockholm	0.4	trips/day/person	total	2015

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Sweden	0.6	pkm/day	total	2011-2015
Stockholm	0.9	pkm/day	total	2015

Cycling: average number of trips per day

	Number	Unit	Population	Year
Sweden	0.2	trips/day/person	total	2011-2015
Stockholm	0.3	trips/day/person	total	2015

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Sweden	9.3	on an average day
Stockholm	6	in wintertime (Februari)
Stockholm	17	in summertime (September)

Statistics on cycling infrastructure (km), by type of infrastructure

	Sweden	Stockholm
Total	19,000	965

FOOTNOTE:

- 1) The countrywide statistics were provided as the average of the data from 2011-2015. In the data from 2014-2015 alone, walking and cycling are counted together.
- 2) September is used for the comparison of the percentage of the population cycling in Stockholm.

1 Context

Several reports and websites contain information and statistics on cycling and walking in Sweden and Stockholm. This report mainly focuses on data collected from *Den nationella resvaneundersökningen* (RVU) - the national travel survey – and a travel survey report "*Resvanor i Stockholms län 2015*" focusing on travel modes in Stockholm län (The Stockholm region)¹.

In the report covering results from RVU, the active modes cycling and walking are summed. Therefore, it is not possible to find the data presented separately in the report published by Trafikanalys (Transport analysis - a Swedish government agency for transport policy analysis). However, data has been separated in this country report with help from Andreas Holmström from Trafikanalys.

2 Challenges related to data collection

Friendliness	The friendliness of walking is rated 7 out of 10 in Sweden as a whole. For cycling the number is 5. In Stockholm the friendliness of walking and cycling are both rated 7. It has to be taken into account that these are personal assessments, which are not based on a random selection of respondents.
Difficulties	The difficulties encountered when collecting statistics on walking and cycling are that different measurement methods often are used. For example the municipalities often use flow measurements, where the selection of measuring points is skewed. Another difficulty with data collection is that the response rate is somewhat low and decreasing in national travel surveys. Furthermore, there is a high seasonal variation in behaviour which needs to be taken into account as well as low response rates.
Comparability	<p>According to Trafikanalys, one of the main problems when trying to compare data with others are the undefined terms of measurement. One example is "cycling", where statistics can be collected both based on number of trips, distance, or number of "cyclists", depending on the type of data collection. Another example is "share", where it can be unclear which modes and trip purposes are included as well as where it is measured for example in densely built-up areas, or in the countryside.</p> <p>Furthermore, it can be hard to compare mode shares due to small sample sizes in RVU.</p>
EU action	In order to make it possible to compare data with other countries, it is mentioned that it would be very helpful if the specifications on how "cycling" and "share" should be measured, and where (urban, non-urban) could be unified.
Other statistics	Traffic accidents are also collected in Sweden, as well as traffic counts. In Stockholm Pneumatic tubes, video and loops are used as traffic counts as well as

¹ It has not been possible to find statistics only covering the capital.

Big data

manual counts. Manual counts are made as three 2-hour counting periods (7-9, 12-14, 16-18) tube counts runs for 7 days, and 42 locations has automatic counting at 15-minute intervals 24/7. Some of the counts are geographically located at boundaries around the city centre, and a line dividing Stockholm in north and south of Gamla Stan (the old town). Some are located on the major bicycle commuting paths.

Big data is not used as such, but there is an "awareness" about big data. It is mentioned that Sweden in this regard participates in the European SPOT 2 project.

3 Active modes use

Since 1980, Stockholm has collected data on cycling in the city. Data has been collected through manual traffic counts as well as automatic traffic counts based on 55 traffic counts stations. Data shows that cycling as a traffic mode has increased highly since 1980 until today. In 2015 Stockholm started to collect data on pedestrians too since there is an increased interest and need for having data of all traffic modes. Data on pedestrians is counted manually but Stockholm plans to install seven automatic pedestrian counters during 2016.²

At the moment, there is a walking and cycling campaign in Stockholm. The aim is to make people from Stockholm see the possibilities in walking and cycling. In this way, they are hoping to solve the traffic problems when the number of people in Stockholm will increase.³

3.1 Walking

There is no specific definition of walking applied in the surveys. RVU includes waiting time in walking time and other active modes such as skateboarding but this is not stated clearly in the questionnaire.⁴ In the travel survey from Stockholm, other active modes are not a part of the choices and it is not possible to estimate waiting time either.

² Stockholms Trafikkontor, 2016, Stockholms trafikutveckling 2015 - cykel och gång,
http://www.stockholm.se/PageFiles/1242473/CykelG%c3%a5ngRapport2015_documentHandler.ashx.pdf

³ About the walking and cycling campaign,
<http://www.stockholm.se/TrafikStadsplanering/Trafik-och-resor-/Cykla/Tack-for-att-du-cyklar/> the campaign: <http://serdumojligheterna.se/>

⁴ RVU Sverige Förenklat formulär
http://www.trafa.se/globalassets/statistik/resvanor/bilaga_rvu_sverige_forenklat_formular.pdf

Table 3.1 Statistics on the average pkm/day and number of trips walked

	pkm/day	Number of trips	Year
Sweden⁵	1.13	0.56	2011-2015
Stockholm län⁶	1.0	0.40	2015
Stockholm⁷	-	0.50	2015

In a report about environment habits it is reported, that 13 % of the people from Stockholm is walking to their work in the wintertime (February) and 12 % are doing this in the summertime (September).⁸ According to the walking and cycling campaign in Stockholm and a report about walking, 38 % of the trips within Stockholm City is made by foot.⁹

3.2 Cycling

In RVU e-bikes are included in cycling. It is not possible to choose e-bikes as a mode of transport in the travel survey from Stockholm.

RVU reports, that on an average day 9.3 % of the people between 6-84 years old are cycling in Sweden.

