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# Moving cycling forward

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A coordinated approach to  
cycling for local and regional  
authorities in the EU

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## IN-DEPTH ANALYSIS

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EPRS | European Parliamentary Research Service

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**Members' Research Service**

May 2016 — PE 582.033

EN

This analysis presents an overview of the current state of cycling mobility in the European Union and of the benefits stemming from cycling as a means of transport. It examines the challenges linked to making cycling a regular transport mode and looks at what is being done across the EU to address the problems identified. After discussing recent EU developments, the analysis concludes that cycling potential could be maximised by coordinated action at all levels of local government administration.

Building on the author's EPRS briefing [Cycling mobility in the EU](#) of May 2015, this analysis was produced at the request of the Committee of the Regions of the EU.

PE 582.033

ISBN 978-92-823-9193-8

doi:10.2861/682180

QA-02-16-429-EN-N

Original manuscript, in English, completed in May 2016.

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## EXECUTIVE SUMMARY

Over the past 20 years, European society has positively embraced cycling, which has become an everyday activity for millions of Europeans. In economic and social terms, cycling influences or has an impact on transport, mobility, health, environment and climate change, as well as the economy and tourism.

In the European Union (EU), cycling policies are a matter for the Member States, which provide the regulatory framework as well as, in many cases, country-wide cycling programmes; while practical measures are generated mostly at local or regional levels, notably in cities. Nevertheless, the EU has taken an active role in promoting cycling, trying to make the best use of this mode of transport by including it in its efforts to achieve the Europe 2020 strategy targets. EU support consists principally of guidance, the exchange of best practice, and financial support, oriented towards local and regional authorities promoting a stronger cycling mobility culture.

Everyday bicycle usage varies significantly across Europe. While in some countries as much as 36% of daily trips are made by bicycle, this figure is less than 5% for a third of EU countries. The proportion of regular cyclists is higher in cities, where the most visible cycling development is also taking place.

As a means of transport over short distances, cycling brings significant economic, environmental and health-related benefits in terms of reduced congestion and pollution, less dependence on fuels, new jobs and better public health. However, it also involves some challenges, namely the need to improve cyclists' safety, the complexity of mobility planning and the importance of securing financing for cycling infrastructure. A spectrum of action is needed to reach out to different groups of would-be cyclists, to encourage the shift towards a cycling culture and to raise the next generation as a cycling generation.

The lack of data on cycling at Member State level makes comparisons difficult. Reliable harmonised data will be needed to set a common strategy, measure progress and adjust the policy.

Currently, no cycling strategy exists at EU level. In the last two years, however, it has become apparent that there is wide support across the EU for the preparation of a common strategy to integrate cycling into transport policy. This approach was confirmed in October 2015, when EU Ministers for Transport declared their commitment to promoting cycling as a climate-friendly and efficient transport mode, and called on the European Commission to act.

Changes towards cycling mobility are becoming visible. It takes time, however, to change not only transport infrastructure and management, but also people's attitudes, behaviour and perceptions of environment and public space. Such society-wide transformation requires a coordinated long-term effort from all levels of administration. With adequate support through relevant policies, the already positive impact of cycling could be much greater.

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### List of acronyms

<b>ECF:</b>	European Cyclists' Federation
<b>EGTC:</b>	European grouping of territorial cooperation
<b>EPOMM:</b>	European Platform on Mobility Management
<b>ETSC:</b>	European Transport Safety Council
<b>Eurocities:</b>	a network of local and municipal governments of major European cities
<b>HEAT:</b>	health economic assessment tool
<b>HGV:</b>	heavy goods vehicle
<b>IDB:</b>	EU injury database
<b>POLIS:</b>	a network of European cities and regions for innovative transport solutions
<b>SUMP:</b>	sustainable urban mobility plan

## 1. Introduction

Following widespread social development in the second half of the twentieth century, the vast majority of European citizens today live in cities. Motorised transport has made distances shorter and changed previous mobility patterns. For decades, city-dwellers viewed the car as the preferred mode of transport and, consequently, many cities were planned around travel by car, leaving little space for other forms of transport. However, by the end of the last century it had become obvious that the new transport patterns were placing increasing pressure on existing infrastructure, public space and the environment, as well as on public health and safety. Congestion, pollution and noise were becoming a problem and cities began to look beyond the car, towards public transportation as a more sustainable solution, and how to improve the share of cycling in the transport mix.

In parallel, recreational cycling, including cycle tourism, has developed into an economically important sector with high growth potential and bringing new jobs, often in the local area.

In recent years, two particular features of our society have come to be recognised as serious problems that require urgent action: climate change and a sedentary lifestyle. Dependence on fossil fuels and deteriorating public health due to a lack of regular physical exercise require a society-wide response, where every improvement counts. Cycling is an ideal way to address both of these problems. It therefore represents a huge opportunity. The question is how to make the most of it?

## 2. Cycling in the EU today – an overview

### 2.1. Context

The current state of cycling in the EU can perhaps best be gauged by comparing cycling levels across different countries and cities (figure 1). While the share of cycling trips in all daily trips varies from country to country, two countries stand out in particular: the Netherlands at 36% and Denmark at 23%, followed by Hungary, Sweden, Finland, Belgium and Germany.<sup>1</sup> Meanwhile, daily cycling levels remain low (1-5% of all

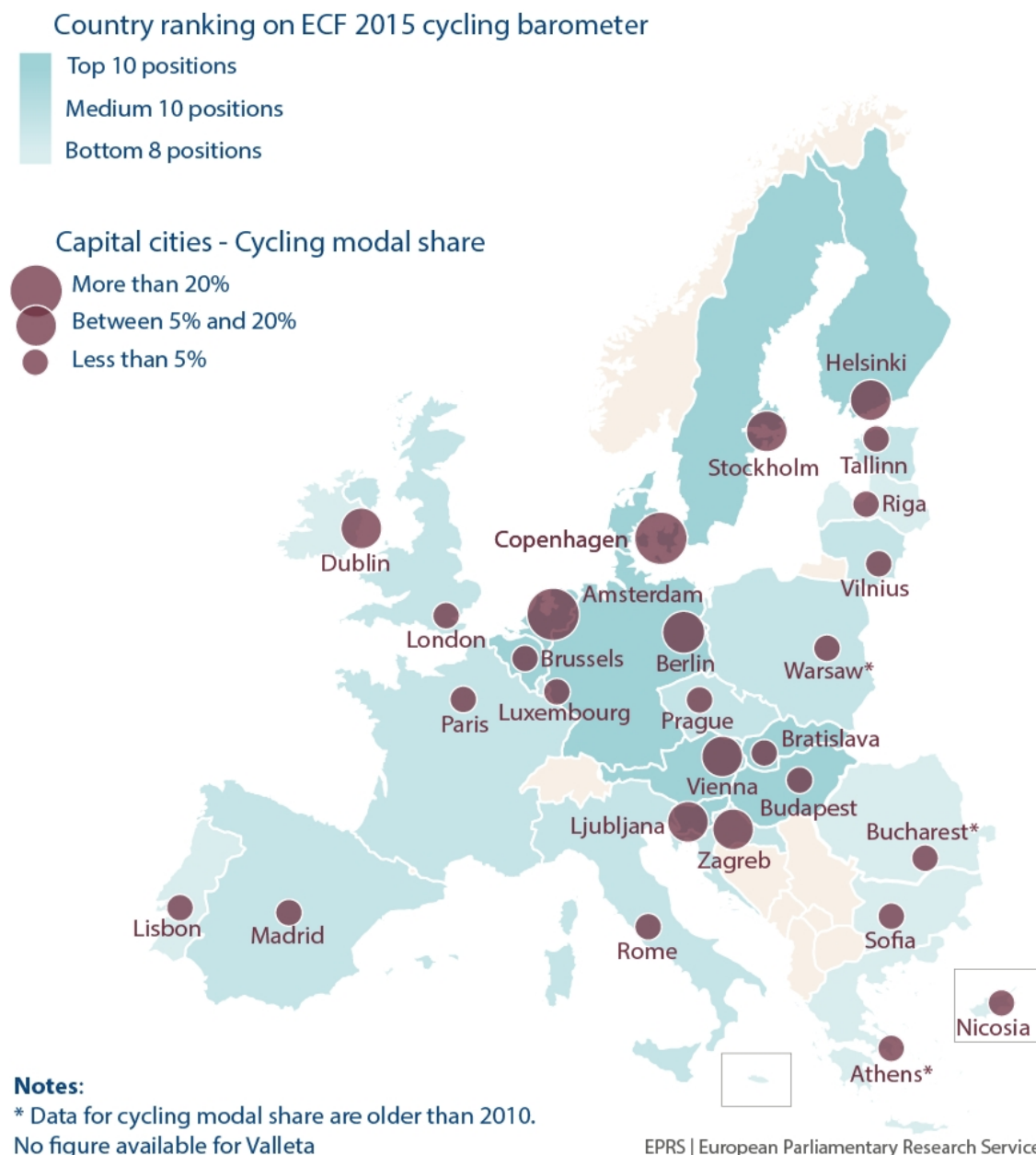
<sup>1</sup> [Special Eurobarometer 422a](#), 2014.

journeys) in about a third of all EU countries. Capital cities do not quite follow the country pattern as regards bicycle usage, although there are some similarities.

