Assessing the impact of European Union policies on urban transport: a comparative analysis

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Declaration

I, Clémence Marie Cavoli, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

The impact EU (European Union) policies have at the local level is little understood and explored, especially in the field of urban transport. Yet the EU has a growing influence in the urban transport sphere. This thesis examines the EU's impact on urban transport policies throughout Europe and assesses whether the EU has contributed to generate sustainable mobility at the local level. It argues that certain EU regulatory policies and funding programmes have had an impact on urban transport policies and have contributed to fostering sustainable mobility policies.

Three methods were used for this study: content analysis of interviews with key stakeholders, comparative analysis of key documents in different countries and cities, in particular France and the UK, and surveys of a wide sample of policy makers in European cities.

The findings of this study illustrate that the role played by the EU in the field of urban transport is increasingly important. The main EU influence in this field emanates from its environmental policies in a strong yet indirect way, as well as from its funding programmes in a more direct way but with less effect. EU climate change policies' impact on urban transport is limited but increasing. Finally this study finds that the EU plays an important role in the field of urban transport and that local policy makers generally welcome initiatives and funding emanating from the European Commission.

Discussion and recommendations are formulated highlighting the increasing importance supranational institutions such as the EU play in fostering sustainable urban mobility in collaboration with actors across different levels.

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Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
CIVITAS	CIty, VITAlity, Sustainability (EU funding programme)
CoM	Covenant of Mayors
CO_2	Carbon dioxide
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DG	Directorate-General (of the EU Commission)
DG CLIMA	Directorate-General for Climate Action
DG ENER	Directorate-General Energy
DG ENVI	Directorate-General for Environment
DG MOVE	Directorate-General for Mobility and Transport
DG REGIO	Directorate-General for Regional and Urban Policy
EU	European Union
ERDF	European Regional Development Fund
FP	Framework Programme of the European Union for Research
GDP	Gross Domestic Product
GHG	Green House Gas Emissions
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
ITS	Intelligent Transport Systems
JRC	Joint Research Centre (of the EU Commission)

LEZ	Low Emission Zone
LTP	Local Transport Plan
NGO	Non-governmental organisation
NO$_2$	Nitrogen dioxide
PM	Particulate Matter
SUMP	Sustainable Urban Mobility Plan
TEN-T	Trans-European Transport Network
UITP	Union Internationale des Transports Publics
UK	United Kingdom
UN	United Nations
URBACT	EU funding programme to promote exchange of good practices between cities
URBAN	EU funding programme to support regeneration and sustainable urban development
USA	United States of America

Glossary

European Union: In the context of this thesis the term European Union refers to the institution or institutions which have formed what is now called the 'European Union'. Prior to the establishment of the European Union in 2009 with the Treaty of Lisbon and the Treaty on the functioning of the European Union the union was called:

- the European Community (EC) since 1992 with the Maastricht Treaty.
- The European Economic Community (EEC) since the Treaty of Rome in 1957
- the European Coal and Steel Community from 1951 with the Treaty of Paris.

EU arena: Term frequently used by Prof. Radaelli referring to the temporal and physical space where many different actors are involved in EU policy-making

Governance: In the context of the European Union, Governance is defined as "rules, processes and behaviour that affect the way in which powers are exercised at European level, particularly as regards openness, participation, accountability, effectiveness and coherence" (EU Commission, 2001, p.5)

Chapter 1 Introduction: the EU challenge to achieve sustainable mobility

"It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things." Niccolò Machiavelli, The Prince (Quoted in Cohen & Fermon, 1996, p.173)

1.1 Relevance of the topic

Importance of studying the impact of the EU

In this time of economic crisis, the 'old continent' suffers from what some have called "The darkest hour since World War Two" (Hewitt, 2013). The European Union (EU) since the year 2010 has had to face unprecedented difficulties. The European press issued countless dramatic headlines predicting the end of the EU such as the Express in the United Kingdom (UK) which stated that: "The end of the EU is unstoppable" (Express, 2011) or the Spiegel which announced "The end of old Europe" (Spiegel Online, 2011). Euroscepticism is particularly on the rise in the UK. For the first time since the inception of the EU, a member state's prime minister has promised a referendum to decide whether the UK should remain a member of the EU or not. Eurobarometer surveys estimate that 32% of the British population think that the UK's membership is a "bad thing" and 37% are of the opinion that it is "neither good nor bad" (Eurobarometer, 2011). However, how much impact does the EU have on citizens' everyday life? And how much of this impact is actually understood?

The impact the European Union has on national and subnational policies is under-studied. The percentage of EU legislation affecting a member state varies according to the country. In France official sources claimed that 54% of new legislation originated from Brussels in 1992 (Annual Report of the French Conseil d'Etat, 1993). In the UK Vaughne Miller (2010) argued that between 15% and 50% of legislation and policies coming from the EU influence the UK, but concludes that "It is not clear to what extent the figures alone indicate the degree of European influence or 'Europeanisation', without a qualitative evaluation of the effect of EU output"

(Miller, 2010, p.1). Thus it is estimated that a large proportion of national policies are influenced or emanate from the EU, but it is not clear how much this is the case and the 'degree' of influence these have.

Despite the importance of EU policies, there is a real lack of understanding of how the EU works and what impact it has on its member states. This is particularly apparent in the UK, where 58% of British citizens surveyed by Eurobarometer in 2008 admitted that they 'do not understand how the EU works' (European Commission, 2008b, p.8). In this context the UK government initiated a 'review of the balance of competences' in 2012 to audit policy-makers, stakeholders and citizens about what "the EU does and how it affects the UK" (Foreign and Commonwealth Office, 2012). The main conclusions of the review of the balance of competences in relation to transport recognise that the EU's influence on transport is 'extensive' and complex and highlight that liberalised free trade in the EU is desirable for transport policies (HM Government, 2014b, p.5). In relation to EU environmental policies the report acknowledges that some EU action is necessary in the field of environment and climate change policy (HM Government, 2014a, p.5). Initiatives such as the 'review of the balance of competences' initiated by the UK government highlight that analysing the impact that EU policies have had on national and subnational policies is more crucial than ever. This thesis aims to make a modest contribution to the on-going debate concerning the EU's influence and role in our societies. It does so by investigating urban transport policies in relation to the EU, a field which has not yet been extensively explored despite the increasing presence of the EU at the urban level.