⁵ Sum of averages of the years 2011-2015 – data drawn from the RVUs.

Trafikanalys, 2016, RVU Sverige - den nationella resvaneundersökningen 2014–2015, http://www.trafa.se/globalassets/statistik/resvanor/rvu_sverige_2015.pdf
Trafikanalys, 2015, RVU Sverige - den nationella resvaneundersökningen 2011–2014

<http://www.trafa.se/globalassets/statistik/resvanor/rvu-sverige-2011-2014.pdf>

⁶ Trafikförvaltningen, Stockholm Läns Landsting, 2016, Resvanor i Stockholms län 2015,

<http://www.sll.se/Global/Verksamhet/Kollektivtrafik/Kollektivtrafiken%20växer%20med%20Stockholm/SU/Resvaneundersökningen/resvanor-i-stockholms-lan-2015.pdf>

⁷ Trafikförvaltningen, Stockholm Läns Landsting, 2016, Resvanor i Stockholms län 2015,

<http://www.sll.se/Global/Verksamhet/Kollektivtrafik/Kollektivtrafiken%20växer%20med%20Stockholm/SU/Resvaneundersökningen/resvanor-i-stockholms-lan-2015.pdf>

⁸ Stockholms stad, 2015, Miljön i Stockholm 2015 – Tillstånd och utveckling.

http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjrnan_I9LNAhXKOSwKHZOMC_0QFggdMAA&url=http%3A%2F%2Fwww.stockholm.se%2FPageFiles%2F69900%2FMilj%25C3%25B6n_i_Stockholm_2015.pdf&usg=AFQjCNFSokEtK582PS4faJHtm8eTt1pnng&sig2=atLgPgVQ9HO6wqR_Nv5cAQ

⁹ <http://serdumojligheterna.se/gang/>

Stockholm Stad, Gångplan för Stockholm 2014-10-20 Remisshandling, <http://bygg.stockholm.se/PageFiles/881594/gangplan.pdf>

Table 3.2 Statistics on the average pkm/day and number of trips cycled

	pkm/day	Number of trips	Year
Sweden¹⁰	0.6	0.2	2011-2015
Stockholm län¹¹	0.9	0.2	2015
Stockholm¹²	-	0.3	2015

The report about environment habits in Stockholm reports, that 6 % of the people from Stockholm is cycling to their work in the wintertime (February) and 17 % are doing this in the summertime (September).¹³

4 Infrastructure

4.1 Walking infrastructure

Trafikverket provided the following table with information about the data available of the walking infrastructure in Sweden. The data is far from being complete since only some municipalities have delivered data about walking infrastructure.

¹⁰ Sum of averages of the years – data drawn from the RVUs.

Trafikanalys, 2016, RVU Sverige - den nationella resvaneundersökningen 2014–2015, http://www.trafa.se/globalassets/statistik/resvanor/rvu_sverige_2015.pdf

Trafikanalys, 2015, RVU Sverige - den nationella resvaneundersökningen 2011–2014

<http://www.trafa.se/globalassets/statistik/resvanor/rvu-sverige-2011-2014.pdf>

¹¹ Trafikförvaltningen, Stockholm Läns Landsting, 2016, Resvanor i Stockholms län 2015,

<http://www.sll.se/Global/Verksamhet/Kollektivtrafik/Kollektivtrafiken%20växer%20med%20Stockholm/SU/Resvaneundersökningen/resvanor-i-stockholms-lan-2015.pdf>

¹² Trafikförvaltningen, Stockholm Läns Landsting, 2016, Resvanor i Stockholms län 2015,

<http://www.sll.se/Global/Verksamhet/Kollektivtrafik/Kollektivtrafiken%20växer%20med%20Stockholm/SU/Resvaneundersökningen/resvanor-i-stockholms-lan-2015.pdf>

¹³ Stokholms stad, 2015, Miljön i Stockholm 2015 – Tillstånd och utveckling.

http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjrnan_I9LNAhXKOSwKHZOMC_0QFggdMAA&url=http%3A%2F%2Fwww.stockholm.se%2FPageFiles%2F69900%2FMilj%25C3%25B6n_i_Stockholm_2015.pdf&usq=AFQjCNFSokEtk582PS4faJHtm8eTt1pnng&sig2=atLgPgVQ9HO6wqR_Nv5cAQ

Table 4.1 Walking infrastructure (length in meters)

	Stately	Municipal	Individual	Does not exist	Total
Middle	117	759	-	-	876
North	751	2,370	-	-	3,121
Stockholm	1,862	747,439	88,227	190	837,717
South	124	5,987	261	-	6,371
West	136	2,275	-	-	3,226
East	122	2,065	-	-	2,187
Total	3,112	760,894	89,302	190	853,498

The National Board of Housing, Building and Planning has a regulatory regarding constructions in Sweden. When new public spaces, or areas for other constructions than buildings, are constructed, they should be made accessible for people with impaired mobility or orientation.¹⁴

Stockholm has a strategy for walking, the aim with the strategy is to clarify what have to be done in order to keep the good conditions for pedestrians as well as improve things which can be better.¹⁵

In the national highway code there is a specific chapter for pedestrians (Chapter 7). The chapter contains regulations in regards to where to walk if there is not a pedestrian street.¹⁶

4.2 Cycling infrastructure

In Sweden there are 19,000 kilometres of cycling infrastructure according to Trafikanalys. The following table provides information about the data available of the length of the cycle infrastructure in Sweden. The data contains approximately 90 % of the cycling infrastructure in the country.

¹⁴ Olsson, C. 2011, Boverkets Författningssamling,

<https://info.boverket.se/ALM/PDF/BFS2011-5-ALM2.pdf>

¹⁵ Stockholm Stad, Gångplan för Stockholm 2014-10-20 Remisshandling,

<http://bygg.stockholm.se/PageFiles/881594/gangplan.pdf>

¹⁶ Träffikförordning, 2016, <http://www.notisum.se/rnp/SLS/lag/19981276.htm> .