Recent cycling innovations are transforming the cityscape and contributing to the broader acceptance of cycling in society. Bicycle sharing schemes offer a valid alternative cycling mobility in urban areas and can be combined with public transport for longer distances. The fast evolution and growing popularity of electric bicycles opens cycling up to groups of people who find standard cycling too strenuous, while cargo bikes and e-bikes allow the transport of just about anything up to 250 kg.

In parallel, cycling for leisure and tourism is also evolving, thanks to a growing network of cycle paths. Linking to the national and regional networks, the international cycle network Eurovelo<sup>2</sup> is bringing a European dimension to cycling tourism.

**Figure 1 – Cycling in the EU – countries and capitals**



Source: country positions based on five EU-wide surveys and bicycle usage in capital cities, [ECF](#), 2015.<sup>3</sup>

<sup>2</sup> [EuroVelo routes](#).

## 2.2. Benefits of cycling

Cycling is green, healthy, cheap and flexible. It benefits both society and individuals in many ways. The overall economic benefit of cycling has been estimated at €205 billion per year.<sup>4</sup>

- **Public health.** As a physical activity, cycling reduces the symptoms of a sedentary lifestyle, increases levels of fitness and improves overall physical and mental health.<sup>5</sup> The World Health Organization recommends such regular moderate exercise as a means of preventing cardiovascular diseases and obesity.<sup>6</sup> As more and more people become fitter through regular cycling, this can help reduce the mortality rate and disease-related costs for society as a whole. If a significant modal shift is achieved, the reduced health care costs could help mitigate most of the investment costs.<sup>7</sup> While cycling is a relatively physically intensive activity, this is not so much the case for e-bikes. Nevertheless, e-bikes do help to bring cycling within the reach of older people, shoppers, parents with children, and the less able.
- **Reduced traffic congestion.** Congestion costs Europe about €100 billion (1% of GDP) per year.<sup>8</sup> Reduced car use and increased cycling can unblock roads and reduce delays, lost working hours, and wasted fuel.
- **Improved accessibility.** Cycling provides people with low-cost access to education, jobs and services. A switch from car or bus to bike has a net positive social impact.<sup>9</sup>
- **Better air quality.** Urban transport accounts for 40% of CO<sub>2</sub> emissions (and 70% of other air pollutants, such as PM<sub>10</sub>, NO<sub>x</sub>), while cyclists make virtually no emissions.<sup>10</sup> As a part of their strategies to comply with concentration limits for various pollutants,<sup>11</sup> cities such as Copenhagen,<sup>12</sup> Nantes, or London have

<sup>3</sup> For simplification purposes, the map offers only a basic overview and does not reflect the fact that some non-capital cities have achieved higher cycling levels than their national capital (Seville, Nantes).

<sup>4</sup> [Calculating the economic benefits of cycling in EU-27](#), Küster F., Blondel B., ECF, June 2013.

<sup>5</sup> WHO Europe considers insufficient physical activity to be one of the leading risk factors for ill health, causing nearly 1 million deaths per year. In Europe, more than one third of adults are insufficiently active, with a growing trend towards less activity, not more. Cycling (and walking, also in combination with public transport, jointly referred to as active travel) can help address this issue by building physical activity into everyday lives. [Physical activity strategy for the WHO European Region 2016–2025](#).

<sup>6</sup> [Physical Activity and Adults](#), Global Strategy on Diet, Physical Activity and Health, WHO.

<sup>7</sup> [New Ways to Go: Public Investment in Cycling](#), Erznosnik G., Visser S., van Ommeren K., van den Noort P., Cyclecities, October 2014.

<sup>8</sup> [Clean transport, Urban transport](#), European Commission.

<sup>9</sup> An analysis comparing the social costs and benefits of a bicycle kilometre to a car and bus kilometre concluded that a switch from bus to bike yields a social gain of around €0.50. A shift from car to bike outside urban areas yields €0.04-0.07 per kilometre, in urban areas this figure is €0.10-0.41. Social costs and benefits of [investments in cycling](#), Decisio Transaction Management Centre for the Dutch Ministry of Infrastructure and Environment, June 2012.

<sup>10</sup> [Cycling – cost-effective measures](#), Clean air, November 2015.

<sup>11</sup> Directive [2008/50/EC](#) on ambient air quality and cleaner air for Europe, Directive [2004/107/EC](#) relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

<sup>12</sup> [Clean air Copenhagen](#) – Air quality challenges and solutions, Danish Ecological Council, January 2014.



begun implementing cycling-related measures.<sup>13</sup>

- **Less noise.** Road traffic is the main source of noise pollution in Europe. Not only does noise disturb people, but it can also reduce productivity and lead to health problems. Noise pollution also affects the quality of life in urban areas, which reduces property values.<sup>14</sup>
- **Lower carbon footprint.** By saving fuel, bicycles help lower energy dependence. Tripling the modal share of cycling alone would save 5% of transport CO<sub>2</sub> emissions by 2020, helping to mitigate climate change and fossil fuel consumption. Cycling can help to achieve some of the Europe 2020 targets<sup>15</sup> and the EU's efforts to decarbonise transport.<sup>16</sup> However, these positive effects can only come about to the extent that cycling replaces driving (as opposed to walking or public transport).
- **Costs reduction.** The shift from car to cycling can bring about huge savings in terms of both direct costs (road construction and maintenance) and indirect costs (congestion, pollution, obesity). Cycling infrastructure and storage facilities are relatively cheap to build, with calculations indicating benefit-to-cost ratios of at least 5:1,<sup>17</sup> with some estimates as high as 13:1.<sup>18</sup>
- **Jobs.** More cycling opens up new, often local, jobs. These are not only to be found in areas such as bicycle manufacture and the retail trade, repairs, infrastructure construction or maintenance, but also in fields such as cycling tourism and services. With more than 650 000 full-time jobs<sup>19</sup> linked to cycling in Europe today (primarily cycle tourism), the figure could increase to 1 million jobs by 2020<sup>20</sup> if the cycling modal share were to double.<sup>21</sup>
- **Education.** Cycling is a skill for life. It helps children improve their physical health and fitness, but also navigational skills and independence. Once adopted, it can lower car dependency in adulthood and help reduce the volume of motor traffic in the future.<sup>22</sup>

<sup>13</sup> [Cycling and urban air quality](#), Hitchcock G., Vedrenne M., RICARDO-AEA, ECF, November 2014.

<sup>14</sup> [A quarter of Europe's population exposed to harmful traffic noise](#), EEA, December 2014.

<sup>15</sup> [Europe 2020 targets](#): 20% reduction of greenhouse gas emissions (or 30%, if the conditions are right) compared to 1990 figures, 20% of energy sourced from renewables, 20% increase in energy efficiency.

<sup>16</sup> [Transport](#), Climate action, European Commission.

<sup>17</sup> 5:1-9:1, [Impact et potentiel de l'usage du vélo sur l'économie et l'emploi en Région de Bruxelles-Capitale](#), Van Zeebroeck B., Charles J., Pro Velo and Transport & Mobility Leuven, Mai 2014. In Helsinki, it is 8:1, [Helsinki Bicycle Account](#) 2015.

<sup>18</sup> [Cycling and the economy](#), Allan C., Cycling UK, May 2015.

<sup>19</sup> In 2014, the bicycle industry employed 27 670 people in the EU, manufacturing nearly 12 million bicycles, while a total of over 20 million bicycles and 1.1 million electric bikes were sold across the EU. Confederation of the European bicycle Industry, Facts and figures, [European Bicycle Market & Industry Profile](#), 2015, (2014 data).

<sup>20</sup> [Cycling works – Jobs and Job Creation in the Cycling Economy](#), Blondiau T., van Zeebroeck B., Transport & Mobility Leuven, ECF, October 2014.

<sup>21</sup> In Brussels, the direct economic effect of a strong cycling policy was estimated to create almost 700 jobs by 2020. Estimation of the direct and indirect impacts with a modal share of 20% cyclists, Transport & Mobility Leuven, May 2014.

<sup>22</sup> In the Netherlands, 49% of primary school children cycle to school (37% walk and 14% travel by car), at secondary school level, the figure is even higher. In the UK (where about 30% children aged 2-15 are overweight or obese), only 1% of children aged 5-10 and 2% of children aged 11-15 cycled to school in 2014. [Cycle-friendly schools and colleges](#), Allan C., Cycling UK, November 2015.