Importance of looking at the impact on urban transport

Urban transport, in particular private motorized vehicles, generate enormous problems and cumulative costs, amongst others: congestion - estimated to cost the EU about 1% of Gross Domestic Product (European Commission, 2011b), harmful impact on physical and mental health (Costal, Pickup & Martino, 1988; Frank, Andresen & Schmid, 2004), social exclusion (Pickup & Giuliano, 2005; Tyler, University College & School of Public Policy, 2004) and fatalities (European Commission, 2014b). Furthermore, urban transport has an increasing negative impact on the environment. It is estimated that urban transport is responsible for over 23%

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of all CO_2 emissions generated by transport (European Commission, 2013h, p.1) and that 70% of air pollutants are generated by urban traffic (European Commission, 2014a). Urban transport issues are generated locally but give rise to impacts that go beyond national boundaries and affect regional economies, human health and well-being, and cause alarming environmental issues.

An increasing number of studies and reports indicate that the scale of the problem related to urban transport cannot be solved by local authorities alone (Bulkeley & Betsill, 2005). These immense challenges require multi-level and multi-sectorial collaboration to overcome fragmented policy-making and key stakeholders operating in silos (Banister, Stead, Steen, *et al.*, 2000; Marsden & Rye, 2010). The need for joint efforts and the fact that urban transport issues have a negative impact at the supranational and global level has prompted the EU Commission to address transport issues at the local level (as further discussed in chapter 2 and 5). Indeed, many of the targets agreed at the EU level, such as CO_2 emission reductions or air pollution limits, cannot be met unless urban transport issues are tackled. If the EU is to achieve international and European targets set up by the Kyoto Protocol (20-20-20) and other agreements such as air quality targets, then urban transport policy needs to play its part.

Legislation and policy actions have been initiated by the European Union to tackle urban transport, directly or indirectly, as pointed out by some authors and by Commission sources (Commission of the European Communities, 2009; Halpern, 2013; Timms, 2011). However, the role of the European Union in initiating urban mobility policies is unclear, and the impact EU policies have had in the field of urban transport is little understood. To date, very few scholars have investigated the impact the EU has had at the local level in the field of transport and mobility policy. It is therefore important to assess the EU policies' impact on urban transport, particularly on policy-making, decision-making and planning. This investigation is an attempt to assess the relatively recent role and impact of the EU at the local level, focusing on the urban mobility sector.

1.2   Objectives and Hypotheses

This thesis aims to understand and assess the extent of changes in urban transport policy in selected cities directly or indirectly brought about by the European Union. The research examines the influence the EU has had on local transport policy by analysing quantitative and qualitative data and questioning the key decision makers involved about what changes it has led to in their cities, such as alteration of their local transport plans or specific policy measures.

The study looks at the impact European Union legislation and policies have had on transport policy-making, decision-making, planning and operation in cities. More specifically, it investigates *whether* and *how* binding (e.g. EU Directives) and non-binding (e.g. funding or voluntary programmes) policies initiated by different Directorate Generals (DGs) in the EU Commission have impacted transport policies at city level, specifically in the United Kingdom (UK) and in France. Figure 1.1 illustrates the specific themes/topics and case studies examined in the context of this investigation. The starting point is that in order to address various issues related to urban transport (e.g. health issues, congestion), several EU interventions have been initiated. This thesis investigates *whether* certain EU interventions have generated change in urban transport policy, and if so, *how* and *what* this change has been. The focus of this thesis is on policy processes, in particular awareness, decision-making and policy planning. In some cases, specific policy outputs have also been scrutinised.

Urban Transport Issues	EU Intervention	Impacts on Local transport policy making
Air pollution	Air Quality Directive	Awareness
Congestion	CIVITAS	Decision-making and political agenda
Health issues (e.g. obesity)	Covenant of Mayors	Policy planning
Road safety, etc.		Specific policies/policy outputs
C02 emissions		
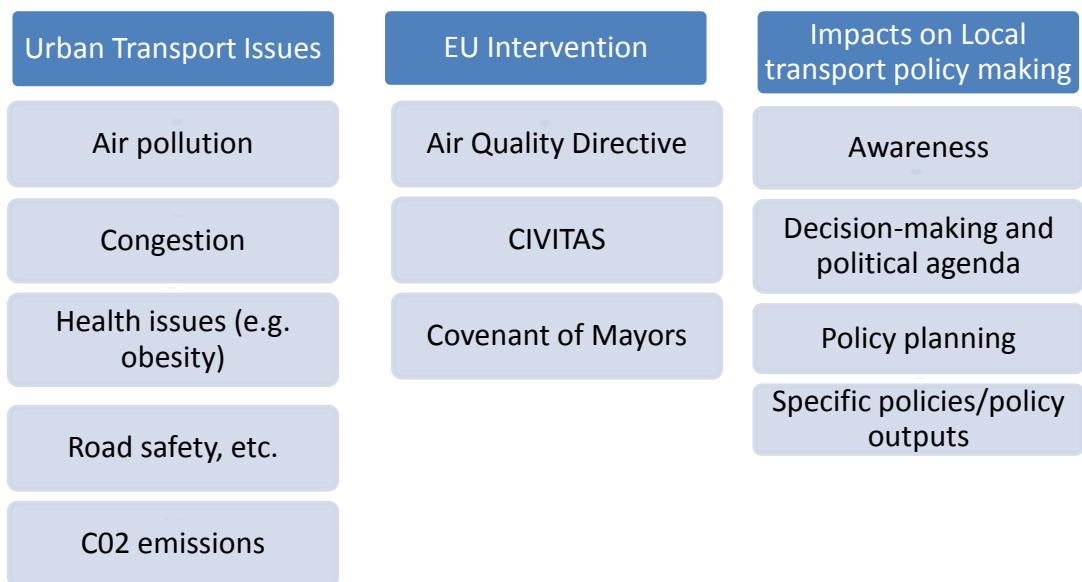
Figure 1-1 Framework of the analysis

To achieve this aim, data were collected and analysed to provide an overview of the evolution of EU urban transport policies and of the range of EU policies that have had an impact on urban transport. Then, three pieces of legislation were analysed: the Directive 2008/50/EC on Air Quality, the voluntary programme the Covenant of Mayors on CO_2 emissions, and the funding programme CIVITAS on sustainable mobility (as illustrated in figure 1.1). A comparative study between the UK and France and various cities within each country was established. The methods consist of collecting and analysing qualitative data at the supranational, national and subnational level, principally through semi-structured interviews. In addition, official data were collected and analysed, and surveys across the EU were conducted to validate the results of the interviews more widely.