Table 4.2 *Cycling infrastructure (length in meters)*

	Stately	Municipal	Individual	Does not exist	Total
Middle	272,434	1,393,715	52,009	2	1,718,160
North	254,165	445,111	31,179	0	730,455
Stockholm	163,106	3,552,157	249,675	11	964,950
South	827,980	5,050,793	287,988	1	6,166,763
West	664,023	4,041,705	219,617	10	4,925,355
East	330,912	2,316,895	120,079	9	2,767,895
Total	2,512,621	16,800,378	960,546	33	20,273,578

Source: Trafikanalys

Trafikanalys informs that the infrastructure contains:

- › Cycle tracks
- › Cycle streets
- › Cycle lanes
- › Contraflow cycling.

However, statistics on the specific cycling infrastructure is not available.

Ourway reports that there are 760 km of cycling infrastructure in Stockholm,¹⁷ and Stockholms stad informs that Stockholm has 211 Swedish miles of walking and cycling infrastructure (2,110 km).¹⁸ It is possible to visualise the cycle roads in the Stockholm region at the following webpage:

<https://trafiken.nu/stockholm/cykel/regionala-cykelstrak/> .

In the National Highway Code there is a specific chapter for cyclists (Chapter 6). The chapter presents the rules concerning cyclists. The rules describes how cyclist should be cycling (in a line, with at least one hand on the handlebar, with a helmet if you are under 15 years old etc.).¹⁹

In Stockholm, there is a cycle strategy, which aims at making it simpler and safer to cycle in the Stockholm region. The report states that there is a high potential for making Stockholm a cycle city since 80 % of those who live in the city only have 30

¹⁷ Page about cycle infrastructure <https://ourwaytours.com/sv/760-km-cykelbana-stockholm/>

¹⁸ Information about walking and cycling structure in Stockholm <http://www.stockholm.se/TrafikStadsplanering/Trafik-och-resor-/Cykla/Underhall/>

¹⁹ Träfikförrdning, 2016, <http://www.notisum.se/rnp/SLS/lag/19981276.htm> .

minutes to work by cycle. The aim is that 15 % of the traffic should be by cycle in 2030 in the peak traffic.²⁰

The traffic office in Stockholm has published a guideline about how to design cycle infrastructure in the city. Focus is among other things on the principles of designing cycle infrastructure (cycle lanes, cycle fields etc.) as well as comments and suggestions to different scenarios in regards to cycling.²¹

5 Data collection methods

5.1 *Den nationella resvaneundersökningen (RVU)*

Data is collected continuously to *Den nationella resvaneundersökningen* (RVU), the national travel survey. From 2016, there will be a break in collecting data until at least 2019 due to an increasing number of non-responses to the survey. Therefore, Sweden is planning to make extensive changes to the survey to increase the response rate and engagement in the survey. The short break should not influence the time series because, according to experience, changes in travel behaviour occur rather slowly.

The most recent year of reported data is 2014-2015. From the years 2011-2014 data has been gathered in one report presenting the data. Other reports on RVU is mainly tables with results. In the reports results regarding walking and cycling are summed. The numbers in section 3.1 and 3.2 in this case study has been delivered by Trafikanalys.

Results from RVU are not reported on specific cities, but some results are reported at the following urban levels:

- › Metropolitan municipalities
- › Suburban municipalities
- › Large cities
- › Suburban municipalities to large cities
- › Commuter municipalities
- › Tourism and travel industry municipalities
- › Manufacturing municipalities

²⁰ Stockholm Stad, En del av Framkomlighetsstrategin Cykelplan,

http://bygg.stockholm.se/PageFiles/272845/Cykelplan_slutlig_webbversion.pdf

²¹ Stokholm Stad, Trafikkontoret 2009, Cykeln i staden Utformning av cykelstråk i Stockholms stad.

<http://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiXhlfv9DNAhXE3CwKHaYTAfcQFggdMAA&url=http%3A%2F%2Fforetag.stockholm.se%2FPageFiles%2F305416%2FCykel%2520i%2520staden%25202009.pdf&usq=AFQjCNFlq0LsKeKifAAkP-648lChFKhnmQ&sig2=OmQllxtX8rivtbk1cUA1rg>

- › Sparsely populated municipalities
- › Municipalities in densely populated regions
- › Municipalities in sparsely populated regions.

The most recent travel survey from Stockholm is from 2015, Resvanor i Stockholms län 2015. Another report has been made in 2006.

Population

The RVU consists of a random selection of people in Sweden between the age of 6-84. People who did not travel the predefined day are also included in the sample. Data is collected through phone interviews and in 2014-2015, 11.207 people were interviewed.

In the report covering Stockholm, people are selected randomly from Stockholm län.²² 45,445 people between 16-84 years old were interviewed about their trips a predefined survey day. Interviews were a postal and partial a web survey with follow-up phone calls. When not being interviewed by phone there is a risk that shorter trips will be forgotten meaning that walking will be underrepresented in the data.

Trips

In RVU trips are defined as movements between places where the respondent has an errand. The trip purpose is recoded in the survey, and the boundaries of the survey are including travel to another country.

In the report covering Stockholm a trip is defined as moving from one place to another having an errand for the end point. A walk with a dog or a run in itself is not included. It is not clear what the boundaries for the trips are. It does not seem like the questionnaire is excluding any trips.

Distance

Seasonal variations have not been taking into account in RVU according to the contact person in Trafikanalys. Duration is based on self-estimation and the respondents have to inform at what time they start and end their trip. Addresses for the trips starting and ending points are collected.

The study concerning Stockholm does not take seasonal variations into account since data is collected between 21 September-25 October 2015. Duration is based on self-estimation and the respondents has to inform at what time they start and end their trip. Addresses for the trips starting and ending points are collected.