- **Land use.** Ten bicycles can be parked in the space taken up by one car, while a typical traffic lane accommodates about 2 000 cars per hour, compared with 14 000 bikes.
- **Quality of life.** Many cities in Northern Europe recognise cycling as a key factor in making the urban environment a more pleasant place to live. Cycle-friendly cities attract investment, encourage neighbourhood revitalisation and can improve citizens' quality of life.

In addition to the benefits of physical activity, cycling allows people to move faster and with more flexibility, both of which are particularly appreciated in city centres. Apart from the initial purchase, bicycles are cheap to run and require limited maintenance and storage space. Furthermore, the development of bike sharing schemes in many cities goes some way towards easing even these constraints.

Cycling brings some positive features even to people who do not cycle. In Helsinki, a city where 11% of all trips are made by bicycle, most residents want more cycling, regardless of whether or not they cycle themselves. Clearly, there are many benefits to cycling; however, it is useful to examine the challenges involved.

### 2.3. Challenges

Cyclists' concerns about their **safety** are 'the number one barrier' to getting more people to cycle.<sup>23</sup> If it is to become a regular form of transport, cycling must be both safe and perceived to be so. Recent figures make for sobering reading, however. Over 2 000 cyclists were killed on the EU's roads in 2014 (8% of all EU road fatalities),<sup>24</sup> while the progress made in terms of reducing cyclist deaths has slowed. The 2015 European Commission figures on road safety<sup>25</sup> confirm this trend: although the total number of road fatalities fell by 18% in the period 2010-2014, the drop in the figure for cyclists was only 4%.

In 2015, the European Commission also published figures on serious road traffic injuries for the first time. Cyclists and pedestrians together accounted for a large proportion<sup>26</sup> of the estimated 135 000 people injured. However, collisions involving cyclists and motor vehicles are significantly underreported,<sup>27</sup> and reporting of collisions involving bicycles only is even less reliable. While excessive speed is a primary factor in about one third of all fatal accidents,<sup>28</sup> poor road surface is an important cause of accidents involving cyclists alone.<sup>29</sup>

<sup>23</sup> Fishman E., [Cycling as transport](#), Transport reviews, 36:1, 2016.

<sup>24</sup> [Fact Sheet](#) 2015 road safety statistics: What is behind the figures? European Commission, March 2016.

<sup>25</sup> [Road Safety: new statistics call for fresh efforts to save lives on EU roads](#), European Commission press release.

<sup>26</sup> The European Commission has not published any exact figures on injuries as yet. According to earlier IDB data from nine countries (2005-2008), vulnerable road users accounted for almost two thirds of road accident casualties attending hospital (41% were cyclists), and for over half of all casualties admitted to hospital (30% cyclists). [Traffic Safety Basic Facts 2015 – Main Figures](#), European Commission, DG Transport, June 2015.

<sup>27</sup> [Making walking and cycling on Europe's roads safer](#), Adminaite D., Allsop R., Jost g., PIN Flash Report 29, ETSC, June 2015.

<sup>28</sup> [Speed Management](#), International Transport Forum.

<sup>29</sup> [Highway maintenance](#), Allan C., Cycling UK, April 2016.

Alongside crash-related injuries, cyclists' exposure to air pollution in traffic is also a concern. However, studies show that when compared with the safety risks<sup>30</sup> involved, the health benefits for society as a whole are substantial and could be even greater following the development of a more cycle-friendly environment.<sup>31</sup>

However, simply adding more cyclists to the traffic system without adopting any other risk-reducing measures exposes cyclists to a greater risk of accident.<sup>32</sup> Therefore, efforts to increase cyclist numbers should make the whole traffic system safer for all participants (a safe system approach), rather than introduce partial improvements for cyclists alone. Well-designed, targeted and sustained policies can increase both the numbers of people cycling and their safety.<sup>33</sup> Active commuters are also likely to benefit from a 'safety in numbers' effect: the more people cycle, the safer cycling becomes,<sup>34</sup> as car drivers gradually get used to the presence of cyclists and are more likely to be cyclists themselves.

The process should begin with integrated **planning**, which needs to take into account many different aspects, such as unfavourable weather conditions or hilly terrain. These are sometimes seen as some of the reasons for low levels of cycling, together with the absence of a tradition of cycling or local attitudes. However, in reality, the lack of systematic planning on the part of local authorities is often the key challenge. For instance, cycling policies frequently fail to target under-represented groups, such as women and the elderly, who require suitable infrastructure.<sup>35</sup>

Planning is closely linked to the **financing** available to build and maintain the cycling infrastructure. While the financial support provided by national funds varies from country to country, with the majority of financing necessarily coming from local and regional sources, some **EU funding** has also been made available. During the last financial programming period (2007-2013), an estimated €600 million was allocated to cycling, out of a total of €82 billion EU funding for transport infrastructure (0.7%).<sup>36</sup> Most of the money came from the structural and cohesion funds, distributed through national authorities in line with their relevant programming documents.

Concerned with the limited availability of funding sources, the European Cyclists' federation proposed that 10% of the EU transport budget should be earmarked for cycling. Likewise, the Eurocities network suggested that more funding for public transport, cycling and walking strategies should be available if congestion in cities is to

<sup>30</sup> 'Virtually all scientific studies show that the health benefits of cycling far offset the traffic dangers.', Jacobsen P. L. and Ruter H., *Cycling Safety* (p. 142), in *City Cycling*, ed. Pucher J. and Buehler R., Massachusetts Institute of Technology, 2012, pp. 141-156.

<sup>31</sup> [Health economic assessment tools \(HEAT\) for walking and for cycling](#), WHO Europe, 2014, p.6.

<sup>32</sup> [Cycling, health and safety](#), OECD/ITF, 2013.

<sup>33</sup> For example, Seville (Spain) has built a network of over 120 km segregated cycle lanes and set up a dense bike-sharing scheme (258 docking stations, 2 500 bikes). From 2006 to 2012, cycling trips grew from 6 000 to over 70 000 per day, while the cycling modal share rose from 0.5% to 7%, resulting in lower pollution levels and a more human-friendly city. [How Seville transformed itself into the cycling capital of southern Europe](#), The Guardian, 28 January 2015.

<sup>34</sup> The OECD cautions that this correlation between cyclist numbers and increased safety does not necessarily imply causality, as the risk is non-linear. [Cycling, health and safety](#), OECD/ITF, 2013, p.20.

<sup>35</sup> [Does more cycling mean more diversity in cycling?](#) Aldred R., Woodcock J., Goodman A., *Transport Reviews*, Vol. 36, No 1, 2016, pp. 28-44.

<sup>36</sup> See [6 billion euros for cycling campaign](#), ECF.

be seriously addressed.<sup>37</sup> Funding remains a challenge: not only are the available EU and national sources limited, but many authorities did not know how to access EU funding, which in part explains why the allocated proportion was so small.

Another issue are the existing practices that deter people from cycling. For instance, in most countries, fiscal systems make it possible to provide employees with low-taxed company cars for their own private use,<sup>38</sup> encouraging more car usage. Targeted promotion strategies need to be put in place to encourage behavioural changes towards active travel, thereby helping to **mainstream cycling**.

The process of integrating cycling into the transport system should be based on verifiable **data**, which would make it possible to identify the starting point, set targets and measure progress. While certain EU countries collect data on bicycle use, largely based on national traffic surveys and commuter travel data, other Member States do not collect any cycling data at all, which is why Eurostat also does not publish data on cycle use. This situation makes comparisons problematic and needs addressing.

### 3. Moving forward

#### 3.1. Improving cycling safety

The World Health Organization has drawn up a tool for carrying out an economic assessment of the health benefits of cycling (**HEAT**).<sup>39</sup> By estimating the value of reduced mortality resulting from cycling, it can assess a city's current situation, past investment and help make the case for more investment in cycling. Cities participating in the HEAT testing appreciated the tangible and economic output of the model.<sup>40</sup>

##### 3.1.1. EU action

In its 2011 White Paper on transport,<sup>41</sup> the EU adopted a strategic target of halving the number of road deaths by 2020<sup>42</sup> and set 2050 as the date for moving as close as possible to the target of 'zero fatalities'. The EU contributes to the process of achieving this target through appropriate legislation and recommendations, primarily technical measures covering such areas as vehicle condition, the transport of dangerous goods or the safety of road networks.<sup>43</sup>

Alongside these efforts to reduce road fatalities, there is strong political support for taking action to limit the number of serious road injuries. After the Council called for a common definition of injuries in 2010 and the EP demanded the adoption of an

<sup>37</sup> To achieve this, they suggested that the [objectives of the EU Horizon 2020 programme](#) could be rebalanced to better reflect the new focus on financing soft modes (including e-bikes) and public transport, rather than focusing primarily on e-cars. To quote Eurocities: 'a green traffic jam is still a traffic jam'. [Sustainable urban mobility in EU transport strategy](#), Eurocities, May 2015.