The fundamental questions underpinning this research are: To what extent have a range of European Union policies initiated by the Commission had an impact on urban transport policy? And, have they fostered sustainable mobility policies in cities?

These questions can be divided into several more specific research questions, with each containing different sub-themes:

1. To what extent have the European Union policies had an impact, directly or indirectly, on urban transport?
   – Who are the actors involved at different levels and how do they interact?
   – Have EU policies not directly associated with transport had an impact on urban mobility – particularly environmental policies?

2. What impact have different EU policy instruments had on transport policy, planning and decision making at the local level, particularly in the UK and France? In particular:
   - the Directive on Air Quality
   - the voluntary programme of the Covenant of Mayors
   - the funding programme CIVITAS
   – How do these instruments filter down from one level to another?
   – Have these instruments contributed to encouraging sustainable mobility policies and measures in cities?

3. Have contextual or structural elements affected top-down Europeanisation and policy transfer at the local level in relation to urban transport?

4. What role has the EU played, and should it play, in the field of urban transport policies, particularly in the light of the subsidiarity principle.
   – How have EU policies regarding urban transport evolved?
   – How might this develop in the future?

The main research hypotheses are:

1. Overall EU policy, legislation and initiatives have had a positive impact on urban transport policies in the EU. They have made an important contribution to the promotion of sustainable urban mobility.

2. These initiatives have come not just from the transport Directorate General (DG) but also from DGs not directly responsible for transport issues, such as environment or energy.

3. There are striking differences in responses to EU policies between member states and outcomes differ between cities within member states.

1.3   Definition of key concepts

Some of the key words used in the context of this thesis merit further elaboration, which clarifies the scope of the investigation. First and foremost, the title: "Assessing the impact of European Union policies on urban mobility: a comparative analysis" deserves some explanation. To '**assess**' is defined as "evaluate or estimate the nature,

ability, or quality of"[1]. Fundamentally, this investigation aims to identify and understand change generated by EU policies and to assess whether this change has been positive. It investigates whether various EU policies have brought about change at the local level and if so, how and to what extent.

According to the Oxford dictionary an **impact** is "a marked effect or influence"[2]. This in turn raises the question of what an 'effect' or 'influence' is. The definition given for influence is "The capacity to have an effect on the character, development, or behaviour of someone or something"[3], or "the power to shape policy" whereas effect is described as "the extent to which something succeeds or is operative"[4]. In the context of this study, impact is looked at in a broad way. Impact linked to 'how' focuses on policy interactions in the context of a multi-level governance system, the use of various policy instruments and policy-making processes at the local level. The 'what' focuses on 'change' generated by EU policies on local transport policy-making, directly or indirectly, in the short and in the long-term, in particular related to:

- awareness
- decision-making
- policy planning

This investigation also looks at specific policy measures/outputs (e.g. the establishment of a cycle lane), but the research focuses on the processes/stages that precede the implementation of policy measures or outputs.

The study investigates '**European Union policies**' in a comprehensive way. As further discussed in section 2.3, a broad range of policy instruments initiated by the EU Commission are surveyed, including binding measures (in particular the Air Quality Directive), non-binding 'tools' such as funding programmes (especially CIVITAS) and voluntary agreements (mainly the Covenant of Mayors). This investigation focuses on policies initiated by the EU Commission.

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[1] All the definitions mentioned in this section are quoted from the online Oxford Dictionary http://www.oxforddictionaries.com/
[2] *ibid.*
[3] *ibid.*
[4] *ibid.*

The research focuses on assessing policy-making in **urban** areas of more than 100,000 inhabitants, with a special focus on medium sized cities (i.e. over 200,000 inhabitants). The primary focus is to study the impact of EU policies on local authorities, including unitary authorities or their equivalent. Here the term **mobility** is used broadly to refer to motorized and non-motorized travel/movements within an urban area including transport systems, as referred to by the EU Commission (European Commission, 2014a). This investigation also uses the word 'transport' as a synonym of mobility, and so also includes non-motorized modes of transport like walking. The aim of this research is to assess whether EU policies have contributed to foster or establish 'sustainable' mobility. References to **sustainable mobility** are to be understood in a comprehensive way, including environmental, economic and sociological elements. As described by the World Wide Fund for Nature 'sustainable' means: "Improvement in the quality of human life within the carrying capacity of supporting ecosystems" (Quoted in Goodland, 1995, p.4). One of the key questions is to investigate whether EU policies have induced or fostered sustainable mobility policies at the local level.

1.4 Scope

Timeline

This research provides a historical perspective on the topic, thus referring to events dating back from the inception of the EU. However, the emphasis starts from the early 2000s. The case studies examine the policy impact specific pieces of legislation or policy have had since their inception; in 2002 for the CIVITAS programme, 2008 for the Air Quality Directive and the Covenant of Mayors. The investigation's coverage lasts until the end of the year 2013.

Limitation

Studying change in governance and policy-making comes with inherent limitations. As mentioned by many scholars (Coglianese, 2012; Featherstone & Radaelli, 2003), it is difficult to measure change and the impact policies have had in an empirical way. Numerous explanatory variables make it very challenging to measure/assess change objectively. In addition, 'forms' of governance and policy-making change

constantly within the EU (Hamedinger, Bartik & Wolffhardt, 2008, p.2674). Hence conclusions need to be nuanced and the research needs to be careful not to overstate phenomena prone to change. This is the reason why this research has mainly taken a qualitative approach and has used various methods, such as using indicators or conducting surveys, to validate the results of the interviews.

Disciplinary breadth of analysis

This thesis approaches the topic from a multi-disciplinary perspective, combining political science, legal, urban planning and transport studies approaches. As a result, it offers a unique perspective and provides a comprehensive view of the topic.

1.5   Synopsis and thesis structure

Synopsis

This thesis has examined the influence which certain EU policies have had on urban transport policy and offers a comparative analysis between different EU cities.

First, a survey of literature was undertaken across several disciplines, drawing both on academic and non-academic sources. On the one hand, the investigation focused on providing the necessary factual and historical elements to better comprehend the topic, by focusing on primary EU sources. On the other hand, academic literature was reviewed to provide a conceptual underpinning to the research. A particular emphasis was given to identifying gaps in the literature.

