

# *Evaluation and future of road toll concessions*

*Interim Report (abstract)*

May 2014

# Statement

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The aim of this Study is to highlight that the concession model is the **most flexible tool** for constructing, maintaining and operating a network for a given period.

As a matter of fact, the concession model can provide **concrete benefits in the road infrastructure sector**:

- ✓ it allows **reliable and fast movements of passengers and goods** assuring the best road safety standards and the highest level of service;
- ✓ it allows **significant investments** overcoming the spending constraints foreseen by the Stability and Growth Pact;
- ✓ it ensures the development of infrastructures with required quality standards, including **mitigation measures for environmental impacts** (e.g. sound barriers, waste waters control, sound-absorbing surfaces);
- ✓ it fosters research and development, contributing to **innovation in safety** as well as **in traffic monitoring** (e.g. intelligent transportation system).

# Performance survey

## Questionnaires received

The aims of the Performance survey currently ongoing are:

- ✓ get all relevant information, not publicly available, related to toll systems and concessions regimes;
- ✓ to get points of view, opinions, best practice and recommendations on future development of concession schemes in European countries;
- ✓ to get a general overview and an exhaustive understanding of the topics under evaluation.

The image shows a questionnaire form with the following content:

Evaluation and future of road toll concessions

European Association with tolled motorways, bridges and tunnels -ASECAP  
Performance Survey – Concessionaires

**I. Identification**

Country/Region: \_\_\_\_\_

Organization/Company Name: \_\_\_\_\_

Name of the respondent: \_\_\_\_\_

Position: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_

# *General overview of the network*

1. Aim of the chapter
2. ASECAP network and concession models
3. Definition of road toll concession in the European countries
4. Extension of concession contract
5. Traffic
6. Safety
7. Tolling equipment

***I***

# *Chapter I - General overview of the network*

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## *Aim of the chapter*

This chapter is aimed at providing a **clear and shared definition of the term “concession” all over European countries**, an **overview of the existing concessions reality in all ASECAP members** (e.g. length of network, economic and financial performance, accident rate, etc.), **common features and key factors among road toll concession models** (e.g. typical methodology to settle tariffs , obligations of the concessionaire, typical concession period, etc.)

# Chapter I - General overview of the network

## ASECAP network and concession models (1/2)

In brackets, percentage on the total motorway network

2012 figures

### THE NETHERLANDS

- 20km (1%)
- 1 public company

### DENMARK

- 34 km (3%)
- 2 public companies

### NORWAY

- 935 km (NA)
- 38 private companies

### POLAND

- 468 km (34%)
- 4 private companies

### IRELAND

- 337 km (37%)
- 9 private companies

### AUSTRIA

- 2.177 km (100%)
- 3 public companies

### UNITED KINGDOM

- 42 km (1%)
- 1 private company

### SLOVENIA

- 607 km (79%)
- 1 public company

### FRANCE

- 8.891 km (78%)
- 21 private companies and 2 public companies

### HUNGARY

- 603 km (75%)
- 5 private companies

### SPAIN

- 3.404 km (23%)
- 29 private companies and 3 public companies

### SERBIA

- 603 km (100%)
- 1 public company

### PORTUGAL

- 1.533 km (51%)
- 7 private companies

### CROATIA

- 1.251 km (100%)
- 2 public companies and 2 mixed capital companies

### ITALY

- 5.715 km (85%)
- 4 private companies, 21 mixed capital companies and 2 public companies

### GREECE

- 1.659 km (85%)
- 8 private companies

Evaluation and future of road toll concessions

PwC

Respondent Member
  ASECAP Member
  Associate Member

May 2014

# Chapter I - General overview of the network

## ASECAP network and concession models (2/2)

		Concession model		
		Concession to private companies	Concession to private, mixed or public companies	Concession to public companies
Network length	< 100 km	UK		Denmark Netherlands
	100 – 500 km	Ireland Poland		
	500 – 1.000 km	Norway		Serbia Slovenia*
	1.000 – 2.000 km	Greece Hungary* Portugal	Croatia	
	2.000 – 5.000 km		Spain	Austria*
	> 5.000 km		France Italy	

\* Countries where a vignette system is implemented

- **France, Italy, Spain and Austria** are the countries with the longest conceded network
- But in **Spain** this network is less than 1/4 of the national motorway network
- In five countries (**Austria, Denmark, Netherlands, Serbia, and Slovenia**) motorways are exclusively managed by the State through 100% controlled companies
- In **Denmark**, the **Netherlands** and **UK** only specific sections of the network are under concession (i.e. bridges, tunnels or short motorway links)

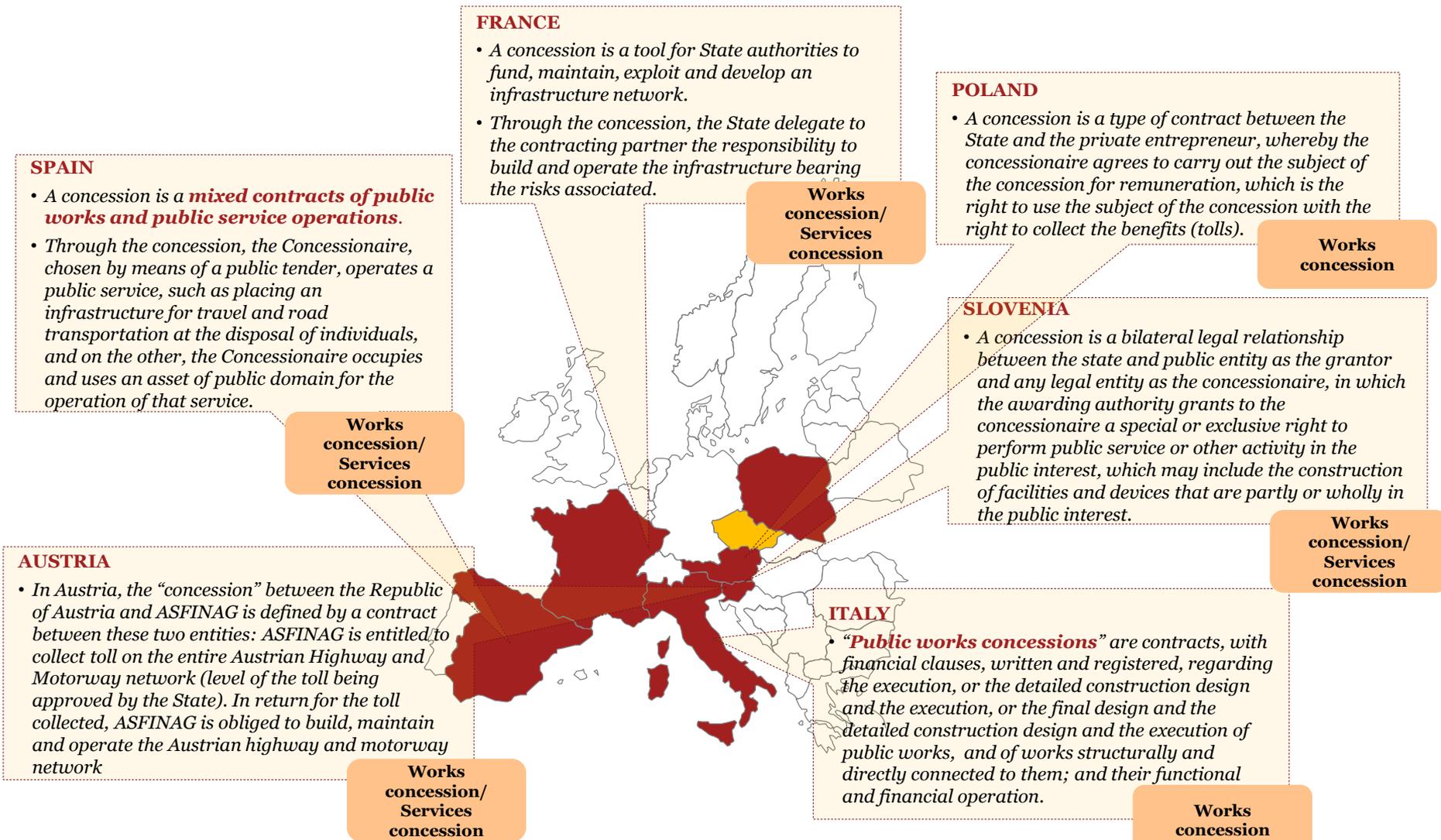
**Private company:** Company owned exclusively by private investors

