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**COMMISSION STAFF WORKING DOCUMENT**

**A call for smarter urban vehicle access regulations**

*Accompanying the document*

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**Together towards competitive and resource-efficient urban mobility**

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#### Together towards competitive and resource-efficient urban mobility

#### I. INTRODUCTION: OPTIMISING URBAN ACCESS

Making urban centres as accessible as possible requires local decision makers prioritise the use of urban space according to their local needs and circumstances. Similarly local competent transport authorities need to decide on how to make the best possible use of the existing expensive transport infrastructure and maximise the accessibility of cities for passengers and freight.

To optimise the accessibility of urban areas and to reduce negative effects cities are increasingly prioritising access for certain types of vehicles or certain users. An increasingly wide range of different types of access regulations are being implemented in European cities with different approaches in each Member State and often each city.

To prevent an unnecessary complexity to travel in cities it would be beneficial to cities, operators and drivers to have a more coherent and cost effective approach to urban vehicle access regulations across the European Union.

Urban access regulations can be defined as: *'measures to regulate vehicular access to urban infrastructure'*. There is a large and growing diversity of different types of urban access regulations implemented in different ways and for different reasons.

Urban access regulations such as pedestrianized areas, loading and unloading zones, low speed zones, congestion charges are common and important strategies used throughout Europe's cities to prioritise access for certain vehicles or users. Low emission zones (LEZ) are seen by many cities as a solution to the widespread non-compliance with EU air quality limit values for particulate matter and nitrous dioxide.

Access Regulations can apply to specific points (bridges, tunnels) or to certain road lanes (bus lanes, high occupancy vehicle lanes) or to certain areas (low emission zones, pedestrianized areas or congestion charging zones). Access regulations can apply to different types of vehicles (e.g. cars, delivery vehicles), the emission class of vehicles (e.g. EURO III) or to the type of user (e.g. residents, emergency vehicles). Schemes may apply permanently or only during certain days or times. Finally schemes may charge for access (e.g. congestion toll or parking fees). The charges may be fixed (e.g. a toll or annual fee) or related to usage (e.g. per hour or per kilometre).

Demand for road passenger transport at peak times often exceeds current road capacity, studies indicate that road space used for public transport can convey 4.5 to 10 times<sup>1</sup> the

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<sup>1</sup> Mixed traffic 2000 person per hour per 3.5m lane, per direction (pphp), regular bus 9000 pphp, bus rapid transit 18000 pphp. Botma & Papendrecht, TU Delft 1991 and GTZ own figures 2012

number of people than a conventional mixed use lane. Bus lanes are a type of access regulation that is a common way for city authorities to prioritise the use of urban space – and by increasing capacity improve urban accessibility at peak times.

Access regulations can have broad benefits and so need to be carefully devised to maximise the benefits (safety, noise, CO<sub>2</sub>, air quality, accessibility, logistics etc.). For example large road freight vehicles can be an efficient way to move goods into an urban area, but some access regulations ban large road freight vehicles. By allowing such vehicles and reserving delivery spaces at certain times (e.g. off peak) operators can deliver goods safely and efficiently and help reduce costs.

**Properly implemented urban vehicle access regulations can effectively improve urban accessibility and reduce costs, emissions, accidents and optimise use of existing infrastructure.**

**II. URBAN ACCESS REGULATIONS PROBLEMS AND TRENDS**

There is a **broad lack of understanding of access regulations, their implementation and their effectiveness**. Of the thousands of regulations implemented in Europe very few have been comprehensively and independently evaluated. There is a lack of understanding of what works best and which access regulations are the most effective. To improve urban accessibility and make cost effective use of urban transport infrastructure there needs to be a better understanding and evaluation of the broad range of impacts of access regulations.

**Information about access regulations** needs to be much more widely **shared**. Information about schemes and how to comply with them should be easily available and understandable for drivers and road transport operators. Information about best practices and experiences should be available for city planners and experts to improve implementation of urban mobility policy.

Whilst it is right that local decision makers should decide on what are the appropriate measures for their local circumstances and preferences - many access regulation schemes are implemented to address the same problem or comply with European or national priorities e.g. on air quality, congestion or greenhouse gas emissions. The incredible diversity of schemes, complexity and variety of rules and enforcement methods and lack of information make schemes difficult for drivers or logistics operators to understand.



**Figure 1: Different low emission zone signs in use in Europe**

Improving the quality and availability of information would reduce the cost of complying with schemes and improve compliance.

Currently each city makes different decisions about the features of its access regulation. The diversity of e.g. vehicle categories, dates of application, exemptions etc. makes it very difficult for vehicle operators and manufacturers to know which vehicles can be used in urban areas. A more common approach would reduce costs and improve compliance.