Second, the study conducted initial interviews with key stakeholders across the EU and investigated key EU policy documentation. It identified the range of EU binding and non-binding policies which have had a direct or an indirect impact on urban transport, from economic to social or environmental policies. It did so by analysing EU legal texts and policy documents in each policy sector, and by combining it with the results of initial in-depth semi-structure interviews.

Three key EU policies were then identified and served as case studies for the remainder of the thesis: the Directive 2008/50/EC on Air Quality, the Covenant of Mayors on CO_2 emissions reduction, and the funding programme CIVITAS which

aims to foster sustainable mobility measures in cities. Each case study represents different types of EU initiative, from binding legislation to competitive funding and a voluntary network of cities.

An in-depth analysis was then conducted in two different countries: the UK and France. The investigation analysed how each piece of legislation or policy filtered down from the supranational to the sub-national level and investigated the impact the three types of legislation or policy have had in four different cities of similar size, and administrative structure: Bristol and Cardiff in the UK and Toulouse and Bordeaux in France. Finally, broader but more limited surveys were conducted to assess the impact of these policies throughout Europe.

The analysis was divided into thematic areas and subsequently a comparative study between the three different pieces of legislation and policies was conducted. Conclusions and recommendations, both academic and to the EU Commission, followed.

Thesis Structure

There are five main parts to this thesis (as illustrated in figure 1.2):

1. First, the existing literature on the topic is reviewed to provide some background and context to the study and to offer a conceptual framework – **Chapter 2 and 3** (see below).
2. Second, the methods employed are described and justified- **Chapter 4**
3. Third, an overview of EU policies that address urban transport, directly or indirectly, are assessed through data analysis and interviews – **Chapter 5**
4. Fourth, the analysis of the three case study instruments is presented in successive chapters - **Chapter 6, 7 and 8**
5. Finally, the results are discussed and compared, and the main findings of the thesis are summarised - **Chapter 9 and 10**

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                    │ Relevance & │
                    │    aims     │
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           │ Chapter 2:   │   │ Chapter 3:   │
           │ Background   │◄─►│ Conceptual   │
           │              │   │ framework    │
           └──────────────┘   └──────────────┘
                    ┌─────────────┐
                    │ Chapter 4:  │
                    │   Methods   │
                    └─────────────┘
                    ┌─────────────┐
                    │ Chapter 5:  │
                    │ Overview of │
                    │   Policy    │
                    │   Impact    │
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      ┌───────────┐  ┌───────────┐  ┌───────────┐
      │ Chapter 6:│  │ Chapter 7:│  │ Chapter 8:│
      │Air Quality│  │Covenant of│  │  CIVITAS  │
      │ Directive │  │  Mayors   │  │           │
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                    ┌─────────────┐
                    │ Chapter 9:  │
                    │ Discussion  │
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                    │ Chapter 10: │
                    │ Conclusions │
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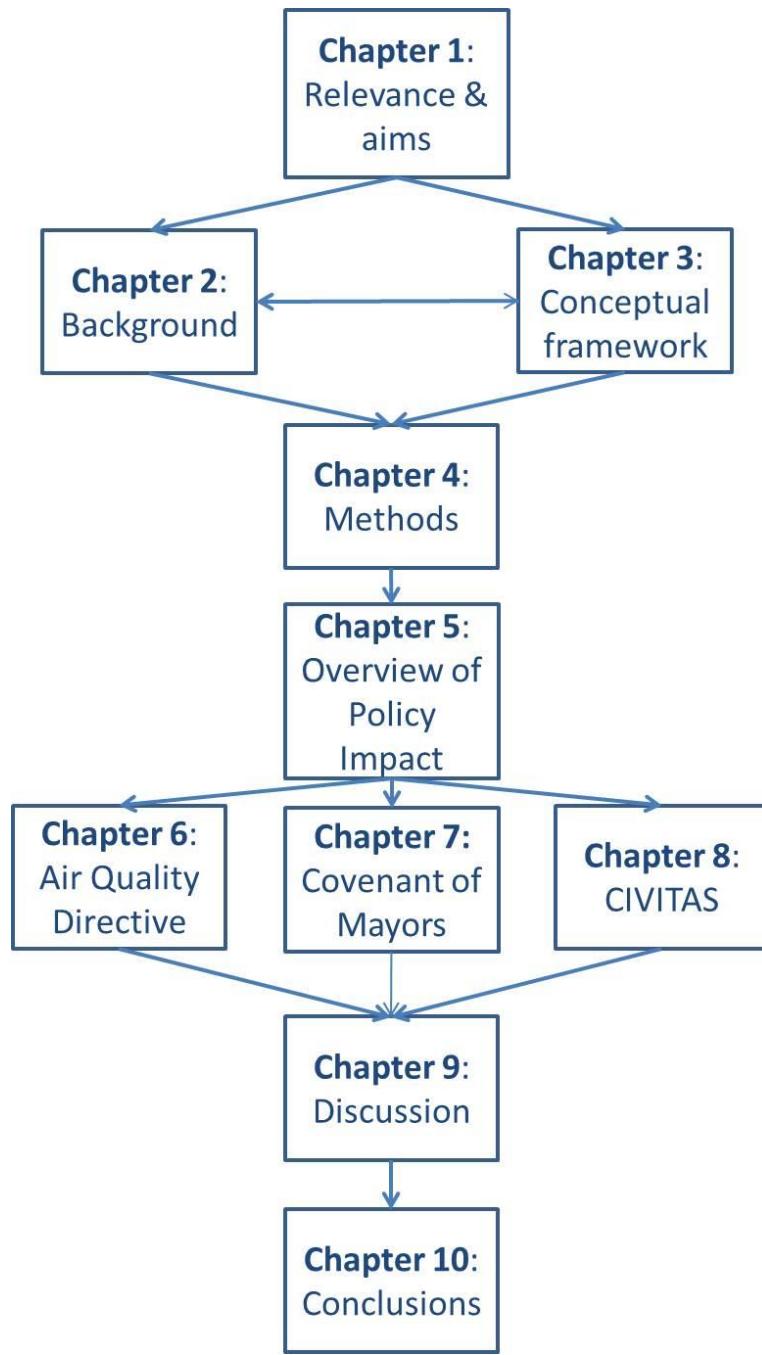
Figure 1-2 Thesis Structure