**Public company:** Company owned by a government or other public bodies

**Mixed company:** Company in which the State acts as a partner of private capital

# Chapter I - General overview of the network

## Definition of road toll concession in the European countries

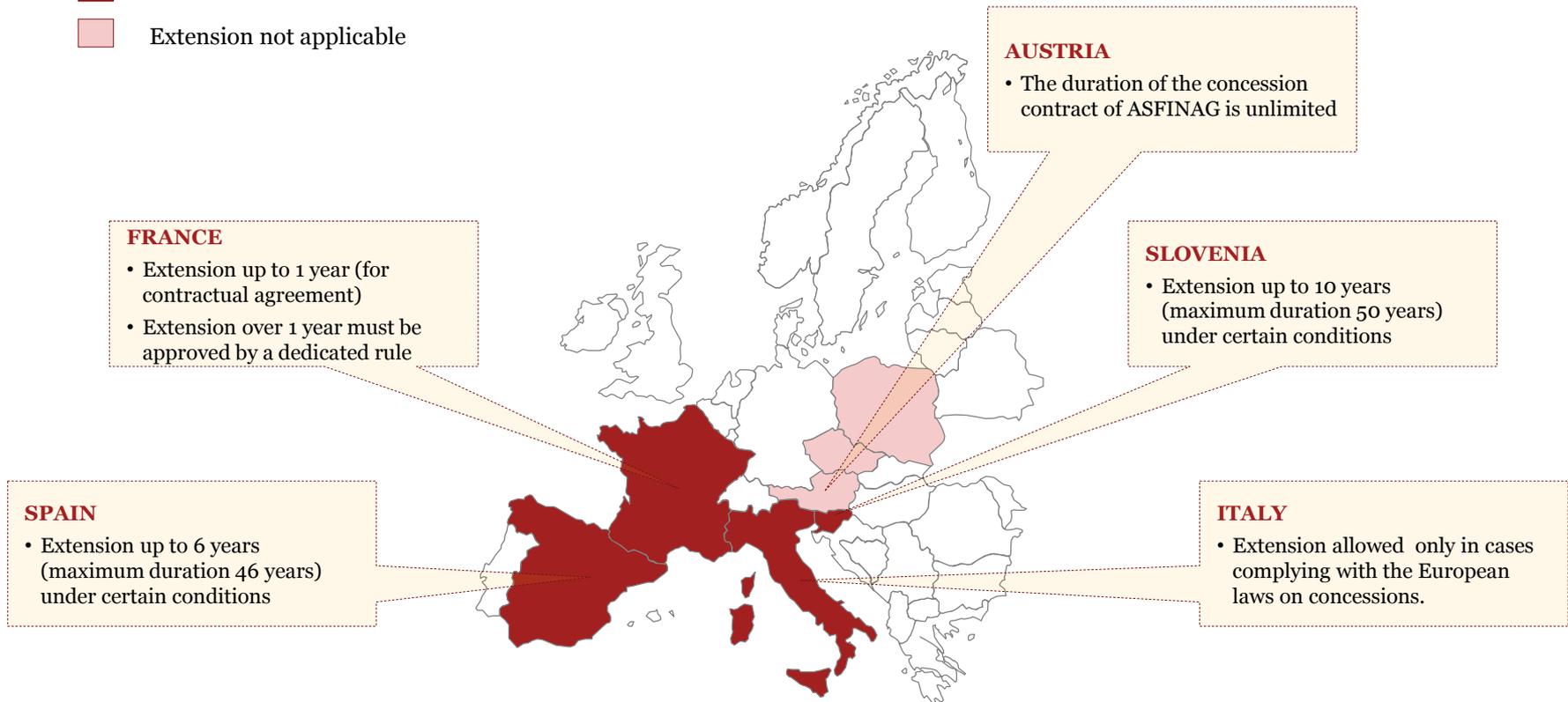


# Chapter I - General overview of the network

## Extension of concession contract

The possibility to extent the concession contract varies from one Country to another