Difficulties in identifying vehicles characteristics (e.g. air emissions class, CO<sub>2</sub> emissions) can hamper the efficient implementation and enforcement of access regulation schemes. Common **methods for identification of vehicle characteristics**<sup>2</sup> e.g. electronic tags or vehicle records could facilitate efficient implementation. **Common rules<sup>3</sup> for the certification of vehicle retrofits** would prevent the need for each Member State to set its own standards and certification procedures for retrofitted vehicles.

Whilst Europe already has a high degree of urbanisation the population of Europe's cities continues to grow and further increases demand for urban transport. Other factors are also contributing to increasing demand for urban transport such as e-commerce (increasing the number and reducing the size of shipments). So these increases in demand (and the associated increasing costs of congestion) can be expected to lead to more urban access regulations. Many urban areas are already struggling to comply with air quality legislation often due to road transport related air pollution and need to take stronger action to protect citizens from air quality related health problems. Many of these urban areas are establishing Low Emission Zones (a particular type of access regulation) to reduce traffic related air pollution in a focussed way.

In parallel we can see increasing availability of Intelligent Transport Systems solutions that can facilitate the implementation, monitoring, enforcement and compliance with access regulation schemes (e.g. CCTV - Closed Circuit Television or ANPR – Automatic Number Plate Recognition systems), but action is required to ensure interoperability of solutions implemented in different cities and Member States.

**We can expect an increasing use of urban access regulations in urban mobility policy.**

A more common approach to urban access regulations would create an 'economy of scale' for vehicles, equipment and improve enforcement and would be less confusing for users. There is a risk that a proliferation of different and incompatible access regulation schemes across the EU addressing different types of vehicles in different ways could disrupt the movement of cars and goods and increase costs of implementation, compliance and enforcement of urban access regulations due to a lack of economies of scale.

### **III. THE 2011 TRANSPORT WHITE PAPER AND POLICY BACKGROUND**

The 2011 White Paper – Roadmap Towards a single European Transport Area<sup>4</sup> presented a strategy to make the EU's transport system more *competitive and resource-efficient* and gave specific attention to the problem of urban transport. It set the goals of **reducing the greenhouse gas emissions from transport by 60%**<sup>5</sup> by 2050 and **halving the use of 'conventionally fuelled' cars in urban transport by 2030**. Initiative 32 of this White Paper announced a framework for access restrictions.

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<sup>2</sup> The recent proposal amending Council Directive 1999/37/EC on the registration documents for vehicles (COM (2012) 0381 final) will make it mandatory for Member States to record electronically the vehicle category, CO<sub>2</sub> emissions and the environmental category (euro emission class) for all registered vehicles. A further technical amendment would make it mandatory for such data to be printed on the physical registration documents.

<sup>3</sup> Currently being developed by the UN Economic Commission for Europe (UNECE)

<sup>4</sup> COM (2011) 144

<sup>5</sup> Compared to 1990 levels

The 2009 Action Plan on Urban Mobility (APUM)<sup>6</sup> announced twenty actions to be taken by the Commission in the period 2009-2012 on urban mobility; all these actions have now been completed.

As part of the implementation of the APUM, the Commission launched a "Study on Urban Access Restrictions"<sup>7</sup> to inter alia provide EU policy recommendations which was completed in December 2010. The analysis and specific EU policy recommendations have contributed to the preparation of this Commission Staff Working Document.

An online public consultation was conducted on "The urban dimension of the EU transport policy" from the 17<sup>th</sup> September to the 17<sup>th</sup> December 2012. A vast majority of respondents (71%) consider that EU support would contribute to more harmonious development of access regulation and urban pricing schemes at the local level. The most sought-after EU support in relation to access regulation schemes is the development and exchange of information and best practice, development of voluntary guidelines and recommendations, mandatory criteria and interoperability standards for equipment.

The results of the public consultation are publically available<sup>8</sup> and contributed to the preparation of this Commission Staff Working Document.

In January 2013 the Commission set out a strategy for Clean Power for Transport<sup>9</sup> and proposed the mandatory deployment of alternative fuels infrastructure in the Member States much of which will need to be in urban areas. This obligation will provide the necessary consumer and industry confidence to invest in clean fuelled vehicles. But much also depends on the other policy measures and incentives that can support the use of clean vehicles e.g. appropriate urban vehicle access regulations.