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²² Stockholm län is covering more than just the capital. It is the Stockholm region but the report contains some statistics only covering Stockholm.

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C.29 SWITZERLAND

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ACTIVE MODES USE AND INFRASTRUCTURE IN EUROPE

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
MZMV	Mikrozensus Mobilität und Verkehr (Micro census mobility and traffic)
FEDRO	Federal Roads Office
VSS	Research and standardization in the field of road and transportation

SUMMARY TABLE

National surveys

Micro census Mobility and Transport 2010

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
Switzerland	2	pkm/day	total	2010
Zurich	3.6	pkm/day	total	2010

Walking: average number of trips per day

	Number	Unit	Population	Year
Switzerland	<i>no data</i>			
Zurich	3.8	trips/day/person	mobile	2010

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
Switzerland	0.8	pkm/day	total	2010
Zurich	9.5	pkm/day	cycling	2010

Cycling: average number of trips per day

no data

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
Switzerland	<i>no data</i>	
Zurich	51	at least once a month

Statistics on cycling infrastructure (km), by type of infrastructure

	Switzerland	Zurich
Cycle track	-	155
Cycle street	-	-
Bus and cycle lane	-	-
Contraflow cycling	-	68
Cycle lane	-	117
Advisory cycle lane	-	-
Total	-	881

FOOTNOTE:

The cycling population is not representative for the mobile population.

1 Context

Data on cycling and walking in Switzerland is collected through the *Mikrozensus Mobilität und Verkehr* (Micro census Mobility and Transport) that concerns various issues, among others cycling and walking. This information was processed and communicated by the federal roads office. Data is available both on urban and national level. This report also presents relevant information regarding the city of Zurich, one of the main cities in the country.

2 Challenges related to data collection

Friendliness	The friendliness for walking and cycling is rated equally in country and Zurich: Walking 8 and Cycling 5.
Difficulties	No major difficulties regarding the collection of data on walking and cycling.
Comparability	Statistics/performance on walking and cycling is compared with other countries/regions/cities in a limited way: mostly developments, data difficult to compare due to data quality and number of counting units. Furthermore, in Switzerland, analysis is focused rather on stages than on trips. This emphasizes walking and cycling in multi-modal trips, but it reduces the comparability of data on an international level.
EU action	<p>EU action is not needed according to the Federal Roads Office (FEDRO). It appears to be too challenging in comparison to the potential gain (data quality, data amount). Though some standardization to enhance comparability would be useful, e.g. a consistent definition of the modal split.</p> <p>On a local level, statistics on safety and attractiveness of cycling and walking is available.</p>

3 Active modes use

3.1 Walking

The definition applied in the surveys includes multi-modal trips, but neither waiting times nor other active modes.

3.1.1 Statistics

Table 1: Average daily distance travelled per person – walking

	Person Km per day	Year
Switzerland	2.0	2010
Zurich	3.6	2010

Source: MZMV, 2010

Table 2: Average minutes per day travelled per person – walking

	Minutes per person per day	Year
Switzerland	31.4	2010
Zurich	50.0	2010

Source: MZMV, 2010

Table 3: Average number of trips per person per day – walking

	Number of trips per person per day	Year
Zurich	3.8	2010

Source: MZMV, 2010

Table 4: Average number of stages per person per day – walking

	Number of trips per person per day	Year
Zurich	7.45	2010

Source: MZMV, 2010

3.2 Cycling

Cycling includes E-bikes but no other forms of motorised vehicles.

51% of Zurich's population cycle at least once per month. The distance travelled and the number of trips done by bike in Zurich are much higher than the average in Switzerland. Main reason could be the favourable topography and available infrastructure.

3.2.1 Statistics

Table 5: Average daily distance travelled per person – cycling

	Person Km per day	Year
Switzerland	0.8	2010
Zurich	9.5	2010

Source: MZMV, 2010

Table 6: Average minutes per day travelled per person – cycling

	Minutes per person per day	Year
Switzerland	3.8	2010
Zurich	45.0	2010

Source: MZMV, 2010

4 Infrastructure

4.1 Walking infrastructure

The institute Research and standardization in the fields of roads and transportation defines standards for the design, planning, implementation and designation of walking infrastructure in their publication "VSS-Normen"¹. No information on dedicated pedestrianised streets/areas is available. According to FEDRO, presumably every Swiss city with more than 50 000 inhabitants will have a so-called "Begegnungszone"², which is a kind of shared-space area.

4.2 Cycling infrastructure

The above mentioned publication "VSS-Normen" also defines standards for the design, planning, implementation and designation of cycling infrastructure. Furthermore, guidelines concerning the design of cycling infrastructure based on quality levels are provided by the city of Zurich³.

No statistics on the size of the countries cycling infrastructure is available and a national highway code for cycling does not exist.

The city of Zurich has 881 km of cycling infrastructure. This number can be further broken down as follows:

- › Cycle track: 155 km
- › Contraflow cycling: 68 km
- › Cycle lane: 117 km
- › Bus and bicycle lane: no numbers available
- › Advisory cycle lane: no numbers available

¹ VSS-Normen: www.vss.ch;

<http://www.astra.admin.ch/themen/langsamverkehr/index.html?lang=de>

² cf. www.begegnungszonen.ch

³ [https://www.stadt-](https://www.stadt-zuerich.ch/content/dam/stzh/ted/Deutsch/taz/Fachunterlagen/Publikationen_und_Broschueren/Verkehr/Verkehrskonzepte/Velostandards_151117_160125.pdf)

[zuerich.ch/content/dam/stzh/ted/Deutsch/taz/Fachunterlagen/Publikationen_und_Broschueren/Verkehr/Verkehrskonzepte/Velostandards_151117_160125.pdf](https://www.stadt-zuerich.ch/content/dam/stzh/ted/Deutsch/taz/Fachunterlagen/Publikationen_und_Broschueren/Verkehr/Verkehrskonzepte/Velostandards_151117_160125.pdf)

5 Data collection methods

5.1 *Mikrozensus Mobilität und Verkehr* (Micro census Mobility and Transport)

Basis for the information provided by FEDRO is a micro census, which is carried out every 5 years. Additional data for Zurich is available through annual city surveys and permanent counting devices. The latest micro census was carried out in 2015; however, data will not be available before 2017. The data presented in this country report stems from the micro census in 2010.