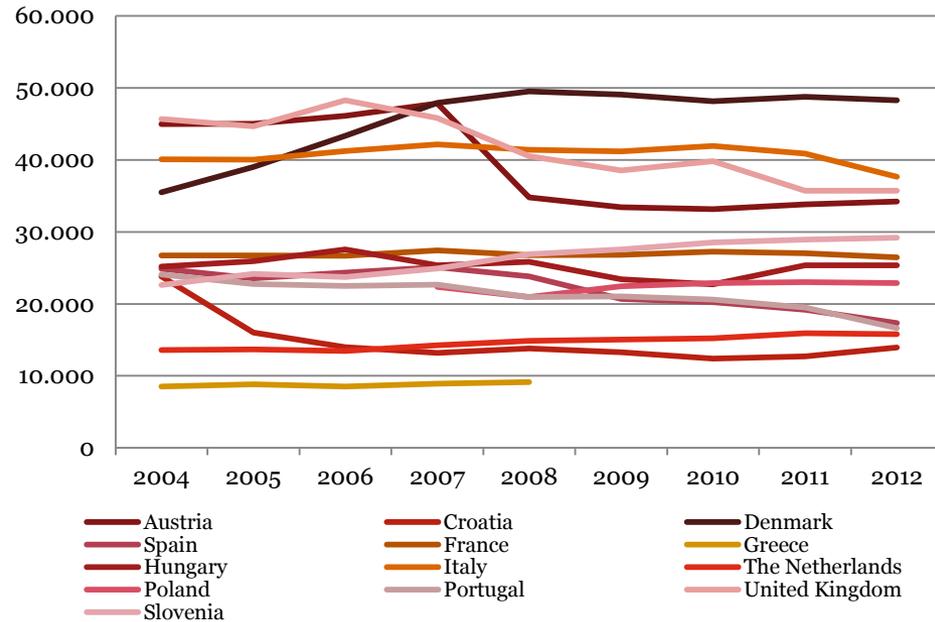
- Extension allowed
- Extension not applicable



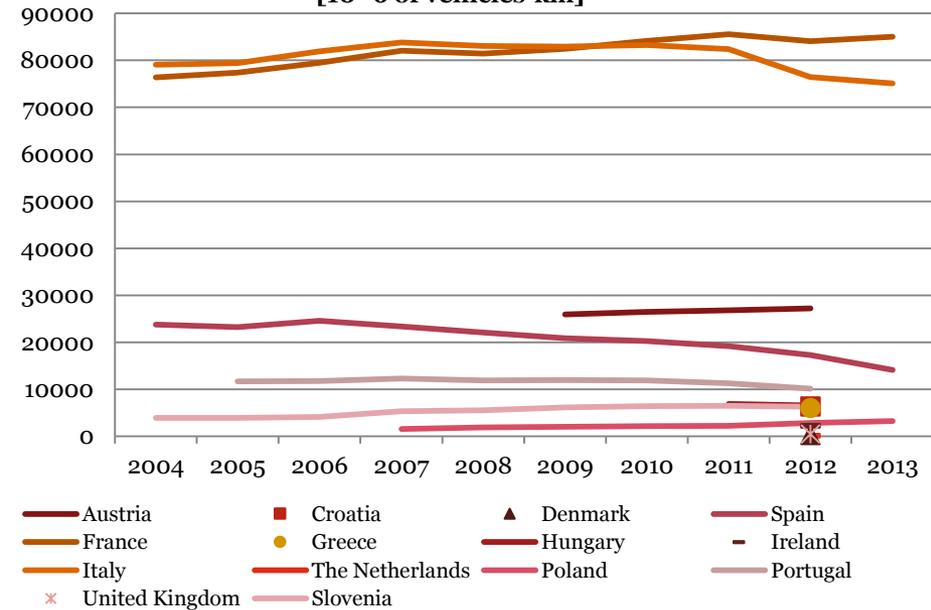
# Chapter I - General overview of the network

## Traffic

### Average Daily Traffic



### Total vehicles-km travelling on the network [10<sup>6</sup> of vehicles-km]

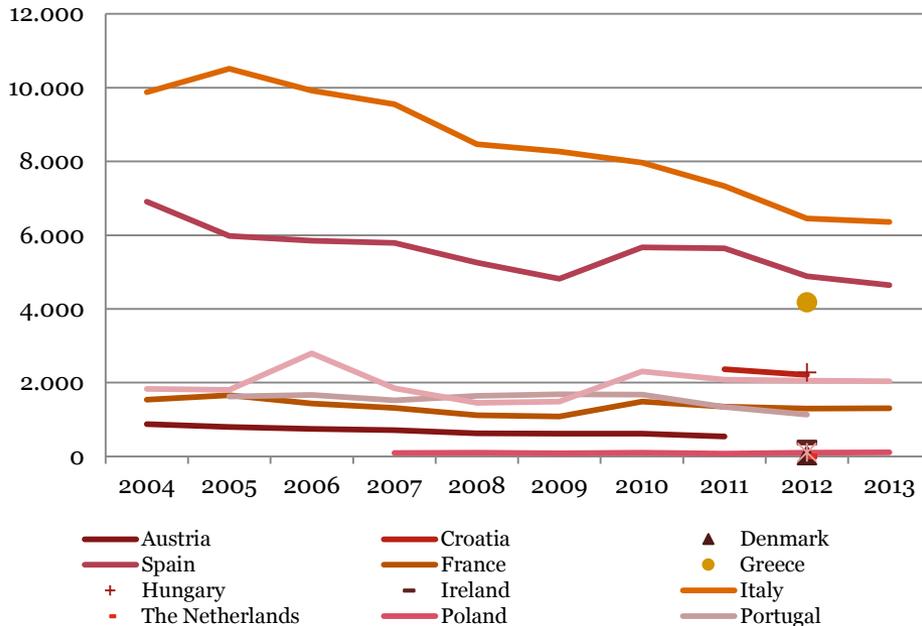


- The country with highest AADT is **Denmark** (about 48.000 veh.), followed by **Italy** and **UK**
- Considering the number of vehicles travelling, countries with highest levels are **France** and **Italy** (about 80 bn of vehicles-km per year)
- All other countries register less than 30 bn of vehicles-km per year
- In recent years, many countries have experienced a significant reduction of traffic (**Italy**: -10% in 3 years; **Portugal**: -15% in 3 years; **Spain**: -23% in 3 years)
- **Austria** (+5% in 3 years) and **Poland** (+50% in 3 years) show an opposite trend