Chapters 2 'background' and 3 'literature review' are complementary, each
providing a different perspective, as illustrated in figure 1.3 below. Chapter 2
provides factual background and a historical perspective, whereas chapter 3 reviews
key academic theories related to the topic. The first part of chapter 2 introduces the
background to the study by describing several contextual and structural elements of
EU policy making, mainly:

- EU functioning
- EU transport policy
- EU environmental policy and climate change policy
- EU research and technological development
- EU regional and urban policies

Chapter 3 aims to establish a framework within which to present and analyse the findings. Different theoretical approaches are reviewed and analysed, mainly five:

- Europeanisation
- Policy Transfer
- Multi-level Governance
- EU policy instruments and their impact, including 'soft', 'hard' and 'hybrid' Law
- Principle of subsidiarity

Therefore chapter 2 offers structural and contextual elements to situate the study and chapter 3 focuses on conceptual elements.

Chapter 2
EU actors
EU Policy Making
EU policy
instruments

Structural

Conceptual

Contextual

Chapter 3
Subsidiarity Principle
Policy Transfer
Europeanisation
Multi-level
governance
Soft, Hybrid, Hard Law

Chapter 2
EU Policies and
Impact:
    Subnational
    Environmental &
    Climate Change
    Transport
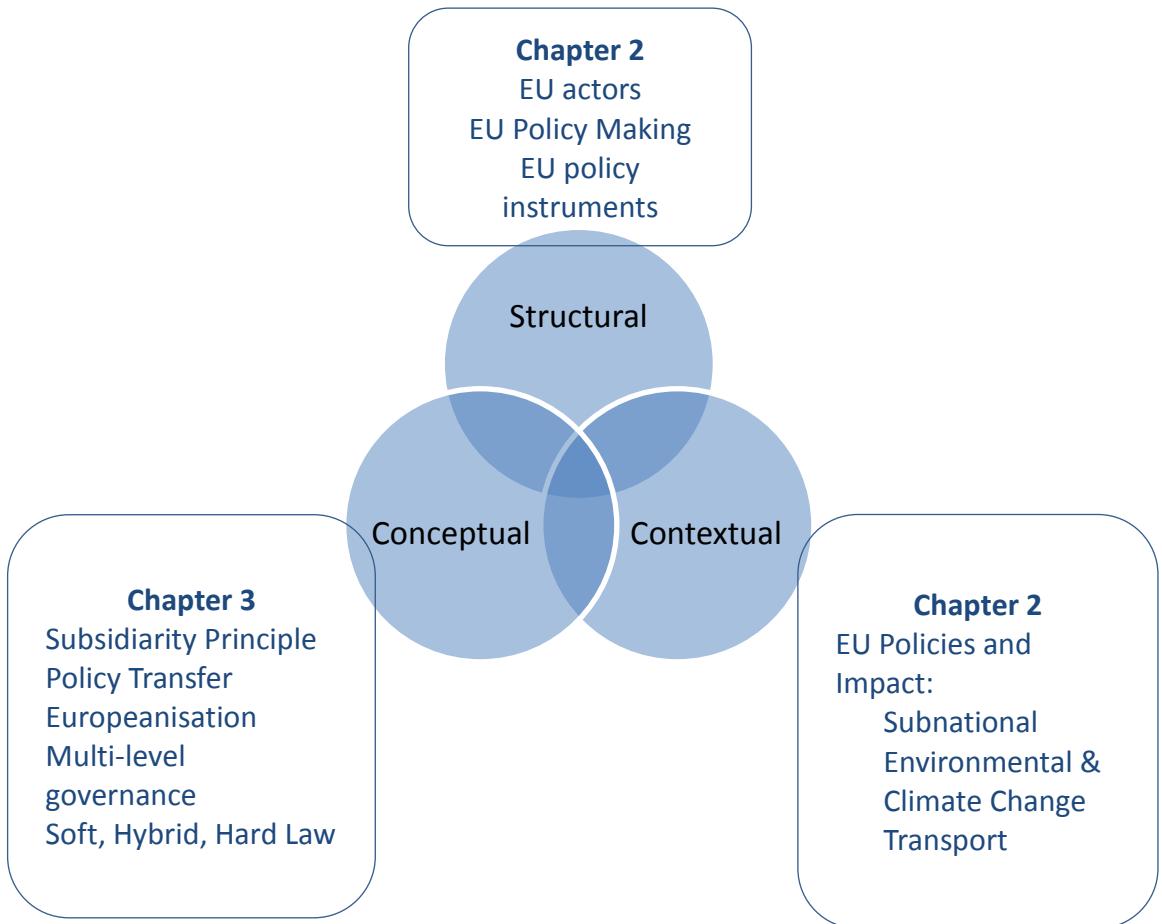
Figure 1-3 Content of chapters 2 and 3

Chapter 2   Background: Historical perspective and current policies

"Politics is organised around [...] the making of choices, routines, rules, and forms (that) evolve through history-dependent processes." (March & Olsen, 1989, p.159)

2.1   Introduction

This chapter provides the contextual background related to the thesis. It sets out the necessary informative framework and historical perspective to better understand the rest of the study. First, this chapter offers an overview of the EU functioning in relation to this investigation. Second, this chapter attempts to answer the following question: What have the evolution of EU environmental, transport and subnational policies been in the context of this investigation? It is important to note that the evolution of EU urban transport policy is not addressed in this chapter but in chapter 5 along with the literature review discussing the topic.

Understanding the evolution of the EU, a relatively young political experiment, is necessary for the assessment of current policies and policy-making and is key to formulating recommendations for the future. More precisely, understanding the development of EU regional, urban, transport and environmental policies helps contextualize this research and better comprehend the evolution of EU urban transport policy. This chapter draws on the academic literature and analyses official EU documentation.

2.2   EU actors and policy making

The European Union (EU), sometimes referred to as the '*Beast*' in reference to Europa riding a bull[1], is a complex institution. Its functioning has been extensively

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[1] According to the Oxford Dictionary in the *Greek Mythology, Europa is* "a princess of Tyre who was courted by Zeus in the form of a bull."

covered by the literature (Richardson, 2001; Versluis *et al.*, 2011; Wallace *et al.*, 2010); however, subtle EU mechanisms and specific topics are not always mentioned in the literature. These are addressed in this investigation. This section aims to provide the necessary tools and structural elements to comprehend EU policy making in the context of this research, with a particular focus on the EU Commission, its role, function, and the impact of its policies at different levels in the EU. It draws on academic literature about the European Union and EU official documentation. First the main 'actors' are introduced, in particular the Commission. The second part briefly describes the basic mechanisms of EU policy-making and policy instruments relevant for this study.