#### **IV. DELIVERING URBAN TRANSPORT POLICY OBJECTIVES**

Cities are particularly suited to the early adoption of alternative types of mobility because their high densities, which make alternative transport services (public transport, car sharing) economically viable, and the short distance of many urban trips make walking and cycling a viable option.

Access regulations are a very effective tool for cities to prioritise access for certain types of vehicles, users or fuels and deliver on their transport policy objectives, by doing so they can provide a clear incentive for investment in new vehicles/fuels and new services. But the current and growing diversity of different approaches risks fragmenting the single market, present barriers to the movements of people and goods and increasing costs.

##### **Cambridge: access regulations stimulating new solutions**

As a result of new peak time access regulations introduced in Cambridge, cycle delivery services have flourished. Outspoken! delivers parcels of up to 250kg by bike to over 200 customers in central Cambridge during the day quickly and efficiently, they also provide a 90 minute door to door bike/rail/bike service between Cambridge and London. They provide the local pick-up and delivery service for national and international brands like The Post Office

<sup>6</sup> COM (2009) 490

<sup>7</sup> [http://ec.europa.eu/transport/themes/urban/studies/doc/2010\\_12\\_ars\\_final\\_report.pdf](http://ec.europa.eu/transport/themes/urban/studies/doc/2010_12_ars_final_report.pdf)

<sup>8</sup> <http://ec.europa.eu/transport/themes/urban/studies/doc/2013-a032862-urban-mobility-public-consultation-report.pdf>

<sup>9</sup> COM (2013) 17 - Clean Power for Transport: A European alternative fuels strategy

and TNT. This private company is helping Cambridge City Council to deliver on its objectives to reduce congestion and improve the environment in the city centre.<sup>10</sup>

More co-ordinated, larger scale and more predictable action by cities (e.g. which vehicles and fuels are allowed and how the schemes will evolve over time) would provide clearer signals to users, service providers and equipment manufacturers of the long term trend and will allow them to respond more cost effectively.

Public funding is not necessarily required to stimulate the transition to new forms of urban mobility. If cities set clear and consistent policies e.g. prioritise access to non-conventionally fuelled cars – they will provide a strong incentive for manufacturers and regular urban users to switch to alternative fuelled vehicles or alternative modes of transport and simultaneously improve the business case for alternative mobility products and services.

### Urban road user charging

One specific type of urban access regulation is urban road user charging. So far only a few EU cities have implemented urban road user charging schemes, while others give it close consideration.

Initial evaluations indicate that such measures are effective and can generate net revenue for investment in other mobility measures but it is not clear if these types of access regulation schemes are more or less cost effective than other type of access regulation. There is a risk that a diversity of incompatible approaches and technologies develop and occasional users are not treated fairly.

#### Milan: from pollution charge to congestion charge

In January 2012 the city of Milan implemented the first congestion charging scheme (AREA C) in Italy. The AREA C system has been put into operation to replace the previous road charging scheme (ECOPASS) which was launched in 2008 and lasted until 2011. In a referendum in June 2011: almost 80% of voters declared themselves in favour of more restrictive conditions than those under ECOPASS, if these restrictions could help in achieving a better quality of life in the city. The scheme is in force every working day from 7.30 am - 7.30 pm (with no charge on weekends and public holidays), and free entrance early on Thursday evenings in order to encourage weekday shopping activities). The fee is 5€ for all vehicles, except bicycles, scooters, electric cars, vehicles for disabled people; hybrid, methane powered, LPG and biofuel cars which are instead admitted for free (up to December, 31st, 2012). The payment allows users to travel for the whole day in the charged area. Residents have 40 free daily entries per year.

In order to avoid problems for drivers and operators needing to comply with different schemes the basic principles, that already apply for charging of heavy goods vehicles in Europe, should also apply to urban road user charging schemes.

This would ensure that in the implementation of urban road charging schemes there is no discrimination based on **nationality** of the user, **Member State of vehicle registration**, or **origin or destination** of the transport. This would also prevent **overcharging or discrimination of occasional users** and ensure that **clear and transparent information** is available to users, and that payments can be made easily **24 hours per day**. Any on board units required for electronic fee collection are already required to be **interoperable** across the European Union.

<sup>10</sup> [www.outspokendelivery.co.uk](http://www.outspokendelivery.co.uk)

## V. NEXT STEPS

A more common approach to urban access regulations would create an 'economy of scale' for vehicles, equipment and improve enforcement and would be less confusing for users. There is a risk that a proliferation of different and incompatible access regulation schemes across the EU addressing different types of vehicles in different ways could disrupt the movement of cars and goods and increase costs of implementation, compliance and enforcement of urban access regulations due to a lack of economies of scale. The Commission will support the **increased availability of information** about access regulations schemes for users<sup>11</sup> and also city planners and academics. The Commission will also encourage **networking activities** amongst national experts and continue to support research and dissemination activities in order to develop a deeper and more European wide understanding of access regulations schemes.