<sup>38</sup> [Company car taxation: subsidies, welfare and environment](#), Copenhagen Economics, 2009.

<sup>39</sup> [Health economic assessment tools](#) (HEAT) for walking and for cycling, Kahlmeier S. *et al.*, WHO, 2014.

<sup>40</sup> [Using the Health Economic Assessment Tools](#) for walking and cycling: lessons learnt, WHO, 2013.

<sup>41</sup> White Paper Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, [COM\(2011\) 144](#).

<sup>42</sup> Already more than 46% down on 2000, compared to 2010 figures of 30 300 fatalities. The EU's aim is to halve this number by 2020. [Road transport – a change of gear](#), European Commission, 2012.

<sup>43</sup> A recent example of EU action is Directive [\(EU\) 2015/413](#) facilitating the cross-border exchange of information on road-safety-related traffic offences, which should help reduce speeding.

ambitious target<sup>44</sup> to reduce road traffic serious injuries by 40% over the 2014-2020 period, the European Commission announced that it would set a target for 2020 but has thus far failed to do so.<sup>45</sup>

The European Commission periodically reviews and monitors existing legislation, some of which is crucial to the safety of cyclists. This is the case for the ongoing review of the rules for infrastructure safety,<sup>46</sup> the Regulation on the protection of vulnerable road users,<sup>47</sup> and the 'General Safety Regulation' which sets standards for motor vehicles.<sup>48</sup> In particular, the latter review is an opportunity to improve vehicle safety by mandatory design of lorry cabins and introducing new in-vehicle safety technologies, such as Intelligent Speed Assistance (ISA) and Autonomous Emergency Braking (AEB).<sup>49</sup> The European Commission also finances projects aimed at increasing cyclists' safety and disseminates the results.<sup>50</sup>

### 3.1.2. Member State action

Member States continue to be the main actors in the field of improving road safety. They adopt and enforce rules for speed management<sup>51</sup> and traffic reduction, set standards for improving infrastructure safety and raise awareness among cyclists and motorists. For instance, Poland invested in improving its cycling infrastructure and managed to reduce the number of cycling fatalities by 52% between 2003 and 2013, a period which actually saw an increase in the overall number of cyclists<sup>52</sup> in Poland. Some countries have introduced requirements for cycle lighting or for the use of cycle helmets (while others only recommend them, with views differing as to their utility).<sup>53</sup> Several governments have encouraged local administrations to provide safe and attractive infrastructure and offer guidance in this area.<sup>54</sup>

<sup>44</sup> European Parliament resolution of 3 July 2013 on Road safety 2011-2020 – First milestones towards an injury strategy, [2013/2670\(RSP\)](#).

<sup>45</sup> Alarmed by signs that the target might be abandoned, about 40 organisations active in road safety, together with 11 MEPs, sent a [letter](#) to Commission President Juncker urging him to retain the target.

<sup>46</sup> Directive [2008/96/EC](#) on road infrastructure safety management, which could cover urban and rural roads.

<sup>47</sup> Regulation [\(EC\) No 78/2009](#) on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, which could be extended to include cyclist protection.

<sup>48</sup> Regulation [\(EC\) No 661/2009](#) concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor.

<sup>49</sup> ETSC position paper on the [revision of the General Safety Regulation](#), March 2015.

<sup>50</sup> Such as [BIKEPAL](#) and [SafeCycle](#).

<sup>51</sup> The Dutch Institute for Road safety research analysed the impact of converting 50 km/h zones to 30 km/h zones on pedestrians and cyclists, finding a significant positive effect on reducing casualties, estimated at over 70%. [Pedestrian and cyclist road safety on 30 km/h access roads](#), the influence of the layout of urban access roads on collisions between slow traffic and motor vehicles, Berends E.M., Stipdonk H.L., SWOV, 2009.

<sup>52</sup> Data from the Polish Motor Transport Institute mentioned in [Making walking and cycling on Europe's roads safer](#), Adinaite D., Allsop R, Jost G., ETSC PIN Flash Report 29, June 2015, p. 14.

<sup>53</sup> Cycle helmet campaigns make cycling (essentially a safe activity) seem dangerous, which can only be made safer by wearing a helmet, thereby focusing less on the environment where cycling takes place. While the effectiveness of helmets is limited, the obligation to wear a helmet is effective in deterring people from cycling. In the Netherlands and Denmark, the cycling network is perceived as safe and few cyclists wear helmets. This is confirmed by the numbers of accidents per kilometre cycled. [Cycle helmets](#), Cycling UK, January 2016.

<sup>54</sup> Such as Germany: [Cycling expertise](#), Fahrradportal, federal Ministry of Transport and Digital Infrastructure.

### 3.1.3. Action of regions and cities

For their part, the measures taken by regions and cities include: the introduction of 30 kilometre/hour (km/h) speed limits; improved traffic and road signage; the adoption of rules for sharing street space with cars, buses or pedestrians; the construction of cycling infrastructure, including cycle parking; the transformation of intersections and crossings; as well as the provision of maintenance services. Some cities have introduced measures to reduce collisions involving cyclists and heavy goods vehicles (see box below).

#### Danish cities

To limit the number of collisions occurring when a lorry turns right and a cyclist on the lorry's right-hand side continues straight ahead, Denmark launched a campaign to inform and train lorry drivers to position their mirrors to improve their field of vision. Some cities have introduced a number of restrictions for HGVs of over 18 tonnes and identified new transit routes for HGVs in their local area. The number of cycling fatalities from collisions involving heavy goods vehicles and cyclists has fallen by two thirds since 2004.<sup>55</sup>

#### London

To reduce the number of collisions involving construction vehicles and cyclists, the Construction Logistics and Cyclist Safety (CLOCS) initiative<sup>56</sup> encourages best practice throughout the construction sector through the development of a national construction vehicles safety standard. In parallel, to protect pedestrians and cyclists, the Fleet Operator Recognition Scheme (FORS) scheme<sup>57</sup> developed standard safety equipment for vehicles over 3.5 tonnes and encourages fleet operators to ensure that such measures are included in procurement contracts. It also organises certified training courses for truck drivers on safe urban driving, which include an on-road cycling practical module.

## 3.2. Planning

While cycling is by no means limited to cities alone, cycling measures often tend to focus on urban areas, which harbour the greatest potential for achieving a veritable step change, due to the concentration of population and distances involved. A number of cities have begun to promote cycling as a form of city transport, however not all have managed to make a real difference in terms of increasing cycling levels. Cycle paths and lanes have been built, but sometimes remain underutilised or are occupied by parked cars. This may often be related to the use of an unsystematic approach to planning or the isolated nature of the measures adopted.

Planning cycling transport is a process which helps to ensure the progressive optimal integration of cyclists into the transport infrastructure and the city environment.<sup>58</sup> An integrated planning process changes the way that the bicycle is seen by city actors – no longer as an accessory, but rather as a means of reducing the impact of car traffic – and helps facilitate the necessary public investment. Planners need to understand differences in the behaviour or attitudes of users, as well as the wider choices affecting urban travel, if they are to adapt transport policy to different target groups. Integrated planning provides an opportunity to introduce generic measures; one example is where

<sup>55</sup> Reported in [Making walking and cycling on Europe's roads safer](#), Adminaite D., Allsop R, Jost G., ETSC PIN Flash Report 29, June 2015.

<sup>56</sup> Construction Logistics and Cyclist Safety, [CLOCS](#).

<sup>57</sup> Fleet Operator Recognition Scheme, [FORS](#), [Managing Road Risk at Work – Case Study: Transport for London](#), ETSC, April 2016.

<sup>58</sup> [Infrastructure: planning public space](#), Cyklodoprava.cz.

building permits are only granted to projects that provide sufficient bicycle parking and are connected to the cycling network.

### 3.2.1. EU action

The European Commission supports the transition towards cleaner and more performing European cities through **sustainable urban mobility plans (SUMP)**,<sup>59</sup> where inter-sectoral planning and design are coordinated to avoid conflict between urban and transport planning. A SUMP requires that planners make room for cycling in the shared urban space.

To encourage their adoption, the European Commission set up a European Platform on SUMP<sup>60</sup> and financed several initiatives to develop standards, offer guidance and disseminate best practices.<sup>61</sup> Thanks to this knowledge, not only are planners able to focus on what they want to achieve, but also on what they want to avoid: cycling infrastructure that is 'disconnected, poorly implemented or badly embedded in existing urban infrastructure, existing on the map, but inadequate on the cyclist scale'.<sup>62</sup>

As sustainable mobility planning has gained in importance and recognition, so the development of SUMP has spread accordingly. The existing SUMP usually contain an important cycling component (see box below).