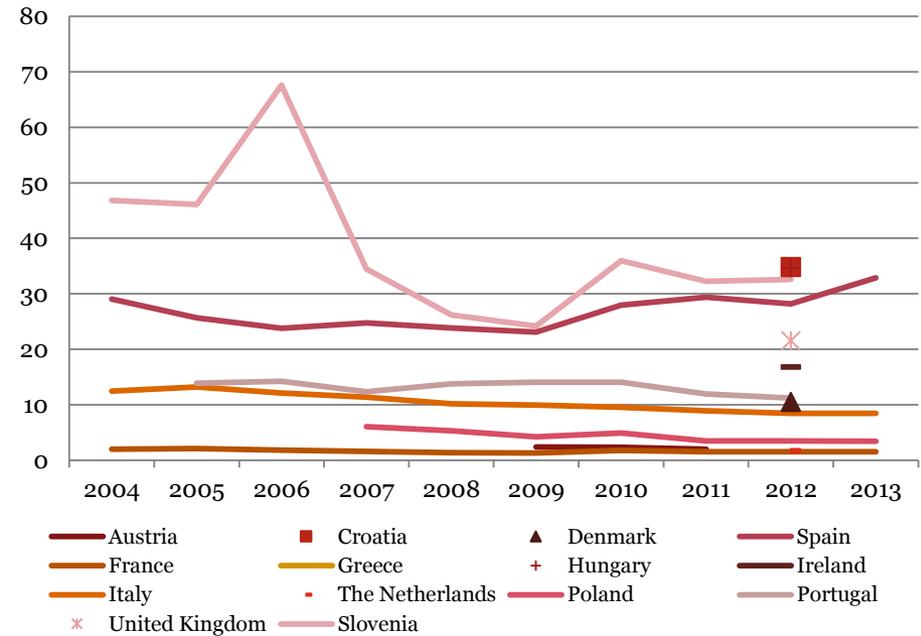
# Chapter I - General overview of the network

## Safety (1/2)

### No. of accidents



### Accident rate [Value / 100 millions of vehicle-km]

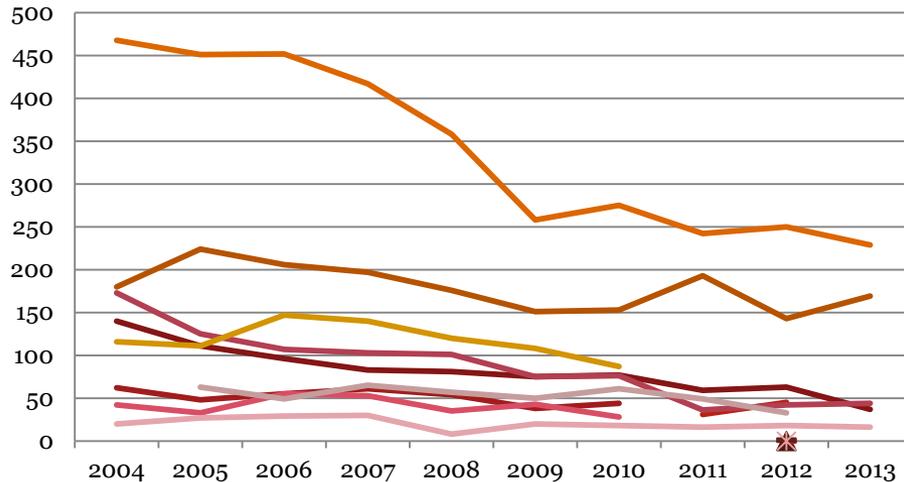


- All countries show a positive trend in terms of No. of accidents (possible negative trends are the effect of the network enlargement)
- The lowest accident rate along all the period of analysis is the **French** one
- In the period 2004 – 2013 particularly significant improvements are observed in **Austria, Spain, Italy** and **Portugal** (more than 30% of accident reduction)

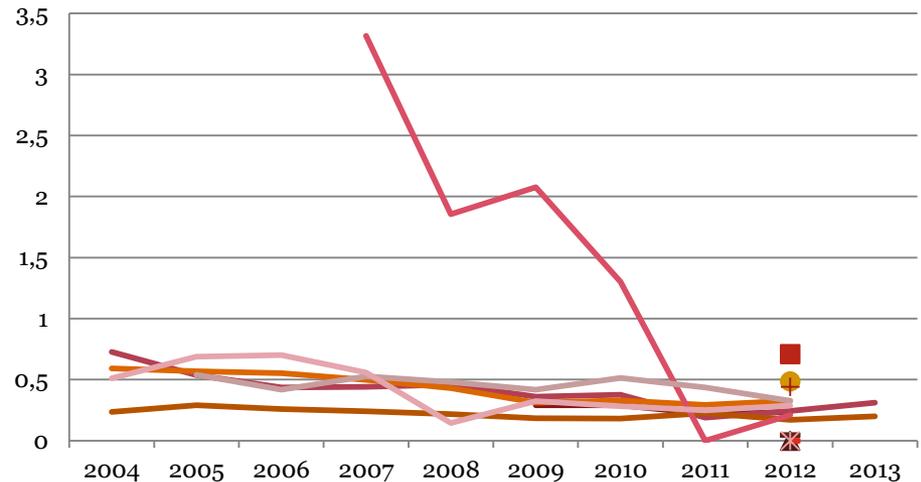
# Chapter I - General overview of the network

## Safety (2/2)

### No. of killed people



### Fatality rate [Value / 100 millions of vehicle-km]



— Austria      — Croatia      — Denmark  
 — Spain      — France      — Greece  
 — Hungary      — Ireland      — Italy  
 — The Netherlands      — Poland      — Portugal  
 \* United Kingdom      — Slovenia

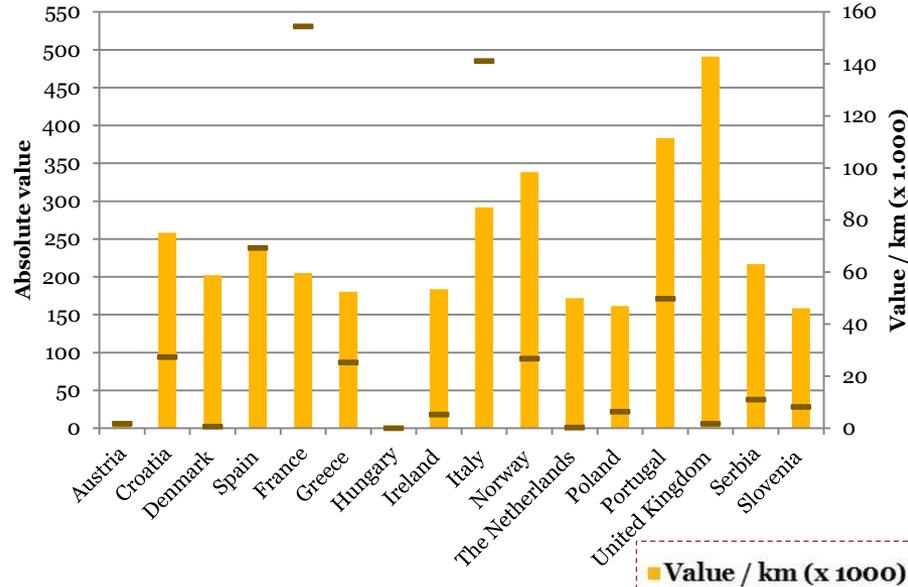
— Austria      ■ Croatia      — Denmark  
 — France      ● Greece      + Hungary  
 — Italy      — The Netherlands      — Poland  
 \* United Kingdom      — Slovenia      — Portugal