2.2.1   Main Policy actors

Several key EU institutions are in charge of policy-making in the EU. The three main actors are the Council of the European Union, the European Parliament, and the European Commission. These three administrative bodies share legislative and executive responsibilities. They initiate all policies and laws which apply in the EU. A fourth institution, the European Council is in charge of setting the EU's political agenda. It is composed of all the EU member states heads of government and the president of the Commission. Last but not least, the European Court of Justice supports the implementation of rules in the EU and arbitrates disputes between member states and EU institutions. A summary of the role and function of each relevant body is illustrated in table 2.1 below.

Leading EU actors	Main role
European Council – Heads of State, President of the Commission	Decision Making: • Decide on key political issues • Set the political agenda for the EU
Council of the European Union – National Ministers from all EU countries	Legislative and budgetary: • Debate and pass European laws • Agree on economic policies and annual budget
European Parliament – Elected Members from all member states (MEPs)	Legislative, Scrutinise, and budgetary: • Discuss and pass European laws • Audit other EU institutions, particularly the Commission • Adopt and monitor the EU's budget • Request Commission's action
Commission – Appointed Commissioners from all Member States and Commission's officials	Policy-making: • Propose new laws • Manage the EU's budget • Implement EU law
European Court of Justice – Judges from all Member States	Judicial: • Arbitrate legal disputes between EU governments or individual members and EU institutions.

Table 2.1: Main EU actors (based on Wallace et al.1 (2010b), and the Commission's Europa website)

In addition to the actors mentioned above, a series of EU institutions play an important role in shaping environmental and transport policies such as:

- ➤ The Committee of the Regions, an EU institution in charge of representing subnational authorities, mainly regions.
- ➤ The Joint Research Centre, an "in-house" institution which provides other EU institutions with independent scientific evidence.

Wurzel (2002, p.59) describes in particular the conglomeration of these actors as forming a "policy network" revolving around environmental issues.

In addition, actors at the subnational level play an important role on the EU arena. A large number of institutional and non-institutional associations represent local authorities and regions throughout the EU. Often based in Brussels these associations play an important role within the EU such as lobbying (as further described in section 2.2). On the one hand, a number of official institutions represent regions, such as Ile-de-France Europe, which represents the French Region Ile-de-France. On the other hand, associations such as Eurocities, a network of 130 large EU cities, play an important role. These associations or networks form a significant part of the environmental and transport policy-making process and their role has been gradually institutionalised (Ward & Williams, 1997); furthermore the Commission often encourages or initiates their creation (Nicola, 2010) .

The Commission represents the EU interest and therefore all EU member states. The Commission's responsibility is to suggest policies and laws which benefit the Union as a whole, in the short and in the long term. Young describes it as the "agenda setter" or 'policy entrepreneur" (Wallace, 2010, p.53). In addition to proposing laws, the Commission's biggest responsibility is to manage funds and to implement policies. Its aim is to ensure coherency and continuity within the EU and to establish long-term policy objectives. However, the Commission's competencies are restricted to policy-making that does not infringe on national or sub-national competencies, as explained in the next chapter (Chapter 3.6).

2.2.2   Policy-making process

The European Union is a complex system given its size and the number of institutions and actors involved. It has been compared by many to other existing policy structures such as federal states (Sbragia, 1993; Scharpf, 1988). However, many scholars have argued that the European Union is a unique political system that

needs to be analysed as such (Marks, Hooghe & Blank, 1996). If the comparison with other regimes is useful, most aspects of the EU remain very distinctive and subject to constant change (Hix, 1994). This is particularly true for policy processes related to the Commission, a body not easily comparable to other institutions (Nugent, 1995). Hence this investigation has focused on the literature dedicated to understanding the EU as a distinctive multi-level governance system.

The European Union's most characteristic features as a political entity are the different levels and layers which constitute it. Wallace *et al.* (2010a, p.12) rightly describe the EU policy-making as a "multi-level and multi-layered process". Power, influence, rights and responsibilities are shared between a number of actors across different levels of government following hierarchical and ad hoc rules. This multifaceted governance mechanism is partly orchestrated by the treaties, partly by unofficial rules. According to the EU treaties, competencies for transport and the environment (including Climate Change) are shared between the supranational and the national level. Therefore it can be described as a flexible multi-level governance system where interactions are sometimes codified but most often are ad hoc. As summarised by Hix:

> "Governance within this new polity is sui generis: through a unique set of multi-level, non-hierarchical and regulatory institutions, and a hybrid mix of state and non-state actors."(Hix, 1998, p.39).

As described in further detail in chapter 3 (section 3.4), multi-level governance is a crucial aspect of the EU system, particularly in the field of environmental and transport policies (Wurzel, 2002). Comprehending the EU as a compound system involving different levels and layers of governance forms the basis of this analysis.

The participation of different actors in the policy-making process is encouraged by the treaties. Indeed, the Lisbon Treaty highlighted the obligation for EU institutions, particularly the Commission, to consult extensively, as stated:

> "Before proposing legislative acts, the Commission shall consult widely. Such consultations shall, where appropriate, take into account the regional and local dimension of the action envisaged." (Official Journal of the European Union, 2007a)

The Commission is invited to consult entities which represent subnational authorities. For instance, the Commission consults the Committee of the Regions prior to proposing policies which might impact the subnational level. In addition, the Commission regularly seeks advice from associations representing cities. Thus consulting official and professional bodies is an integral part of environmental and transport policy making within the EU.

Lobbying is also an important aspect of EU policy-making. If consultation could be described as a top-down mechanism initiated by institutions such as the Commission, lobbying would be the equivalent to bottom-up. According to the Oxford Dictionary to Lobby is the act of "seek (ing) to influence (a legislator) on an issue" (Oxford University Press, 2014). In the European Union, lobbying consists of groups of professionals, having an interest in a policy area, that seek to influence EU decision-making. Unlike consultation it is not referred to by the Treaties, thus it is not a formal element of EU policy-making. Yet lobbying plays an important role and shapes policy-making in the EU (Coen & Richardson, 2009; Héritier, 1996). In 2013, an estimated 5, 678 organisations based in Brussels were categorised as lobbyists, ranging from businesses to NGOs, Think Tanks, professional organisations or associations (Library of the European Parliament, 2013, p.2). Ward and Williams (1997) viewed sub-national networking as an important element of environmental policy making in the EU. Thus lobbying plays an important role in influencing the Commission's environmental and transport policies.