#### Examples of existing SUMP

**Milan** (Italy, 1.35 million inhabitants) A SUMP was adopted in 2015, updating a previous urban mobility plan. The targets include extending the cycling network from 9% of the urban road network to 25%; developing a cycling mobility programme; improving the bike share service; as well as services for cyclists; and the introduction of zones of moderate transport (Zone 30).<sup>63</sup>

**Dresden** (Germany, 523 000 inhabitants) Transport development framework since 1994, SUMP-style planning since 2009. Cycling-related objectives include improving the all-year-round usability of cycle paths; new cycle parking; the development of cycling highways; and tourist cycle routes. This should be made more specific in a cycle plan.<sup>64</sup>

<sup>59</sup> The Urban Mobility Package: the Communication [Together towards competitive and resource efficient urban mobility](#), complemented by an [annex](#) setting out the concept of Sustainable Urban Mobility Plans.

<sup>60</sup> Hosted by [ELTIS](#), the urban mobility observatory.

<sup>61</sup> [Centralmeetbike](#) helped cities to develop their cycling master plan, and offered guidance for regional and rural cycling development; [Transport learning](#) helped develop sustainable transport policies in convergence regions; [Cyclecities](#) developed cycling implementation plans and assembled good practice on bike sharing systems and public/private investment costs; [CIVITAS 2020](#) focused on implementing new urban mobility approaches in real life; [Urbact](#) supported sustainable integrated development in cities; [Endurance](#) built the SUMP network. Other operational projects: [BUMP](#), boosting urban mobility plan; [Ch4llenge](#), Addressing the four Key Challenges of Sustainable Urban Mobility Planning; and [Poly-SUMP](#), Polycentric Sustainable Urban Mobility Plans.

<sup>62</sup> The Danish architect Jan Gehl, renowned for his determination to build 'cities for people', denounced the tendency of some architects to 'plop new buildings all over a city without considering the human scale', [calling](#) it 'bird shit architecture'. Paraphrasing Gehl, a cycling blog suggests that infrastructure as defined above could be called 'bird shit cycling infrastructure', [Cycle Luxembourg](#).

<sup>63</sup> [Milan's plan for sustainable, efficient and innovative mobility](#), [Piano Urbano della Mobilità Sostenibile](#).

<sup>64</sup> Dresden: [Verkehrsentwicklungsplan 2025plus](#).



**Vitoria Gasteiz** (Spain, 240 000 inhabitants) In 2010, a Master Plan for Cyclist Mobility was added to the city's 2008 Sustainable Mobility and Public Space Plan, making the promotion of cycling an integral part of the city's transport policy. It set the goal of a 15% cycling mode share by 2020, while at the same time retaining the city's high level of walking (54%). In 2011-2014, cycling levels increased from 7% to over 12%, while car traffic dropped from 28% to 25%.<sup>65</sup>

**Maribor** (Slovenia, 112 000 inhabitants) SUMP planning since 2012, cycling-related objectives include increasing the share of cycling on urban routes to 10% (from a 2002 level of 5%); increasing the proportion of cycling commuters; creating a green corridor; construction of one kilometre of new bike routes per year from 2015; and the development of a cycle network with key links to the city's outskirts by 2025.<sup>66</sup>

SUMPs are often complemented by specific **cycle plans**, designed to create networks for destination-oriented daily cycling and to encourage cycling demand. These plans focus on the continuity and safety of cycling paths and on reducing traffic, while also paying attention to intersections, signage, parking spaces, intermodality and cycling services. Public consultations can provide valuable information about current cycling needs and give an insight into the improvements that are most necessary.

Supporters of sustainable urban mobility have suggested that SUMPs should be made **mandatory and be introduced as a precondition for receiving EU financing** for urban transport projects. This approach was also considered by the European Parliament during discussions on the 2015 resolution on sustainable urban mobility. However, MEPs preferred to recognise the importance of SUMPs with a more guarded formulation.<sup>67</sup> Stakeholders' reactions have also been measured; some fearing an additional administrative burden, as well as a negative impact on those cities that already have similar plans in place.<sup>68</sup>

### 3.2.2. National mobility plans

The concept of sustainable mobility has also been developed by a number of other established planning systems. **Sweden**, for instance, has had a planning support system in place since 2004 called 'Transport for an attractive city'. A study which compares these plans with SUMPs, finds that both systems have similar guidelines.<sup>69</sup> **France** also introduced urban mobility plans in 1982 and made them obligatory for agglomerations of more than 100 000 inhabitants in 1996. The plans<sup>70</sup> aim to ensure a balance between mobility, environment and health protection. They cover the whole urban transport perimeter and all transport modes, there is public consultation, and the development of public transport, cycling and walking are all included among their 11 legal

<sup>65</sup> [Vitoria Gasteiz](#).

<sup>66</sup> [Sustainable Urban Mobility Plan for Maribor](#).

<sup>67</sup> The EP rapporteur Karima Delli (Greens/EFA, France) proposed this conditionality. Following discussion, the EP acknowledges the importance of SUMPs in the adopted text, adding that they 'should be an important element to be considered in financing EU projects'. European Parliament resolution of 2 December 2015 on sustainable urban mobility, [2014/2242\(INI\)](#).

<sup>68</sup> White Paper on Transport midterm review [Polis Position Paper](#), April 2015. [Sustainable Urban Mobility Report](#) Suggested Amendments, [Polis](#), Cities and Regions for Better Transport, May 2015. [Sustainable urban mobility in EU transport strategy](#), Eurocities, May 2015.

<sup>69</sup> ['Comparison of the EU's Sustainable urban mobility plan](#) (SUMP) and Swedish planning support. [Transport for an attractive city \(TRAST\)](#), Robertson K., Swedish National Road and Transport Research Institute (VTI), June 2015.

<sup>70</sup> [Plans de déplacements urbains](#).



obligations. Currently, more than 80 agglomerations have an urban mobility plan in place.<sup>71</sup>

Therefore, while the principle of imposing a requirement for each project to demonstrate its sustainability credentials before granting EU funding makes sense, and while the idea of mandatory sustainable planning is, in itself, nothing new, the question of what exactly counts as a valid sustainable urban mobility plan needs to be clarified beforehand.

### 3.3. Financing

The EU budget for the current financial period (2014-2020) is about €1 trillion, of which at least €94 billion is earmarked for transport. It is expected that **investments in cycling will increase** to approximately €1.5 billion, but this figure could be much higher if successful projects are put forward. To facilitate access to these funds, the European Cycling Federation (ECF) has set up an **observatory**,<sup>72</sup> which can help identify potential funding from the various EU funding sources available and also offer guidance. Schemes that are potentially eligible for funding include the development of cycling route networks; cycle parking and storage; campaigning, promotion and education services for cyclists; as well as cycle sharing systems; bike usage monitoring; and impact assessment.<sup>73</sup>

**Infrastructure funding** opportunities from the European Structural and Investment Funds<sup>74</sup> vary in line with the content of the partnership agreements of individual Member States, which determine the co-financing possibilities from the European Regional Development Fund and the Cohesion fund. In addition, the extent to which cycling infrastructure has been prioritised within national transport policy differs across the Member States (which also establish eligibility criteria for individual projects).<sup>75</sup>

In addition, infrastructure funding for projects connected to the trans-European transport network (TEN-T) may be sourced from the Connecting Europe Facility (CEF).<sup>76</sup> The CEF can support infrastructure projects that include elements of cycling infrastructure as well as projects within urban nodes. The European Parliament recently made a specific reference to this opportunity, calling on all actors to make use of it, and highlighting the possibility of an additional co-financing rate for projects with synergy between transport and energy.<sup>77</sup>

**Beyond infrastructure**, specific projects with a cycling element are also eligible for funding from other EU sources. By way of example, the framework programme for research and innovation, Horizon 2020, can, for instance, be used to support innovation and research projects oriented at smart, green and integrated transport,<sup>78</sup> with a total of €2.9 billion earmarked for such projects during the period 2014-2020. There are also possibilities under the programme for the competitiveness of

<sup>71</sup> For example, [Lille métropole](#) has an urban mobility plan for 2010-2020, tracing a path towards 'an intense city', where quality public space aims to make citizens prefer walking and cycling.

<sup>72</sup> [EU Funds Observatory for Cycling](#), ECF.

<sup>73</sup> [ECF Manifesto](#) for the European Parliament election, 2014.

<sup>74</sup> [European Structural and Investment Funds](#).

<sup>75</sup> [Partnership Agreements](#) within Cohesion Policy 2014-2020, [ERDF](#), [Cohesion Fund](#).

<sup>76</sup> Connecting Europe facility ([CEF](#)), trans-European transport network ([TEN-T](#)).

<sup>77</sup> European Parliament resolution of 2 December 2015 on sustainable urban mobility, [2014/2242\(INI\)](#).