- All countries show a positive trend in terms of No. of killed people (possible negative trends are the effect of the network enlargement)
- Higher reduction trend in the period 2004 – 2013 are observed in **Austria** and **Spain** (-75%), **Italy** and **Portugal** (-50%)
- The reduction of fatalities in the same period in the whole road network has been of about -40%
- The lowest fatality rate along all the period of analysis is the **French** one

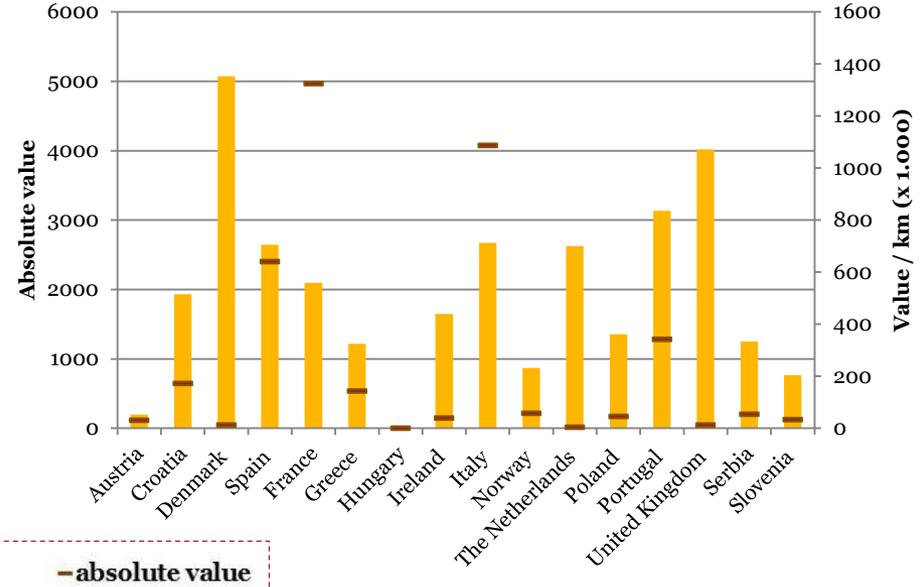
# Chapter I - General overview of the network

## Tolling equipment

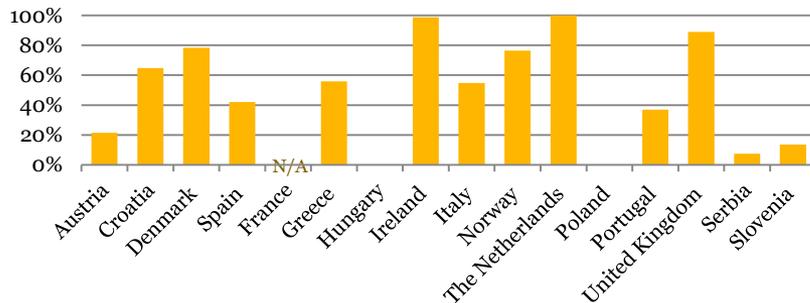
No. of toll stations



No. of toll lanes



%ETC/toll lanes



- Besides **UK** – where only 40 km are in concession - **Portugal** is the country with the highest density of toll stations, followed by **Norway** and **Italy**
- In the **Netherlands** and **Ireland** all toll lanes are ETC type
- Other countries with high ETC share (more than 75%) are **UK**, **Denmark** and **Norway**
- It is worth to underline that the analysis does not consider the free-flow system implemented in **Austria**, but only “traditional” toll stations

# *Issues and Risks*

1. Aim of the chapter
2. Risk allocation between Concession Authority and Concessionaire
3. Unforeseen events affecting risk allocation
4. External events causing change of road toll contracts conditions
5. Aspects affecting social acceptability of toll systems

# *II*

# *Chapter II - Issues and Risks*

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## *Aim of the chapter*

This chapter is aimed at providing a **clear understanding of the factors endangering a correct application of the road concession tool** through the assessment of possible impacts for the three key actors of a typical concession model (i.e. grantor, concessionaire, user/tax payer).

# Chapter II - Issues and Risks

## *Risk allocation between Concession Authority and Concessionaire* *Synthesis of the results*

- ✓ The **political and legal risks** are generally borne by the Concession Authority in France, Spain, Italy and Poland; while in Austria and Slovenia are generally borne by the Concessionaire.
- ✓ The **economic and financial risks** are generally borne by the Concessionaire in France, Spain, Italy, Austria, Poland and Slovenia.
- ✓ The **technical risks** are generally borne by the Concessionaire in Spain, Italy, Austria, Poland and Slovenia; while in France such risks are distributed between the Concession Authority and the Concessionaire.
- ✓ **Further risks** such as increase of tax share on tolls, commercial risks and operational risks are generally borne by the Concessionaire in Italy, Austria, Poland and Slovenia; in Spain and France the risks related to increase of tax share on tolls are borne by the Concession Authority.

## *Unforeseen events affecting risk allocation – Synthesis of the results*

- ✓ **Issues concerning expropriation activities** occurred in three out of five respondent countries
- ✓ **Construction extra- costs induced by legislation evolutions** occurred in four out of five respondents
- ✓ **Changes in fiscal environment** occurred in two out of five respondent countries
- ✓ **Traffic decreases** occurred in all five respondent countries

## *Chapter II - Issues and Risks*

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### *External events causing change of road toll contracts conditions – Synthesis of the results*