For the whole country of Switzerland, the following data is available: Data collection description, Data collection design and a Questionnaire. Furthermore, O/D matrices are available upon request. For the city of Zurich, Data collection description, Codebook and metadata, Descriptive statistics, Interactive analysis tools and micro data are publicly accessible. Data collection design, questionnaires and O/D matrices are available upon request. Results are reported on urban level, based on residence and origin/destination.

Population	The urban population size of the country survey is 62 868 and 2 501 for Zurich. The sampling distribution method is random sampling in both cases. Surveys are carried out via phone, which includes CATI. Respondents have to be 5 years or older and only people that walk and/or cycle are part of the sampling.
Trips	A trip is defined as a journey from origin to destination with no intermediate stop longer than 60 minutes. All transport modes are recorded, without any geographical boundaries (to be confirmed). The survey is trip-based and record the trip purpose. Categories are: work, education, shopping, business, leisure, services, other. Professionals are also recorded in the survey.
Distance	The reporting period is the weekday before. Seasonal variations are not taken into account. In order to record the duration and length, a combined method of self-estimation and geo-location is used. Duration is not collected in this survey and there is minimum distance of 25 m.

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C.30 UNITED KINGDOM

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LIST OF ACRONYMS

ACRONYM	DESCRIPTION
DfT	Department of Transport UK
NTS	National Travel Survey UK

SUMMARY TABLE

National surveys

Active People Survey (APS)	2014-2015
National Travel Survey - England only (NTS)	2014
National Census	2011
Automatic traffic counters	real-time
Manual traffic counts	yearly

City-level surveys

London Travel Demand Survey (LTDS)	2013-2014
------------------------------------	-----------

Walking: average daily distance travelled per person

	Distance	Unit	Population	Year
England	0.79	pkm/day	total	2014
London	0.4	pkm/day	total	2013/2014

Walking: average number of trips per day

	Number	Unit	Population	Year
England	0.55	trips/day/person	total	2014
London	1.76	trips/day/person	total	2014

Cycling: average daily distance travelled per person

	Distance	Unit	Population	Year
England	0.25	pkm/day	total	2014
London	0.2	pkm/day	total	2013/2014

Cycling: average number of trips per day

	Number	Unit	Population	Year
England	0.05	trips/day/person	total	2014
London	0.15	trips/day/person	total	2014

Cycling: percentage of the population cycling in the country/city

	Percentage	Definition
England	15	at least once a month (APS)
England	26	at least once a month (NTS)
London	2.70%	

Statistics on cycling infrastructure (km), by type of infrastructure

no data

FOOTNOTE:

1) Statistics on the number of trips per day in London were provided in total number of trips for the entire population. They were divided by the population (UK13 + UK14) on January 1st, 2014 (EUROSTAT), which is 3.356 million, in order to get the number of trips per day per person.

2) Data collection and processing from the NTS is more comparable with other counties.

1 Context

The two main national data collection methods for Walking and Cycling is the National Travel Survey (from 2013, only covers England) and the Active People Survey (UK). The National Travel Survey comprises of a sample of around 16,000 people of all ages and involves a face to face interview and a 7 day self-reporting travel diary. The Active People Survey is a landline telephone survey of adults aged 16 or older, administered by Sport England and asks numerous questions on sport and physical activity, including questions on how many days the respondent has walked/cycled in the last 4 weeks. It has a sample size of about 165,000.

The other countries, which are part of the UK, undertake similar surveys as presented below:

- › Scotland: Scottish Household Survey Travel Diary (2012)¹ and the Transport and Travel in Scotland – TATIS (2014)² publication.
- › Wales: National Survey Wales (2014-2015)³
- › Northern Ireland: Travel Survey for Northern Ireland (2013-2015)⁴

The following sections of this report refer only to the information for England only, based on information provided by Department for Transport (DfT). The latest data available is from 2014.

Data collection is undertaken annually by the London Travel Demand Survey (LTDS), a household based travel survey using a sample of households resident in the Greater London area.

2 Challenges related to data collection

Friendliness

England does not collect data on friendliness of walking and cycling but it is likely to vary across the country because there is a large variation in factors, such as demographics, infrastructure and terrain, that influence walking/cycling behaviour.

This is likely to be somewhat reflected in the prevalence data. For example residents are more likely to walk/cycle for utility purposes in urban areas than rural areas and possible reasons for this could be flatter terrains, shorter distances to walk/cycle to places and better infrastructure relative to rural areas, although this relation was never further investigated.

According to the DfT, infrastructure for walking is relatively well-provided: pavements, traffic lights at road crossings, compulsory traffic stops at zebra

¹ <http://www.transport.gov.scot/statistics/scottish-household-survey-travel-diary-results-all-editions>

² <http://www.transport.gov.scot/statistics/transport-and-travel-scotland-all-editions>

³ <http://gov.wales/statistics-and-research/national-survey/?lang=en>

⁴ <https://www.infrastructure-ni.gov.uk/articles/travel-survey-northern-ireland>

crossings, tactile paving, on-street maps, sign-posted footpaths across country, etc.

Infrastructure for cycling is more limited: Off-road paths or segregated cycle lanes are commonly not available, especially in rural areas between towns; secure cycle parking for apartment blocks or train stations is in the process of being extended.