<sup>78</sup> [Horizon 2020, Smart, green and integrated transport, Work Programme 2016-2017](#).

enterprises and SMEs,<sup>79</sup> particularly in the case of tourism projects. Specific openings are ultimately determined, however, by the individual work programmes and calls.<sup>80</sup>

#### Funding estimates from a national plan

The German national cycling plan 2020 calculates local authorities' funding needs for cycling (depending on the starting situation and the future prospects of a given locality) at €8-19 per resident per annum. This includes construction, maintenance and the operation of cycling infrastructure, parking facilities, and 'soft' measures, such as communication and services.<sup>81</sup>

### 3.4. Mainstreaming cycling

In most European cities, there is huge potential for increasing the amount of cycling. Half of all passenger car trips are under five kilometres and a good part of these journeys could be completed by bicycle. What is more, half of all motorised trips involving the transport of goods could be carried out by bicycle or cargo bike.<sup>82</sup>

Providing people with specially adapted cycling infrastructure is only the first step. The idea of 'build it and they will come' only works well when supported by additional measures<sup>83</sup> which promote cycling and also restrict car use.

In terms of restrictive measures, arguably the most efficient form of support takes the form of a congestion scheme and/or low-emission zone combined with speed management, which limits car parking space and has a strong element of enforcement.

The promotion of cycling targets people who do not cycle, presenting cycling as an enjoyable activity for them and inviting them to try it out, as well as people who already cycle occasionally, by encouraging them to use a bicycle on a more regular basis. Initiatives combine information, motivation and awareness campaigns with incentive schemes as well as providing opportunities to cycle. Educational schemes include basic cycling techniques as part of the school curriculum,<sup>84</sup> and also cover cycling-in-traffic training programmes for adults and awareness-raising initiatives aimed at car drivers.

For cities, the visible promotion of cycling, through measures such as a bicycle-share scheme, feeds into a wider branding strategy. It may include the adoption of a pro-cycling city logo which is used on all promotional material as a visual means of

<sup>79</sup> [COSME](#).

<sup>80</sup> For instance, the [EU Health Programme 2008-2013](#) took cycling into account and funded a [project](#) encouraging more physical activity and integrating cycling into citizen's daily routines as the main means of transportation.

<sup>81</sup> [German national cycling plan 2020](#), p. 60.

<sup>82</sup> 25% of all urban goods, or 50% when only light goods are considered. [Cyclelogistics, moving Europe forward](#), final report, Austrian Mobility Research, FGM-AMOR.

<sup>83</sup> Analysing 22 medium-sized Dutch cities in terms of the performance of cycling policy, a study confirmed that to improve cycling shares, cycling safety and the perception of cycling, measures improving the quantity and quality of cycling infrastructure need to go hand in hand with measures reducing the attractiveness of car usage ('push and pull measures'). Other success factors included setting measurable and verifiable goals, a high level of citizen participation and the presence of strong leaders (mayors or other public leaders). [Performance of Municipal Cycling Policies in Medium-Sized Cities in the Netherlands since 2000](#), Harmsa L., Bertolinia L., Te Brömmelstroeta M., Transport Reviews, Vol. 36, No 1, 2016, pp. 134-162.

<sup>84</sup> In the Czech Republic, cycle training is included in transport education, an obligatory part of the basic school curriculum since 2013. After five lessons of theory, ten-year-olds spend five lessons in a [transport playground](#) to experience life-like transport settings safely.

signalling the city's focus on active mobility and liveability.<sup>85</sup> This helps attract investment into the city centre and garner citizen support for the strategy, which can in turn facilitate the introduction of measures restricting car traffic.

Given that commuting is responsible for a significant proportion of daily traffic, replacing car commuting with active travel can have a significant impact in terms of reducing congestion and pollution. Therefore, introducing efficient incentives for cycle commuting is crucial. Cycling to school and college is encouraged and developed by several campaigns, at both national<sup>86</sup> and European<sup>87</sup> level. The EU has also financed a number of projects encouraging employers to introduce enterprise schemes helping to change commuters' habits towards active commuting,<sup>88</sup> applying personalised travel planning methods<sup>89</sup> and using competitive mobility games on mobile applications to ensure active commuting at least one day per week.<sup>90</sup> On the other hand, the negative incentive in the form of company cars remains very strong.

#### 3.4.1. Fiscal incentives

Having recognised that there are inconsistencies in the **taxation rules**<sup>91</sup> between modes and fuels, as well as between and indeed within Member States, the European Commission identified the need to 'revise company car taxation to eliminate distortions and favour the deployment of clean vehicles' as one of the objectives of its 2011 White Paper on transport.<sup>92</sup> While fiscal regimes are a Member State competence, the European Commission can make concrete country-specific recommendations within the framework of the European Semester.<sup>93</sup>

By providing fiscal incentives, Member States can encourage commuters to switch from private cars to active mobility and public transport. Thanks to such support, local authorities are able to take more and better initiatives,<sup>94</sup> and companies can adopt mobility plans. Cycling can be integrated or even prioritised as part of mobility management plans, including schools and companies.<sup>95</sup>

Several countries already have a number of instruments in place: Belgium,<sup>96</sup> the United Kingdom,<sup>97</sup> the Netherlands<sup>98</sup> and, more recently, France,<sup>99</sup> as well as Sweden and

<sup>85</sup> [Examples of cycle-friendly logos](#), Marketing, Cyklodoprava.

<sup>86</sup> Examples from the United Kingdom: the annual [Bike to School Week](#), [The Big Pedal](#) school challenge.

<sup>87</sup> The EU project [STARS](#) (Sustainable Travel Accreditation and Recognition for Schools) aims to increase the number of pupils cycling to school, among those who would previously have been transported by car.

<sup>88</sup> [Bike2work](#) project.

<sup>89</sup> Personalised travel Planning for Cycling, [PTP-Cycle](#) project.

<sup>90</sup> Promoting smart mobility to employees, [Mobi](#) project.

<sup>91</sup> Impact assessment accompanying the White paper on Transport, [SEC\(2011\) 358](#).

<sup>92</sup> White paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, [COM\(2011\) 144](#).

<sup>93</sup> [European Semester 2016](#).

<sup>94</sup> [Declaration](#) on Cycling as a climate friendly Transport Mode, European Council, 7 October 2015.

<sup>95</sup> [Cycling – cost-effective measures](#), guidelines, Clean Air, November 2015.

<sup>96</sup> Belgium: Voluntary cycling allowance of €0.22/km. Provision of bicycle and installations for cycling: no taxable advantage for the employee, 120% of costs and entirely VAT deductible for the employer.

<sup>97</sup> UK: [Cycle to work scheme](#): tax exemption for bicycles loaned to employees for home-work travel.

<sup>98</sup> The Netherlands: in 2014, tax-free provision of a bicycle for up to €749 every three years. Since 2015, bicycles have been included in the general fringe benefit regulation.

Germany.<sup>100</sup> Such incentives, however, must be accompanied by parallel fiscal treatment of other modes of commuting transport. The result should be balanced and thus not make any particular mode of transport more advantageous than another. The Netherlands, for instance, allows employers to reimburse employees' general transport expenses, while Germany offers a series of neutral income tax deductions.<sup>101</sup> Such instruments allow companies to introduce fiscally interesting 'mobility budgets', which encourage the use of active travel modes, generally cheaper than the car.

In terms of the **public budget**, it is useful to compare spending on the promotion of commuting by bicycle against the losses in direct government revenue linked to the tax treatment of company cars. In Belgium, for instance, companies allocate some €4 billion a year to company car schemes compared to just €70 million a year for commuting to work by bicycle. Introducing fiscal benefits for commuting by bicycle would have a positive effect on the public budget if subsidies for company cars were reduced in parallel to these measures. Efficient incentives can be introduced at local level too, with Nantes<sup>102</sup> being a particularly noteworthy example.

### 3.4.2. Intermodality

One way of widening the range of daily bicycle users is to ensure better traffic intermodality, both with trains and public transport. While intermodality is well developed in some countries,<sup>103</sup> EU regulations do not provide any incentives to encourage operators to facilitate the transport of bicycles on trains and buses.<sup>104</sup> Regions and cities have made it easier for people to actively engage in combined

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<sup>99</sup> France: a combination of tax **deductions** for employers with an allowance for employees. From January 2016, an employer that offers bicycles to employees for commuting can deduct up to 25% of the expense from the corporate tax amount. The employee can claim €0.25 per kilometre cycled (on a standard or electrically assisted bike), which may be combined with a contribution to a public transport ticket or a bike-share system subscription. Last minute changes to the draft law, however, made the system voluntary for employers and limited the allowance to €200 a year per cyclist, free of social contributions and VAT. [Loi pour la transition énergétique et la croissance verte](#), Art. 50, modified 1 December 2015.

<sup>100</sup> In Germany and Sweden, although a company bike is a taxable benefit, its value can be discounted to the employee's advantage.

<sup>101</sup> [Commuting: who pays the bill?](#) Haubold, H., European Cyclists' Federation, October 2014.