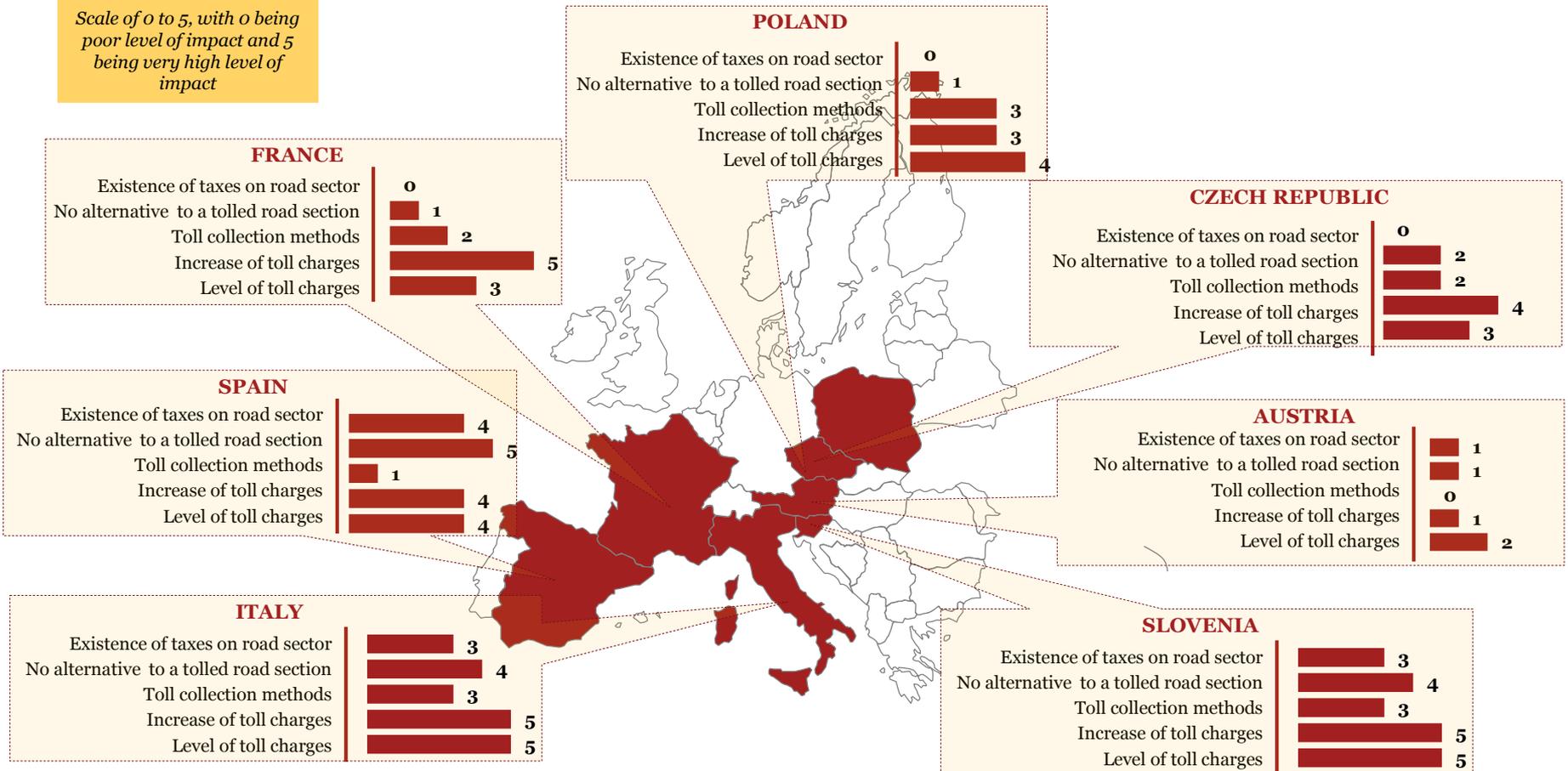
- ✓ The development of parallel free roads draining traffic from toll motorways occurred in two out of six respondent countries
- ✓ The development of speed regulations deteriorating the level of service of the motorway occurred only once with no impact on usage.
- ✓ The imposition of additional taxes/charges not related to motorway operations occurred in two out of six respondent countries
- ✓ The imposition of costly safety measures not required on the rest of the motorway network did not occur in any of the respondent countries.

# Chapter II - Issues and Risks

## Aspects affecting social acceptability of toll systems

Level and increase of toll charges represent the most critical aspects affecting the social acceptability of toll system

Scale of 0 to 5, with 0 being poor level of impact and 5 being very high level of impact



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# *Future of the road toll concession*

1. Aim of the chapter
2. EU legislative initiatives in the transport sector
3. Recommendation for future development of road toll schemes

***III***

# *Chapter III - Future of the road toll concession*

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## *Aim of the chapter*

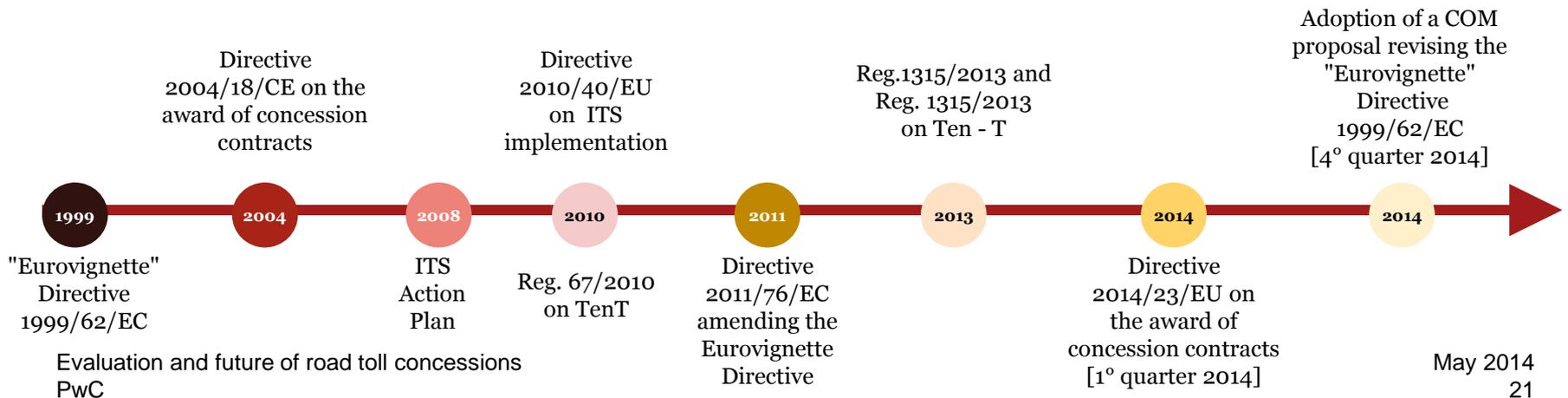
This chapter is aimed at providing **concrete elements and recommendations to support the concession model as the most flexible tool for constructing, maintaining and operating a network for a given period.**

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (1/10)

- ✓ **Revision of the EU legislation on public procurement and concessions**
- ✓ **Revision of the EU legislation on road usage charging**
- ✓ **Application of the ITS Directive in the EU Members States**
- ✓ **TEN- T policy in Europe**
- ✓ **Definition of the Road Safety Action Plan**
- ✓ **Environmental Impact of Construction Works**
- ✓ **Revision of the EU legislation on weight and dimensions of trucks**

### Legislation on public procurement concession, road charging and ITS policy (milestones)



# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (2/10) Public procurement and concessions policy in Europe

### Past Initiative

**Directive  
71/305//CEE**

**Directive  
2004/18/CE**

### Main contents

- It gives the definition of the concession of public works (taken again by all the following directives on the subject), while excluding the concessions from its field of application.
- It provides rules for coordination of procedures for the award of public works contracts, public supply contracts and public service contracts. On one side it confirms the traditional definition of public works and introduces the definition of the concept of concession of services, on the other side it excludes the service concessions from its field of application.