2.2.3   Policy instruments

A range of policy instruments is available for policy-making in the EU. Broadly speaking these instruments can be categorised in two sections: binding and non-binding. Also referred to by scholars as 'hard' or 'soft' law, as further described in section 3.5, chapter 3. The use of EU instruments is not regulated by law, and officially, there is no hierarchy between different instruments (Craig & De Búrca, 2008, p.83). In fact, different pieces of legislation can be implemented simultaneously. However, the use of policy instruments is a complex and often critical process for EU policy-making.

Two key binding or *regulatory* instruments (Böcher, 2012, p.14) are used by the Commission. On the one hand, regulations are binding legislative acts directly and immediately applicable in all member states (Craig & De Búrca, 2008; Europa, 2013b). On the other hand, directives are binding instruments that set target(s) to be achieved by a certain date. Each member state is free to decide how exactly they plan to achieve the target(s). Directives are transcribed into national law in a flexible way as long as the target(s) is met. Therefore, despite being a binding instrument, directives offer national government some flexibility.

On the other hand, the Commission can use a range of non-binding or soft instruments to implement or influence policy-making in the EU. Böcher (Böcher, 2012, p.14) classifies policy instruments into three categories. First *informational* instruments intend "to influence collective action by providing information to citizens and other actors". Second, *cooperative* instruments "establish voluntary measures that led to voluntary agreements" (Böcher, 2012, p.14), and third, *economic* instruments offer "economic incentives" to influence actors (*ibid.*). Drawing on Böcher's categories, table 2.2 classifies some EU instruments relevant to this research. For instance, *informational* instruments in the EU are likely to be white or green papers and action plans and *cooperative* instruments could describe voluntary agreements such as the Covenant of Mayors. Finally, *economic* instruments are linked to funding programmes, such as CIVITAS. Funding programmes or voluntary agreements, such as the Covenant of Mayors are voluntary and are implemented by the Commission to foster research or the uptake of policies at the local level. Thus a wide range of non-binding instruments are being used by the EU in the field of environmental policies. Many of these instruments are used in parallel with or complement binding policies (Kramer, 2006, pp.285–288). This mix-used of instruments are further described in chapter 3, section 3.5.

Policy Instrument	Binding or Non-Binding	Type of instrument	External or Internal Impact	Role
Regulation	Binding	Regulatory	External	Directly applicable in all member states
Directive	Binding	Regulatory	External	Transcribed into national law Set targets and leave member states free to decide how to reach them
White Paper	Non-Binding	Informational	Internal	Announce the Commission's policy agenda in one policy area
Green Paper	Non-Binding	Informational	Internal	Consultation document which summarises views of stakeholders about one policy topic
Action Plan	Non-Binding	Informational	Internal	List a series of policy intentions the Commission is likely to take on the short term
Funding Programmes	Non-Binding	Economic	External	Commission provides funds to subnational authorities on a competitive basis
Structural & Cohesion Funds	Non-Binding	Economic	External	Financial tools allocated to the least developed EU regions
Financial instruments	Non-Binding	Economic	External	Run in collaboration with the European Investment Bank Cover technical support costs to implement projects
Voluntary Agreements	Non-Binding	Cooperative	External	Established with public or private actors to achieve certain targets

Table 2.2 Type of policy instruments used by the Commission relevant to urban transport

2.2.4 Conclusion

The European Union is a complex institution featuring a unique policy-making mechanism, in particular with regards to the functioning of the Commission. The EU is characterised by a singular multi-level governance system involving many actors. Interactions between the EU Commission and subnational actors- including entities representing local authorities happen through consultation and lobbysm.

The EU has the obligation to legislate in the field of transport and environmental policies. To do so the Commission uses a range of binding and non-binding instruments, including directives, funding programmes and voluntary agreements, which are used as a case study for this thesis.

2.3 EU Transport Policies

"*'Sustainable' and 'Mobility' reflect the two frequently competing aims of the European transport policy.*" (Stead, 2006, p.365)

Moving goods, merchandises and people across countries forms the basis of the common market and constitutes a core pillar of the European Union. Transport is often referred to as "the life blood of the EU economy" (European Commission, 2013c) and represented close to 5% of total Gross Value Added[1] in the EU-27 in 2013 (European Commission, 2013c, p.19). In this section the evolution of transport policies in the European Union is explored by analysing key policy documents and by reviewing the literature. The key dates are summarised in figure 2.1. Understanding the evolution of transport policy provides some context to this research and is crucial to be able to assess current policies. This section highlights the evolution of EU transport policy in relation to environmental policies. The emergence of EU urban transport policies is discussed is chapter 5.

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[1] According to the Organisation for Economic Co-operation and Development (OECD) Glossary of Statistical Terms the Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector; gross value added is the source from which the primary incomes of the SNA are generated and is therefore carried forward into the primary distribution of income account. Link: http://stats.oecd.org/glossary/detail.asp?ID=1184

Figure 2-1 Evolution EU Transport policies

2.3.1 EU transport policy: a historical perspective

Transporting goods and merchandise across Europe has been at the very core of the European Union project since its inception. Indeed, the European Coal and Steel Community (ECSC) was established in 1951 to create a market whose main function was to exchange coal and steel (Goormaghtigh, 1955, p.372). This set the stone of transport policy in the European Union. Shortly after that, the 1957 treaty of Rome established the basis for the "freedom of movement for persons, services and capital" in its member states (Spaak, Snot et d'Oppuers, Adenauer, *et al.*, 1957, pt.Art 3) and marked the creation of a common transport policy. As Ross (1998) rightly noted, transport policy formed an "integral component of the common market" (*ibid.*, p 40).