<sup>102</sup> Nantes (France) introduced voluntary 'society mobility plans' ([Plan de Mobilité Entreprise](#)) in 2004 as part of their urban mobility plan, encouraging employers to use different measures to motivate employees to change their commuting habits. Along with improving public transport, the proposed cycling-related measures included providing secure and covered cycle parking facilities; the purchase or rental of service bikes; the installation of changing rooms; the organisation of technical checks; and a 'cycling day' with picnic.

<sup>103</sup> The Dutch system, which combines public transport and bike rentals ([OV Fiets](#)), has bicycles located at over 100 railway stations and also offers a staffed cycle parking and repair service. The German system ([Call a bike](#)) is linked to long-distance railway stations, which allows users to reserve a bicycle in advance.

<sup>104</sup> [Regulation \(EC\) No 1371/2007](#) on rail passengers' rights and obligations only asks rail operators to 'enable passengers to bring bicycles on to the train, where appropriate for a fee, if they are easy to handle, if this does not adversely affect the specific rail service, and if the rolling-stock so permits', [Directive 2007/46/EC](#) establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive).

commuting by installing cycle parking facilities at train stations and introducing bike rental and bike sharing schemes,<sup>105</sup> while some also offer integrated tickets.<sup>106</sup>

### 3.4.3. Infrastructure

For regular cyclists who use their own bike, end-of-trip facilities matter as much as the activity of cycling itself. These include bicycle storage racks or boxes against theft and vandalism, lockers, showers and changing rooms, accessible maintenance services and bicycle accessory shops. Cities with high cycling shares (Ljubljana, Copenhagen) state that commuters also value the high comfort and convenience of city cycling, which can be achieved through measures such as the construction of cycle paths with high-quality surface, ensuring the fluidity of passage at junctions (green wave for cyclists) or the introduction of a three second priority for cyclists at traffic lights.

Outside cities, fast cycling routes are being introduced as a cost efficient and low carbon solution for commuting to and from urban employment poles. Following the example of many Dutch regions and cities and the Flanders region in Belgium, cities such as Copenhagen and London have also joined in and other routes are now under construction in Germany and Sweden.<sup>107</sup> This development ties in with the growing number of e-bikes in use, making it possible to cover longer distances. With more cycle highways being built, a growing body of knowledge is becoming available in the area of design standards and best practice.<sup>108</sup> The EU, for instance, supports a project which aims to develop a 'second generation' of fast cycling routes.<sup>109</sup>

## 3.5. Data and measuring progress

To draw up and implement effective and more targeted cycling measures, harmonised data is needed. At EU level to date, only the 2014 Eurobarometer special survey on the usage of transport modes<sup>110</sup> provides a general idea of cycling frequency in the EU. The existing aggregates of national data usually contain a mention that an estimate had to be made for certain missing data. An alternative strategy, used by the ECF to establish the 'cycling barometer' ranking of EU countries,<sup>111</sup> consists of aggregating data from five EU-wide surveys to compensate for the different treatment given to cycling in various EU Member States.<sup>112</sup> More data is available on cycling in cities, as the

<sup>105</sup> Short-term bicycle self-service rental schemes allow people to rent a bicycle at one docking station and leave it at another. Since 2000, when only a few systems were running, there has been massive development and by 2016 over 600 schemes had been set up worldwide. These complement public transport and give a message that a city is bicycle-friendly.

<sup>106</sup> In [Seville](#), travellers arriving at the main bus station can rent a bicycle for free with their bus ticket.

<sup>107</sup> Copenhagen: [Developing cycling highways in Greater Copenhagen](#); London: [cycle superhighways](#); Germany: [Radschnellweg Ruhr](#); Sweden: [first 'cycle superhighway' on its way](#).

<sup>108</sup> [Towards fast commuting](#), ECF.

<sup>109</sup> [Cycle highways](#) innovation for smarter people transport and spatial planning.

<sup>110</sup> [Special Eurobarometer 422a](#), 2014.

<sup>111</sup> [ECF cycling barometer](#), 2015.

<sup>112</sup> A recent report exploring the potential for increasing bicycle and e-bike use, deplores the inconsistency in the calculation of the mode share, even among cities within one country. It strongly recommends improving data definitions and collection systems, which would yield better information on the baseline situation and make it possible to keep track of changes over time. [A Global High Shift Cycling Scenario](#), Mason J., Fulton L., McDonald Z., Institute for Transportation & Development Policy and the University of California, Davis, November 2015.

European Platform on Mobility Management maintains a database of 480 cities,<sup>113</sup> enabling a comparison of cycle use.

#### 3.5.1. Road safety data

In terms of the data on the road safety of cyclists, it is worth underlining the differences between the data available on cycling fatalities, and the data on injuries. While in the case of cycling fatalities, the definition is clear<sup>114</sup> and all EU countries collect data, there was no common definition of a 'serious injury' before 2013 and, therefore, no comparable EU-wide data. In 2014, EU countries started collecting data using a new definition, based on a scale commonly used by medical professionals.<sup>115</sup> The new data will allow the European Commission to monitor Member States' performance and focus action on key areas, such as the safety of vulnerable road users and safety in urban areas.

The level of cycling risk could be better evaluated if the collisions data was set against the number of trips by bicycle, or the distance cycled. This would provide an understanding of which areas should be targeted by cycling safety policies. At present, only the Netherlands, Sweden and the UK report this type of data.<sup>116</sup>

#### 3.5.2. New data methods

While the main methods of collecting cycling data were, until recently, human or mechanical counts and surveys, new possibilities of data collection have opened up in recent years. Cameras and automatic cyclist counters help estimate the total amount of users on a section of a route and can also have a promotional impact. Bike sharing schemes collect vast amounts of data automatically; however, privacy issues are likely to limit the extent to which this source may be used. Thanks to the use of GPS devices on bikes, special studies are also conducted, for instance to analyse cyclists' route preferences.

The growing number of different smartphone cycling applications is seen as a positive sign that more attention is being paid to urban cycling. These data are important not only to the users themselves, but also to the authorities of the cities where they live. In addition to showing cyclists that they are being taken seriously, the collection of such data also gives local municipalities important information about current cycling practices, including cyclist numbers and the various categories of cyclists, their preferred routes, travel speed, waiting times at crossroads and specific problems on cycle paths.<sup>117</sup> What is more, it provides the municipality with feedback on its cycling policy, by showing, for instance, how much a new item of cycling infrastructure is being used. These data sources are useful, as monitoring is best done by the people most directly concerned, and should be encouraged, provided data privacy issues can be overcome.

<sup>113</sup> The European Platform on Mobility Management (EPOMM) Modal split tool, [TEMS](#).

<sup>114</sup> Fatality: 'a human casualty who dies within 30 days due to injuries received in a crash'.

<sup>115</sup> The new standard definition of '[serious traffic injuries](#)' is based on a scale commonly used by medical professionals.

<sup>116</sup> [Making walking and cycling on Europe's roads safer](#), Adinaite D., Allsop R, Jost G., ETSC PIN Flash Report 29, June 2015.

<sup>117</sup> Brussels: the [Fix My Street](#) application and webpage ensure direct communication with cyclists. UK: [FillThatHole](#) is a webpage for reporting potholes and road defects.



### 3.6. Coordinated action at EU level

While, by its very nature, cycling takes place at local level, as a transport mode it concerns all levels of governance, even going beyond national borders. Although most of the measures to increase cycling levels are taken at local and regional level, these efforts need to be backed by adequate support from higher levels of administration, both national and European.

In general, the EU has played an active role in promoting cycling, recognising the relevance of cycling to several areas of EU action, particularly in transport and tourism, energy and environment, regional and cohesion policy and public health. Alongside adapting legislation, EU action generally focuses on offering guidance to local authorities on how to promote cycling mobility, facilitate the exchange of best practice,<sup>118</sup> and supports projects financially.<sup>119</sup> In the area of public health, for example, several EU policy documents link transport and health policies,<sup>120</sup> and the EU has also financed a project promoting active mobility.<sup>121</sup> The EU also supports the take-up of new trends in bicycle usage, such as electrically assisted bicycles and cargo bikes.<sup>122</sup>

In addition to this direct support, the EU also offers **indirect support** through regional cooperation. The EU encourages the establishment of joint cross-border structures, such as European groupings of territorial cooperation (EGTCs),<sup>123</sup> as the most integrated form of managing cross-border transport networks or routes. Several EGTCs are already in the process of carrying out or planning cycling initiatives in transport and tourism.<sup>124</sup>

<sup>118</sup> For example, [PRESTO](#) – Promoting cycling for everyone as a daily transport mode (2009-2012). This project made policy guides available on the general cycling framework, cycling Infrastructure, promotion of cycling and electric bicycles.

<sup>119</sup> By way of example, in the 2007-2013 period, projects co-financed from the European Regional Development Fund (ERDF) included developing a [network](#) of bicycle roads and bridges linking Austria and Slovakia, creating a [cycle route](#) in the Atlantic Pyrenees region, cross-border [trails](#) between Italy and Switzerland and [cycle tourism routes](#) in Latvia and Lithuania, involving Belarus. Wider projects focused on improving the [share](#) of cycling in transport over short distances, including infrastructure adaptation, or [integrating cycling](#) within sustainable mobility management schemes.