### Recent initiative

**Directive  
2014/23/EU**

### Main contents

- It contains a clearer and precise definition of concession covering works and service concessions.
- It foresees solutions for dealing with changes to concessions contracts during their term (modification of contracts during their terms).
- It allows Member States to define the concession procedures that apply.
- It foresees the applicability of the judicial guarantees established in the Remedies Directives to all concessions.

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (3/10)

### Public procurement and concessions policy in Europe

Focus on Directives 2014/23/EU and 2014/24/EU

#### Opportunities

- ✓ **Legal certainty:** clear definition of concessions and rules applied as to allow the stakeholders to distinguish between concessions and public contracts or unilateral acts.
- ✓ **Transparency and business opportunities:** compulsory publication of concession notices on official media for value greater than EUR 5 million in order to increase fair opportunities for all EU SMEs.
- ✓ **Flexibility:** MSs are allowed to define the procedure that apply taking into account the principles of transparency and equal treatment.
- ✓ **Impartiality and judicial protection:** applicability of the judicial guarantees established in the Remedies Directives to all concessions in order to increase confidence in the impartiality of public authorities' decisions and encourage participation of the private sector to the tendering procedures.

#### Threats

- ✓ Role of the concessionaire not sufficient protected in terms of **initial risk allocation** and **unforeseen events affecting it** over concession period (e.g. construction extra-costs induced by legislation evolutions, traffic decreases).
- ✓ Rules on **duration of the contract not sufficient specified** allowing diversified implementation among Members.
- ✓ **Cases affecting the economic rebalance of the concession contract** and requiring a review of the contract are non sufficient explored.
- ✓ **Limitation on tariffs or period extension in the application law** by Members might affect the economic rebalance of the concession contracts.
- ✓ **Misleading interpretation** of different directives regulating similar aspects.

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (4/10)

### Road infrastructure charging policy initiatives in Europe

#### Past Initiative

#### Main contents

**"Eurovignette"  
Directive  
1999/62/EC**

- It authorises Member States to levy 'user charges' (time-based charges) or tolls (distance-based charges), setting the minimum rates for vehicle taxes to be applied by the Member States, as well as the framework for setting tolls and user charging for vehicles with maximum permissible weight over 12 tonnes. Charges limited to the levels required to maintain and replace infrastructure, could be varied according to the emission standards of the vehicles.

**Directive  
2004/52/EC**

- It aims at ensuring the interoperability of electronic road tolling systems within the EU through the creation of a "European electronic toll service" in order to minimise transaction costs and enhance the transparency of tariffs.

**Directive  
2006/38/EC**

- It allows toll variation and a mark-up in exceptional cases to finance trans-European network projects in mountain areas; it introduces a mandatory Euro emission class differentiation.
- It introduces greater possibilities to vary tolls away from the leverage level to achieve policy objective linked to the environment, congestion and management of traffic flow, albeit with a maximum degree of variation upwards. The scope was extended to cover commercial vehicles over 3.5 tonnes.

**Directive  
2011/76/EC**

- It allows the inclusion of external costs of air and noise pollution in addition to the cost of infrastructure. In particular, the Directive sets rules on calculation methodology for external costs, maximum chargeable costs, mandatory provision on charge differentiation according to EURO emission classes (once the concession contract come up for renewal). In addition, a wider differentiation could be used to reduce congestion through greater variation of peak-hour charges.

# Chapter III - Future of the road toll concession

*EU legislative initiatives in the transport sector (5/10)*

*Road infrastructure charging policy initiatives in Europe*

Focus on revision initiative foreseen by the EC Management Plan 2014

## **Opportunities**

- ✓ Promotion of the **user pays** and **polluter pays principles**.
- ✓ **Sustainable financing** for road infrastructures: road charging as alternative for financing construction and maintenance of the infrastructures and attracting private funds.
- ✓ Exploring options for **differentiating charges by Euro class, time of travel and axles**.

## **Threats**

- ✓ Inclusion of external costs such as pollution and traffic congestion might boost the public perception of **the concessionaire as tax collector on the behalf of the Public Authority**, while increasing the tolls applied.
- ✓ **Interoperability among charging systems and usage of Eurovignette standards** requires changes in financial plans due to further investments on technology (to be borne by the concessionaires), changes in applicable law and clauses of concession agreements.

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (6/10)

### Intelligent transport system policy in the EU Members States

#### Past Initiative

#### Main contents

##### ITS Action Plan (2008)

- The Action Plan for the Deployment of Intelligent Transport Systems (ITS) in Europe aims at creating conditions to speed up market penetration of rather mature ITS applications and services in Europe.
- The ITS Action plan comprises 6 priority action areas such as Optimal use of road, traffic and travel data; Continuity of traffic and freight management ITS services on European transport corridors and in conurbations; Road safety and security; Data security and protection, and liability issues; Integration of the vehicle into the transport infrastructure; European ITS cooperation and coordination.

##### Directive 2010/40/EU

- The Directive 2010/40/EU represents the legislative framework for the Coordinated and Effective Deployment and Use of Intelligent Transport Systems.
- It aims at promoting the use of information and communication technologies in transport such as dynamic traffic management, real-time traffic information, satellite navigation, tracking & tracing, multi-modal journey planners, electronic toll collection, in-vehicle safety systems.
- It establishes a framework for coordinated and effective deployment and use of ITS, setting common priorities and developing specifications and standards.

# Chapter III - Future of the road toll concession

*EU legislative initiatives in the transport sector (7/10)*

*Intelligent transport system policy in the EU Members States*

Application of the ITS Directive in the EU Members States

## ***Opportunities***

- ✓ ITSs might contribute in **reducing fatalities, congestion and CO2 emissions.**
- ✓ ITSs **contribute to facilitate toll collection** throughout the whole of the EU.

## ***Threats***

- ✓ The provisions comprised in the ITS Directive implies **significant investments to be borne by the concessionaires.**
- ✓ The **interoperability between future ITS applications on the 5.9 Ghz band and European Electronic Toll applications based on the CEN DSCRC 5.8 Ghz band** (standard used by practically all tolled motorways) is a critical issue currently under investigation\*.