**The Expert Group on Urban Mobility** should consider access regulation developments and assist with, for example, the elaboration of suitable best practice guides and **non-binding guidance** to help cities implement access regulation schemes effectively.<sup>12</sup> Cooperation with the sub-group on urban ITS is desirable to exploit synergies between ITS solutions and access regulation schemes.

Member States should consider conducting a thorough review of the effectiveness and impacts of existing and planned urban access regulation schemes. Member States should also consider providing a framework that allows local transport authorities to develop (according to common principles and conditions) and implement access regulation schemes, including urban road user charging.

## VI. CONCLUSION

Access regulations are a common and increasingly used tool to manage urban mobility. However there is a risk that the growing diversity of different access regulation schemes being implemented in different ways leads to a lack of economies of scale and risks fragmenting the single market.

A greater understanding is needed of the different types of access regulations, their impacts and most importantly their cost effectiveness.

While the decisions about access regulations should be taken at the local level there is considerable potential for a more common and co-ordinated approach to access regulations across the Union in particular on issues such as vehicle characteristics, enforcement methodologies, information and communication as well as evaluation.

Correctly implemented access regulations, developed and agreed with stakeholders as part of a sustainable urban mobility planning, can be an effective tool to optimise urban mobility and accessibility and deliver local, national and European urban transport policy objectives. But more effort is needed to improve understanding and implementation of urban vehicle access regulations and foster a more common approach across the Union to optimise access to urban areas.

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<sup>11</sup> This responds to Recommendation 7 of the EC 2010 'Study on Access Regulations'.

<sup>12</sup> This responds to Recommendation 1 of the EC 2010 'Study on Access Regulations'.

**ANNEX I - OVERVIEW OF DIFFERENT TYPES OF ACCESS REGULATIONS AND 90 CASE STUDIES<sup>13</sup> FROM EUROPEAN CITIES**

Charging		Fixed: non-usage based						Variable: usage (distance or time) based					
LEZ		24-7			Time window			24-7			Time window		
ARS		Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based
Parking													
Point based	Paid												
	Non-paid			1									
Line based	Paid						1						
	Non-paid			1									
Cordon based	Paid	9	3	5	5	1	6		2	2	2		1
	Non-paid	4	12	8	5		11						
Parking	Paid	1						2			3	1	4
	Non-paid	2			1	1				1			

<sup>13</sup> The case studies consisted of over 90 access regulation measures from over 65 different cities in Europe. Some schemes consisted of multiple types of measures, e.g. an access regulation scheme restricting access to passenger vehicles (vehicle type based) but exempting residents living in the area (user based).



## ANNEX II - EXAMPLES OF THE RANGE OF URBAN ACCESS REGULATIONS IN USE IN THE EU

		Fixed: non-usage based					Variable: usage (distance or time) based						
		24-7		Time window			24-7			Time window			
		Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based	Vehicle type based	Emission based	User based
<b>Point based</b>	Paid												
	Non-paid			Toulouse									
<b>Line based</b>	Paid					Durham							
	Non-paid			Bologna									
<b>Cordon based</b>	Paid	Genoa, Ghent, Bergen, Nord-Jaeren, Oslo, Reading, Riga, Rome, Rotterdam	Reading, Rotterdam, Utrecht	Ghent, Bergen, Nord-Jaeren, Oslo, Rome	Goteborg, Stockholm, Turnhout, Verviers, Milan	Bologna	Bristol, Cambridge, Manchester, The Hague, Trondheim		London, Milan	Amsterdam, Milan	Helsinki, London		London
	Non-paid	Debrecen, Lund, Nuremberg, Prague	Aalborg, Berlin, Eindhoven, Goteborg, Munich, Ravenna, Magdeburg, Halle, Parma, Stuttgart, Ravenna, Hannover,	Gdansk, Krakow, Szczecinek, Venice, Monza, Pecs, Ferrara, Modena	La Rochelle, Perugia, Poitiers, Verona, Lucca		Barcelona, Burgos, Cork, Craiova, Funchal, La Rochelle, Poitiers, Verona, Brescia, Potenza, Imola						
<b>Parking</b>	Paid	Rome						Poznan, Pecs			Amsterdam, Graz, Bologna	Graz	Krakow, Bologna, Toulouse, Strasbourg
	Non-paid	Gateshead, Pecs			Ravenna	Ravenna				Gateshead			