Measuring behaviour

Perhaps the most difficult problem of collecting data is that the DfT is not able to directly measure walking and cycling behaviour (see Box 1). The two main ways of

Box 1: GPS Pilot NTS, 2011

A trial in the 2011 National Travel Survey attempted to directly measure travelling behaviour by providing respondents a device, which tracked their travelling patterns via GPS. The GPS data identified far fewer walking trips than the diary (10 per cent compared to 28 per cent) and approximately five per cent of GPS trips were short walks, compared to 16 per cent of diary trips. On the basis of the numerous and substantial differences between the results for the GPS pilot survey and the NTS diary data for the same period, it was concluded that that GPS devices do not provide an acceptable alternative data collection tool when used in the context of the NTS methodology and the Trace Annotator processing system.

indirectly measuring behaviour is through the National Travel Survey and Active People Survey, and both methodologies have their own strengths and drawbacks. For example the Active People Survey asks how many days the respondent has walked/cycled in the last month which is advantageous as this can capture any walking/cycling behaviour (as opposed to other methodologies which only capture on-road travel behaviour for example) but means data accuracy is limited to memory recall accuracy. The National Travel Survey asks respondents to keep a diary which can be more (but not completely) accurate but is also more costly and so has a smaller sample size. Whilst these methodologies may not be able to capture walking and cycling prevalence with perfect accuracy, it is

generally considered to be reliable enough and just as importantly is able to capture what the long term trends of walking/cycling behaviours are.

Triangulation

Whilst there is no perfect method to capture walking and cycling behaviour, ideally several different methods are able to yield trends that are consistent with each other. This does tend to be what happens but has not quite been the case for frequent walking in the couple of years. It is not clear whether this is because different methodologies and definitions are recording the same behaviour in a different way, or if they are capturing different walking behaviours.

Sample sizes and bias

The National Travel Survey has a sample of around 16,000 people. For many transport modes, this sample size is sufficient at a national level however as a relatively small proportion of people cycle regularly, there can be volatile year-on-year fluctuations caused by random sampling variation. However, it is able to reliably demonstrate longer-term trends when collating years and using moving averages. The sample size is not large enough to apply to local authority level.

The Active People Survey has a sample of about 165,000 adults (aged 16+)⁵ which is large enough at a national level but there may currently be some sample bias

⁵ The Active People Survey does survey some children aged 14 and 15 but the Department for Transport do not analyse these responses.

due to its methodology. The survey contacts respondents via landline telephone, but about 15% of the country do not have landline mobiles and so cannot be selected. This tends to result in under-representation of young men and over representation of older women in the sample, although weightings are applied to account for this.

Because cycling, in particular, is a relatively uncommon mode of transport in England, sample sizes in surveys are much smaller than for walking.

Data comparability

DfT has compared the National Travel Survey statistics with cycling data in the Netherlands, although this has not been published. Differences in methodologies and definitions meant a like-for-like comparison was not possible but did give a general idea in the difference in cycling prevalence. The data is also used in a forecasting model, where one scenario predicts what cycling prevalence would be in an area if it had the same cycling infrastructure and culture as the Netherlands (see Box 2).

Cross-country studies, such as the Future of Transport 2011 report which compared cycling prevalence across EU countries, offer the best opportunity for comparison, since the same methodology was conducted in each country.

Box 2: Propensity to Cycle Tool (PCT)

PCT is an online and interactive planning support tool to provide an evidence base to inform investment in cycling. Users can select different overall cycling scenarios, such as 'Go Dutch' or 'Ebikes', and can then see what this might mean for cycling levels in each small area and along the network. The model estimates cycling potential based upon trip distances and hilliness. Therefore, it highlights the greatest unmet potential in areas that currently have high numbers of short trips in relatively flat areas but where people are not currently cycling.

EU action

According to DfT, comparable statistics on walking and cycling would be "nice to have", however it would be only desirable if it would not mean having to change national methodologies and measures to conform to a consistent approach in order to do so.

Changing the methodology would possibly mean breaking the long time series of the National Travel Survey, which has been built over years by using a consistent methodology.

Policies in England are more focused on improving walking/cycling prevalence compared to previous years rather than comparing against other countries. It would also be expensive and the transition period would be long, so the outcomes of any changes will not feed through for several years.

A suggestion would be to repeat initiatives such as the Future of Transport 2011 study so that comparisons with other countries can continue to be made whilst keeping national measures unchanged.

Other statistics

England also collects other statistics related to pedestrians and cyclists:

- › Road Safety Statistics: Includes pedestrian and cyclist casualties
- › British Social Attitudes Survey: Records how dangerous people think it is to cycle on the roads and bike ownership levels

- › Labour Force Survey: records % people who walk/cycle to work
- › Census: Records the % of people who walk/cycle to work and distance travelled
- › Road Traffic Statistics: cycling on the highway

Local authorities have their own walking/cycling measures tailored for their own purposes with their own definitions and this data is neither collected nor collated by DfT.

3 Active modes use

3.1 Walking

The definition of walking is different in the two surveys carried out at country level. In the NTS, any walk more than 50 yards (45.7 m) is recorded. The Active People Survey only records any continuous walk of at least ten minutes and covers all types, including a number of specific recreational types: hill walking, backpacking, hill trekking, rambling, cliff walking and gorge walking. However, “walking around shops” is excluded.

Statistics

According to the NTS, people walk on average 0.79 km per day in England. The average number of walking trips in England is 0.55.

In London, an average of 5.9 million trips per day are walking trips.

Table 1: Average distance travelled

	Distance	Unit	Year
England	290	Miles/person/year	2014
	0.79	pkm/day	2014

Source: National Travel Survey, DfT, 2014

Table 2: Average number of trips per day

	Trips	Unit	Year
England¹	200	Trips/person/year	2014
	0.55	Trips/person/day	2014
		(entire population)	
London²	5.9	Million trips per day	2014
		(mobile population)	

Source: ¹National Travel Survey, DfT

² London Travel Demand Survey, Transport for London, 2014

3.2 Cycling

The NTS defines cycling as any pedal cycle capable of use on the public road, but not children's bicycles or tricycles that are intended as toys. Mobility on public roads in parks and on cycleways is included, but cycling off-road e.g. on bridleways or countryside is excluded.