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (8/10)

### TEN - T policy in Europe

#### Past Initiative

#### Main contents

##### Regulation 67/2010

- It defines the general rules for granting Community aid to projects of common interest in the field of Trans-European networks for transport, energy and telecommunications infrastructures.
- It defines general rules regarding eligibility, forms of aid (e.g. subsidies, direct grants, etc.) and project selection criteria .

#### Recent initiative

#### Main contents

##### Regulation 1315/2013

- It establishes new guidelines for the development of a Trans-European transport network: it identifies projects of common interest, priorities and measures for the implementation of the trans-European transport network.
- The priorities identified for road infrastructure development are: (a) improvement and promotion of road safety; (b) use of IT and integrated communication and payment systems; (c) introduction of new technologies and innovation for the promotion of low carbon transport; (d) provision of appropriate parking space for commercial users offering an appropriate level of safety and security; (e) the mitigation of congestion.

##### Regulation 1316/2013

- It establishes the Connecting Europe Facility ("CEF"), which determines the conditions, methods and procedures for providing Union financial assistance to trans-European networks in order to support projects of common interest in the sectors of transport, telecommunications and energy infrastructures and to exploit potential synergies between those sectors. It also establishes the breakdown of the resources to be made available under the multiannual financial framework for the years 2014-2020.

# Chapter III - Future of the road toll concession

## EU legislative initiatives in the transport sector (9/10)

### TEN - T policy in Europe

Focus on regulations n. 1315/2013 and n. 1316/2013

#### Opportunities

- ✓ Structuring of **new Financial Instruments for road financing**, beyond the existing instruments for loans and guarantees facilitated by risk-sharing instruments and equity instruments, in order to provide better solutions for road infrastructure projects such as infrastructure funds, project bonds and new financial instruments at national level as a combination with further sources of funding.
- ✓ Priorities set for road infrastructure development include the promotion of the use of the ITS .
- ✓ Grants available to finance the development/improvement of road TEN-T network in those MS eligible for Cohesion Fund and with no railway network.

#### Threats

- ✓ The priorities set for road infrastructure development **do not cover the possibility to use grants available in the context of CEF to finance new road infrastructures or the maintenance of the existing ones** in the majority of MS.
- ✓ The trans-European transport network **covers only part of the existing road transport networks.**

# Chapter III - Future of the road toll concession

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## *EU legislative initiatives in the transport sector (10/10)*

### *Areas not covered by current EU legislation initiatives*

#### **Strengthening of the concession model**

- ✓ **Protection of the role of the concessionaire:** general risk allocation schemes might be reviewed as to alleviate the position of the concessionaire; modulation of risks over time due to the evolution of the infrastructural network and possibility to rely on government subsidies in certain cases (e.g. traffic decreases); possibility of backing new concession to mature network in order to avoid passing costs on tax payers or inflicting dissuasive charges level on road user.
- ✓ **Development of further contractual tools:** specific contractual tools for supporting the economic and financial balance of the concessionaire, in case for example of low traffic road sections, need to be further developed and examined with regard to their pros and cons.

#### **More sophisticated tolling schemes**

- ✓ **Congestion management implementation:** the congestion management seems to imply improvements on technology and effort in setting a proper methodology. In addition, congestion management seems to be applicable only through tolling systems and to delimited road section.

#### **Road infrastructure financing schemes**

- ✓ **Evaluation of new viable financing schemes in order to attract private investors:** as the long term bank financing is becoming difficult to obtain, new financing schemes such as infrastructure funds and bonds need to be investigated in the context of the current and future legislative framework.

# Chapter III - Future of the road toll concession

## Recommendation for future development of road toll schemes (1/3)

### Strengthening of the concession model

- ✓ Promotion and development of an **European Growth Initiative** focusing on transport infrastructures and on PPP mechanisms.
- ✓ Definition of an **European “Quick start list”** intended as road map aimed at developing the role of PPPs in the road sector.
- ✓ Promotion of a **European structure governance on concession related aspects** with specific EU Bodies and structures.
- ✓ Establishment of a **political European Development Finance Agency** providing guidance to public authorities in the procurement selection process, examining how to set up bonds to secure assets and how to develop additional specific PPP relevant financial tools.
- ✓ Need to **generalize the pay per use and polluter pays principles**
- ✓ National transposition laws of the new Directives should not introduce stricter rules narrowing the scope of the EU legislation, but promote the use of concessions in order to **make viable new projects** and should **allow backing of new highways on mature network**

**LIST OF RECOMMENDATIONS CURRENTLY UNDER INVESTIGATION:  
FINAL LIST OF RECOMMENDATIONS TO BE CONSOLIDATED**

# Chapter III - Future of the road toll concession

## Recommendation for future development of road toll schemes (2/3)

### Strengthening of the concession model

- ✓ **Concession model should be integrated in a harmonized and sustainable infrastructure and transport policy** at national level avoiding complex procedures, the continuous change of the legislation, the lack of certainty of the contracts, the use of different criteria for financing, building and maintaining roads.
- ✓ **Protection of the role of the concessionaire:** need to clearly identify the cases that imply economic rebalance of the concession contract; no limitation on tariffs or period extension to make economic rebalances; introduction of minimum incomes guarantees.
- ✓ Promotion of national policy aimed at **identifying projects highly attractive** from the perspective of the private sector: new construction should be subject to criteria of profitability, justified by the demand of the corridor, clear and acceptable risk allocation.
- ✓ Concession models should allow interested shareholders to participate in the definition and design of the project.

**LIST OF RECOMMENDATIONS CURRENTLY UNDER INVESTIGATION:  
FINAL LIST OF RECOMMENDATIONS TO BE CONSOLIDATED**

# Chapter III - Future of the road toll concession

## Recommendation for future development of road toll schemes (3/3)

### More sophisticated tolling schemes

- ✓ Promotion of the **legal security and predictability of the concession schemes**, avoiding undesirable administrative practices and promoting “automatic” contract revisions when needed.

### Road infrastructure financing schemes

- ✓ **Development of specific contractual tools** for supporting the economic and financial balance of the concessionaire such as *Adossement* practice.
- ✓ Promotion of availability payments for concessions on motorway sections with low level of traffic.
- ✓ Promotion of an **European Action Plan** aimed at exploring the Innovative Financing schemes and the opportunities offered by the existing guarantee funds.
- ✓ Promotion of a **European Risk Capital Fund** on the basis of strong contributions from TEN-T Program and other EU budgets.

**LIST OF RECOMMENDATIONS CURRENTLY UNDER INVESTIGATION:  
FINAL LIST OF RECOMMENDATIONS TO BE CONSOLIDATED**