<sup>120</sup> [Strategy on nutrition, overweight and obesity-related health issues](#); Action Plan on Urban Mobility [COM\(2009\) 490](#), Action 3 — Transport for healthy urban environments; Council recommendation on promoting health-enhancing physical activity across sectors (HEPA), [2013/C 354/01](#).

<sup>121</sup> Physical Activity through Sustainable Transport Approaches ([PASTA](#)).

<sup>122</sup> Examples of EU-funded projects: [PRO-E-BIKE](#) promoted e-bikes for goods and passenger transport as an alternative transport for delivery companies, public administrations and citizens; Cyclelogistics, followed by [Cyclelogistics Ahead](#), increase the use of cargo bicycles for goods transport in cities.

<sup>123</sup> Since 2006, more than 50 EGTCs have been established. The Committee of Regions keeps a [list](#) of the existing and planned EGTCs. For more information, see EPRS briefing on [EGTCs](#).

<sup>124</sup> For example, [Pons Danubii](#), is building cycle paths along the Danube and plans a new bridge with a cycle lane, [Via Carpathia](#) plans the construction of cycle routes (both EGTCs involve Hungary and Slovakia). The [Eurodistrict Strasbourg-Ortenau](#) (France, Germany) encourages park-and-ride commuting by improving cycle parking facilities at train stations and extending bike transport on trains.



### Examples of action at different levels

**Member States** express their support and set the general framework by adopting a national cycling strategy (currently in place in 13 countries),<sup>125</sup> which can also take the form of a law (such as in Wales),<sup>126</sup> and ensure coordination between the different tiers of government. Furthermore, they provide technical and funding expertise through a national focal point and appoint a national cycling coordinator. By integrating cycling into national infrastructure projects (such as railway stations and roads), Member States can support inter-modal mobility and help build a coherent network of cycle paths.

**Regions** develop larger cycling networks used for both utility and leisure trips, but also adapt the regional public transport network to facilitate combined trips (park-and-ride or bike-on-transport) and develop cycling tourism, as in the case of Alsace.<sup>127</sup>

**Municipalities** create, improve and maintain the cycling network. Both large and medium-size cities have set up bicycle share schemes, linking them to the existing public transport network. In parallel, cities introduce and enforce car traffic mitigating measures and set rules for the delivery of goods, which can encourage delivery by cargo bike and e-bike, as per the case in Milan.<sup>128</sup>

#### 3.6.1. Towards an EU roadmap

While national strategic documents recognise the importance of cycling and identify the action needed to get more people cycling, no such strategic document exists at **EU level**. However, there have been increasing calls for just such a high-level strategy.

In the **2014** Paris Declaration,<sup>129</sup> the parties to the Transport, Health and Environment Pan-European Programme (the PEP) confirmed their commitment to develop a **pan-European Master plan for promoting cycling**. At the time of the elections to the European Parliament, the European Cyclists' Federation (ECF) published a **Cycling manifesto**,<sup>130</sup> which called for action, and proposed ten key measures to develop cycling mobility.

In July **2015**, six sustainable transport organisations called for an **EU Roadmap for cycling**,<sup>131</sup> calling for one central document, which would streamline the action of all the Directorates General of the European Commission concerned. The organisations feared that the lack of coordinated support could affect those European cities that had already adopted ambitious cycling targets; while at that time only 12 Member States supported their local and regional authorities through a national cycling strategy. In

<sup>125</sup> [National cycling policies](#), ECF. Some states prefer to include cycling policies in more general national plans for transport, environment or health, while others limit their intervention to regulating road safety.

<sup>126</sup> Wales: [Active Travel Act 2013](#).

<sup>127</sup> [Alsace à vélo](#).

<sup>128</sup> In 2011, Milan introduced a low emission zone combined with a road charging scheme, with bicycles allowed in the pedestrian zone: [Milan's Area C reduces traffic pollution and transforms the city center](#). Soon after, several bike delivery and messaging services appeared. [Recommendations on cyclelogistics for cities](#), Swennen B., Rzewnicki R., ECF.

<sup>129</sup> [Declaration](#) adopted by the ministers and representatives of the Member States of the United Nations Economic Commission for Europe (UNECE) and the World Health Organization (WHO), 15 April 2014.

<sup>130</sup> ECF [Manifesto](#) 2014.

<sup>131</sup> European Cyclists' Federation, Transport & Environment, European Transport Safety Council (ETSC), Polis, Confederation of the European Bicycle Industry (CONEBI) and Eurocities. [addressing](#) MEPs.

September 2015, the European Parliament called<sup>132</sup> for an EU roadmap for cycling to be included in the European Commission's 2016 Work Programme.

In October 2015, the Luxembourg Presidency of the Council organised the first informal meeting of Ministers of transport, dedicated exclusively to cycling as a mode of transport, which also saw the signing of a **declaration on cycling as a 'climate friendly' transport mode**.<sup>133</sup> Acknowledging the various benefits of cycling and with due regard for the principle of subsidiarity, the declaration calls on the European Commission to consider integrating cycling into multimodal transport policy, to develop an EU level strategic document on cycling, and to set up a European focal point for cycling.<sup>134</sup> The European Transport Commissioner, Violeta Bulc, confirmed that the European Commission is prepared to coordinate with the Member States and to facilitate the exchange of good practice.<sup>135</sup>

A strategic document affirming cycling's undisputed position in the transport mix, would not only send out a positive message to local authorities that they are on the right track irrespective of the position of their national authorities, but could also help embed cycling in national health and transport policies.

By the same token, this could also help connect the different EU policies. One recent example of a mixed message sent out by the EU saw the European Commission put forward a proposal for stricter national emission limits,<sup>136</sup> without mentioning the issue of active travel. The European Parliament changed the text by adding measures to control emissions in urban areas, including the promotion of a modal shift to cycling, walking and public transport<sup>137</sup> and called for earlier action. However, the directive has not yet been adopted and the Council, made up of the Member States' Ministers of environment, looks set to dilute its ambitions.<sup>138</sup>

Further EU support for cycling could introduce conditionality for EU funding, to maximise its impact. The EU could, for instance, require that all transport infrastructure projects take cycling into account. It could also ask that the new infrastructure built complies with the EU safety standards – this condition exists already for projects supported from the Connecting Europe Facility (CEF), but could be extended to other funds.

## 4. Conclusions

A genuine shift towards greater cycling mobility can be achieved through cycling policies that are coordinated across all levels of administration. For reasons of subsidiarity, the main responsibility for delivering cycling policy is at national and local level. However, the EU could help strengthen these efforts by means of a strategic

<sup>132</sup> European Parliament [resolution](#) of 9 September 2015 on the implementation of the 2011 White Paper on Transport: taking stock and the way forward towards sustainable mobility.

<sup>133</sup> [Declaration](#) on Cycling as a climate friendly Transport Mode, European Council, 7 October 2015.

<sup>134</sup> [European Commission appoints a 'focal point' for cycling](#), EU Cyclists' Group, 19 April 2016.

<sup>135</sup> [Informal Transport Council](#) – The Ministers and Secretaries of State adopt a 'Declaration on cycling as a climate friendly transport mode'.

<sup>136</sup> Proposal for a Directive on the reduction of national emissions of certain atmospheric pollutants, [COM\(2013\) 920](#). For more information, see EPRS briefing [Reducing air pollution](#).

<sup>137</sup> [2013/0443\(COD\)](#), Amendments adopted by the European Parliament [P8\\_TA\(2015\)0381](#).

<sup>138</sup> Revised national emission ceilings ([NEC directive](#)), European Council.

document which covers all the areas that impact on cycling in one text. In combination with appropriate funding, this could send a strong signal to all levels of administration that cycling is taken seriously as a means of transport which reduces urban congestion and pollution, while making people healthier.

A cycling policy should effectively address the challenges outlined and provide an overall alternative mobility framework. Based on solid data, it requires a combination of promotional measures (infrastructure, counselling, campaigning) and car transport mitigating measures. It should also look beyond the social and demographic data to user behaviour and attitudes, and adapt the policy to target the individual groups identified.

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A genuine shift towards greater cycling mobility can be achieved through cycling policies that are coordinated across all levels of administration. For reasons of subsidiarity, the main responsibility for delivering cycling policy is at national and local level. However, the EU could help strengthen these efforts by means of a strategic document which covers all the areas that impact on cycling in one text. In combination with appropriate funding, this could send a strong signal to all levels of administration that cycling is taken seriously as a means of transport which reduces urban congestion and pollution, while making people healthier.

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This is a publication of the  
**Members' Research Service**

*Directorate-General for Parliamentary Research Services, European Parliament*



PE 582.033  
ISBN 978-92-823-9193-8  
doi:10.2861/682180

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