In the Active People Survey, cycle rides of any length is included it also includes a number of specific recreational types: BMX, cyclo-cross, mountain biking, downhill / gravity riding and stunt riding.

About 15% of the population aged 16 or over cycle at least once a month (Active People Survey) in England. The average distance cycled per person per year is 93 km and about 26% of the population cycles at least once or twice a month (National Travel Survey).

In London, approximately 2.1% of the total trips have cycling as the main mode of travel.

Statistics

As presented in the tables below, cycling is still not very popular in England nor in London. Results from London surveys indicate an increase of 38% of the number of cycling trips from 2004 to 2014.

Table 3: Average distance travelled

	Distance	Unit	Year
England	93	km/person/year	2014
	0.25	pkm/day (entire population)	2014

Source: National Travel Survey, DfT, 2014

Table 4: Average number of trips per day

	Trips	Unit	Year
England¹	18	Trips/person/year	2014
	0.05	Trips/person/day (entire population)	2014
London²	0.56	Million trips per day (mobile population)	2014

Source: ¹National Travel Survey, DfT

² London Travel Demand Survey, Transport for London, 2014

4 Infrastructure

The Department for Transport do not have any set standards for walking or cycling infrastructure design. Local authorities are free to determine their design based upon their own needs. DfT does, however, have manuals to help assist local authorities in their objective to design good infrastructure.

Main guidance available are:

- › Manual for Streets⁶
- › Manual for Streets 2⁷: This has specific guidance for rural and urban situations
- › LTN 2/08⁸ – Cycle Infrastructure Design

4.1 Walking infrastructure

In addition to the manuals developed by DfT, the Institution of Highway and Transportation (CIHT) has developed Guidelines⁹ for providing for journeys on foot. The document covers the understanding of pedestrian needs and footway design recommendations:

- › minimum width: 1.8 m
- › desirable width: 2 m
- › preferred width: 2.6 m

Guidance for walking infrastructure in London is provided by the Pedestrian Comfort Guidance¹⁰ developed by Transport for London. The guide provides guidelines to assess pedestrian comfort and presents recommendations on widths according to flow of pedestrians.

There are a number of pedestrianised areas in England, however this information is not reported.

4.2 Cycling infrastructure

Detailed information about cycling infrastructure in England is not collected by the Department for Transport. The main guiding principles at county level are given by the LTN 2/08¹¹ – Cycle Infrastructure Design. The guide presents general design

⁶ Available at: <https://www.gov.uk/government/publications/manual-for-streets>

⁷ Available at: <https://www.gov.uk/government/publications/manual-for-streets-2>

⁸ Available at: <https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208>

⁹ Available at: <http://www.ciht.org.uk/download.cfm/docid/D66AD936-281C-4220-BF109289B5D01848>

¹⁰ Available at: <http://content.tfl.gov.uk/pedestrian-comfort-guidance-technical-guide.pdf>

¹¹ Available at: <https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-208>

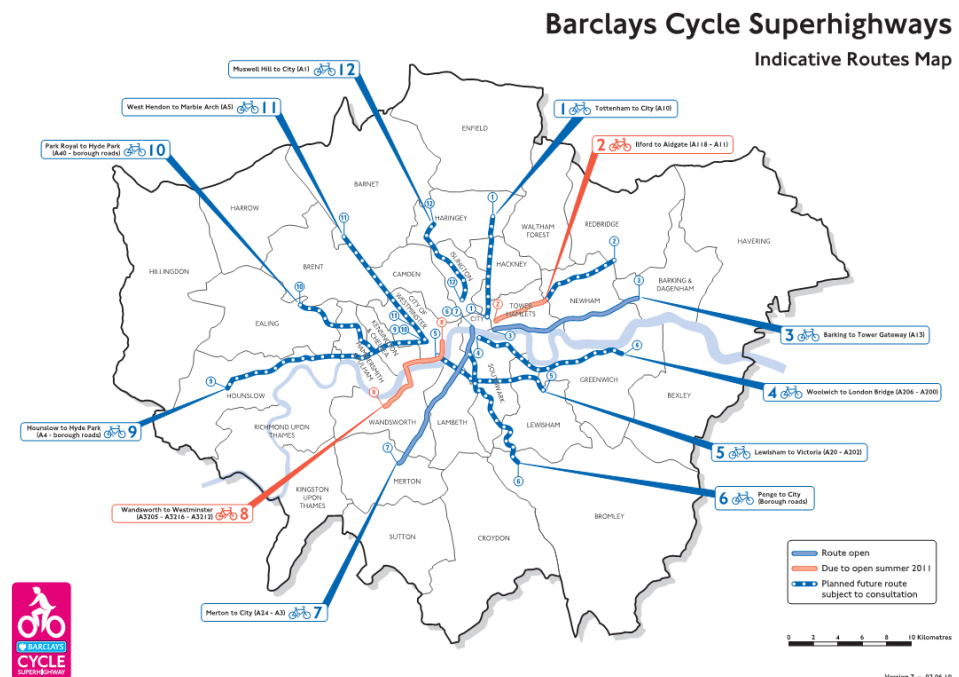
parameters for cycling infrastructures, including minimum width for different cycling infrastructure types e.g. cycle lane (min 1.5 m), bus and bicycle lane (min 3-4.5m).

London has its own design standards, which are defined in the London Cycling Design Standards (LCDS). The guide establishes design requirements for the different types of cycling infrastructure according to setting and function.

The new vision for London has a strong focus on development of cycling infrastructures as way to promote safe cycling in the city.

The existing and planned infrastructures can be categorised as follows:

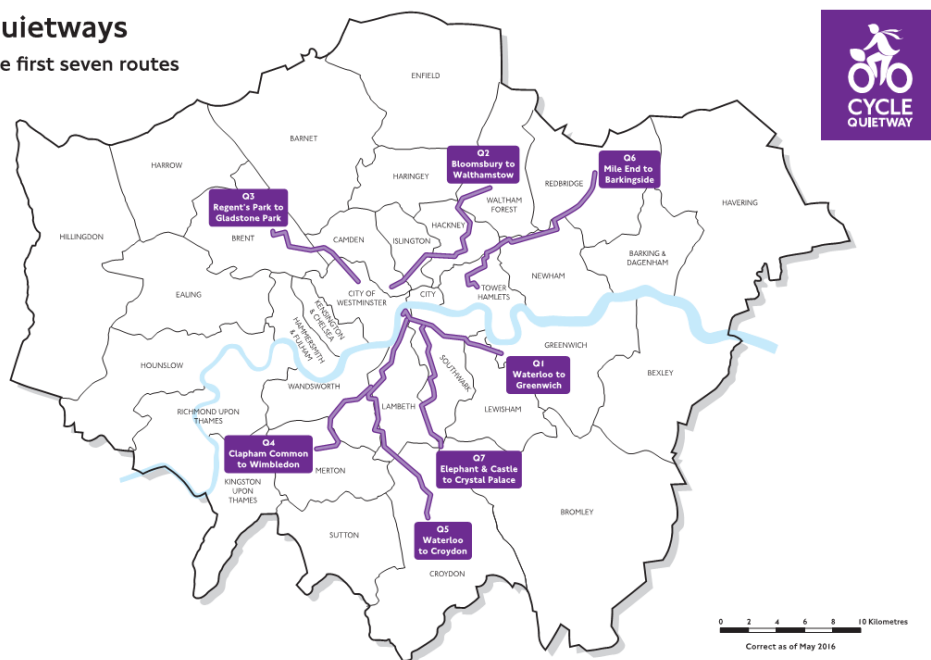
- › Cycle Superhighways (32 km): cycle tracks running from outer London into Central London to allow direct cycle journeys into the city.



- › Quietways (96 km): low-intervention routes that will complement Superhighways by providing a network of cycling routes through less heavily trafficked streets in every London borough

Quietways

The first seven routes



5 Data collection methods

The main data collection methods which report detailed walking and cycling statistics for England and London are the NTS and LTDS, respectively.

5.1 National Travel Survey (NTS)

The National Travel Survey is a household survey undertaken annually in England.

Data availability

Information regarding data collection description, design and questionnaires used are publicly available. DfT also provides some interactive analysis tools to facilitate the use of the data.

Population

The survey interviewed 6,900 households in 2014, which a total of more than 16,000 people are reported (aged 1 and over). The respondents are selected based on a random sampling stratified by region. The NTS involves a face to face interview and a 7 day self-reporting travel diary and transport professionals e.g. taxi driver, bike delivery, are not recorded during their working hours.

Trips

The basic unit of travel, a trip, is defined as a one-way course of travel with a single main purpose. Outward and return halves of a return trip are treated as two separate trips. A trip cannot have two separate purposes, and if a single course of travel involves a mid-way change of purpose then it, too, is split into two trips.

All transport modes are recorded and reported separately. All trips within Great Britain are registered as part of the survey.

There are 23 different trip purposes that could be selected by the respondent. These can be grouped in eight main categories:

- › Commuting
- › Business
- › Education (Escort)
- › Education
- › Shopping
- › Other
- › Social
- › Holiday

Duration and distance Duration and distance are recorded separately based on self-estimation. The distance is also checked based on the origin and destination information given for a specific trip.

A minimum distance threshold of 1.6 km is applied for the first 6 days of the surveys. During the 7th day, respondents have to register all trips bigger than 45 m. This is a very important approach to capture all the short walking trips that are underrepresented under the normal conditions.

5.2 London Travel Demand Survey (LTDS)

London Travel Demand Survey (LTDS) is a household based travel survey using a sample of households resident in the Greater London area. The survey provides useful data on the amount of walking done by London residents, but does not provide information on the amount of walking done in London by those who do not live in the area, but who use it (for example the large number of people who commute into the city every day and tourists).

Data availability Data collection description and design is publicly accessible. The questionnaire for the LTDS and the descriptive statistics of the survey are also published.

Population Around 8,000 London residents are selected random to be interviewed as part of the LTDS. The sample includes the total population aged 5 and over, and captures all trips on a designated travel day, the same day for all members of the household.

Trips A trip is a one-way movement from one place to another to achieve a specific purpose, for example to go from home to work. All transport modes are recorded separately. From 2010/11, each respondent who has cycled in the previous seven days is asked to complete a cycling travel diary which collects information on all cycle stages the respondent has made on up to two different cycle travel days.

Duration and distance Duration and length values are based on self-estimation of the respondent. The distance, on the other hand, is calculated based on the pair origin – destination indicated by the respondent.

5.3 National Census

The National Census covers all UK residents aged 16 or over. It reports on the method of travel to work, including the distance (calculated based on the residential postcode and their workplace postcode measured in a straight line).

The results are presented in terms of modal split (%) for all commuting trips to work.

5.4 Traffic counts

DfT uses both automated and manual methods to collect flow data on cycles (pedestrian data are not collected). There are just over 100 Automatic Traffic Counter sites which continuously record cycle numbers, with a further 8,000 sites which are surveyed annually using short-term 12 hour manual traffic counts. The location of the manual traffic counts is different each year.

The in-road sensors continuously monitor traffic flows. The manual counts take place between 7am and 7pm on Mondays to Fridays between March and October excluding public holidays and school holidays.

Both the automatic and manual traffic counts are located to be representative of the roads of Great Britain.

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