However, despite major attempts by the Commission to propose transport policies in the 1960s and 1970s, political blockages between member states decelerated the establishment of a common transport policy (Commission of the European Communities, 1983; Ross, 1998; Stevens, 2004). As pointed out by Whitelegg, the

common transport policy was then an "imperfect instrument" (Whitelegg, 1988, p.200). Milestones towards the establishment of a European transport policy were finally achieved in the 1980s, after decades of pressure from the Commission, the European Parliament (European Parliament, 1991) and the European Court of Justice (European Court of Justice, 1985, p.1603). The 1986 Single European Act was significant as it established a single market to guarantee the "free movement of goods, persons, services and capital" (Commission of the European Communities, 1986, p.9). This gave a real impetus to European transport policy (Banister, 2000a; Stevens, 2004).

The year 1992 was described by many as a turning point and the 1990s as a defining phase for the EC common transport policy (Banister, Stead, Steen, *et al.*, 2000; Commission of the European Communities, 1995b; European Commission, 1992; Ross, 1998). The 1992 Maastricht Treaty paved the way to political integration and officialised the establishment of a common transport policy (European Union, 1992). The year 1992 saw the beginning of a pro-active phase within the Commission, marked by the publication of the 1992 transport white paper which symbolised a ground breaking step towards the establishment of a harmonised transport policy at the EU level and led to the establishment of the TEN-T policies. The TEN-T policies were initiated by the EU Commission to establish and strengthen transport networks (including through rail, road, air and water) throughout the EU. This led to the adoption of the first TEN-T law in 1996 (Decision No 1692/96/EC).

2.3.2   Turn of the century: a shift towards sustainable policies

From the mid-1990s EU transport policy increased its focus on environmentally-responsible policies. Several communications and pieces of legislation indicated this change. For instance, the 1995 common transport policy action programme published by the Commission marked a small step towards a more sustainable, integrated and comprehensive transport policy (Commission of the European Communities, 1995b, p.3). Towards the end of the 1990s and beginning of the 2000s EU policies were clearly focused on minimising environmental damage. As rightly stated by Stevens (2004) the 2001 White Paper appeared "to signal a more decisive shift towards an environmentally responsible transport policy" (Stevens, 2004, p.64). This comprehensive document placed a clear focus on sustainable transport. Indeed, the

word sustainable is mentioned more than 30 times and the word environment at least 80 times. In addition the Commission stated its intention to establish more integrated and less road oriented transport policies (Commission of the European Communities, 2001b). Thus transport policies became clearly linked with environmental policies at the turn of the century.

However, the dilemma between sustainability and economic growth in the context of the EU transport policy was highlighted. Stead (2006) pointed out that the 2006 'mid-term review of the 2001 Transport White Paper' indicated that little progress had been achieved towards sustainable mobility and that economic growth was prioritised instead over environmental protection. Even though the negative impact transport had had on the environment was recognised by the mid-term review, the Commission did not take a firm stance to prevent emissions emanating from transport (European Commission, 2006, p.8). As stated by Stead, the Mid-term review:

> "serves to highlight a key dilemma of European Transport policy, namely how to reconcile the free movement of people and goods, one of the basic pillars of the European Union, whilst at the same time protecting the environment and improving the health and safety of citizens." (Stead, 2006, p.365).

In addition, the European Environment Agency stresses the lack of action to decrease harmful emissions emanating from transport and the need to reduce demand growth (European Environment Agency, 2007, 2006a). Therefore by 2007 limited progress had been made towards sustainable mobility despite what was promised in 2001.

The dilemma pointed out by Stead (2006) is reflected in the 2011 Transport White Paper. On the one hand the white paper clearly reflected the Commission's ambition to tackle environmental issues generated by transport, in particular CO_2 emissions (European Commission, 2011c, p.3), and thus marked the achievement of a real 'policy integration' between EU environmental and transport policies (European Environment Agency, 2011, p.4). On the other hand, the 2011 White Paper clearly prioritised economic growth. As stated, the main concern for the EU transport policy remained to "develop and invest to maintain its competitive position" (European Environment Agency, 2011, p.4). Therefore, despite making substantial

improvement to protect the environment, the 2011 transport white paper maintained its focus on the development of transport to boost the economy.

2.3.3   Conclusion

Studying the evolution of the common transport policy in the EU highlights several elements relevant to this research. First, even though transport has constituted a pillar for the common market and for the EU since its inception, the establishment of a well-established, harmonised common transport policy is relatively recent in the EU. As discussed in chapter 5, it is therefore not surprising that the development of an urban transport policy is still in its infancy. Second, there has been a clear evolution towards environmentally friendly transport policies in the EU. This partly explains why the Commission has started to address transport issues at the local level (as will be mentioned in chapter 5).

2.4   EU Environmental and Climate Change Policies

> *"A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences."*(United Nations Environment Programme, 1972).

More than ever in the history of the European Union (EU), environmental policy plays a critical role and has become a key element of EU policy making. Environmental protection, sustainable development, and climate change have become a priority on the EU political agenda and are the target of an increasing number of laws and policies. Yet it has not always been the case. This section aims to explore the evolution of EU environmental and climate change policy with a view to explaining its importance and the impact it has had on transport policies.

2.4.1   EU Environmental Policy, a historical perspective

At its inception, the European Economic Community (EEC) did not have an environmental policy (Hildebrand, 2005, 1992; Jordan & Jeppesen, 2000; Jordan, 2005). The introduction of environmental policies in the EEC started in the 1970s and accelerated in the 1990s. This has been the result of several factors. First the

'politicisation'[1] of the EU and the realisation that pollution transcends borders (Hildebrand, 1992), second the growing environmental awareness and pressure emanating from entities such as the United Nations or EU member states and from European citizens (Lodge, 1993).

As illustrated in figure 2.2, key milestones and turning points have marked the evolution of EU Environmental policy. Community treaties have established the foundations and key European summits and conferences have shaped EU Environmental policy (Knill & Liefferink, 2007; Krämer, 2011; McCormick, 2001). As a result Environment Action Programmes (EAPs) were established and structural changes within the EU institutions, such as the creation of DG Environment were initiated (Haigh & Baldock, 1989; Jordan, 2005; Official Journal of the European Communities, 1987). Weale (1996) estimated that, at the beginning of the 1990s, over two hundred pieces of binding legislation related to the environment were adopted in the EEC. Therefore, gradually, EU Environmental laws and policies have become an integrated and legitimate part of the EEC policies (Krämer, 2011; Scheuer, 2005)

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[1] According to the Collins Dictionary Politicisation means: "The process of making something more involved with politics"
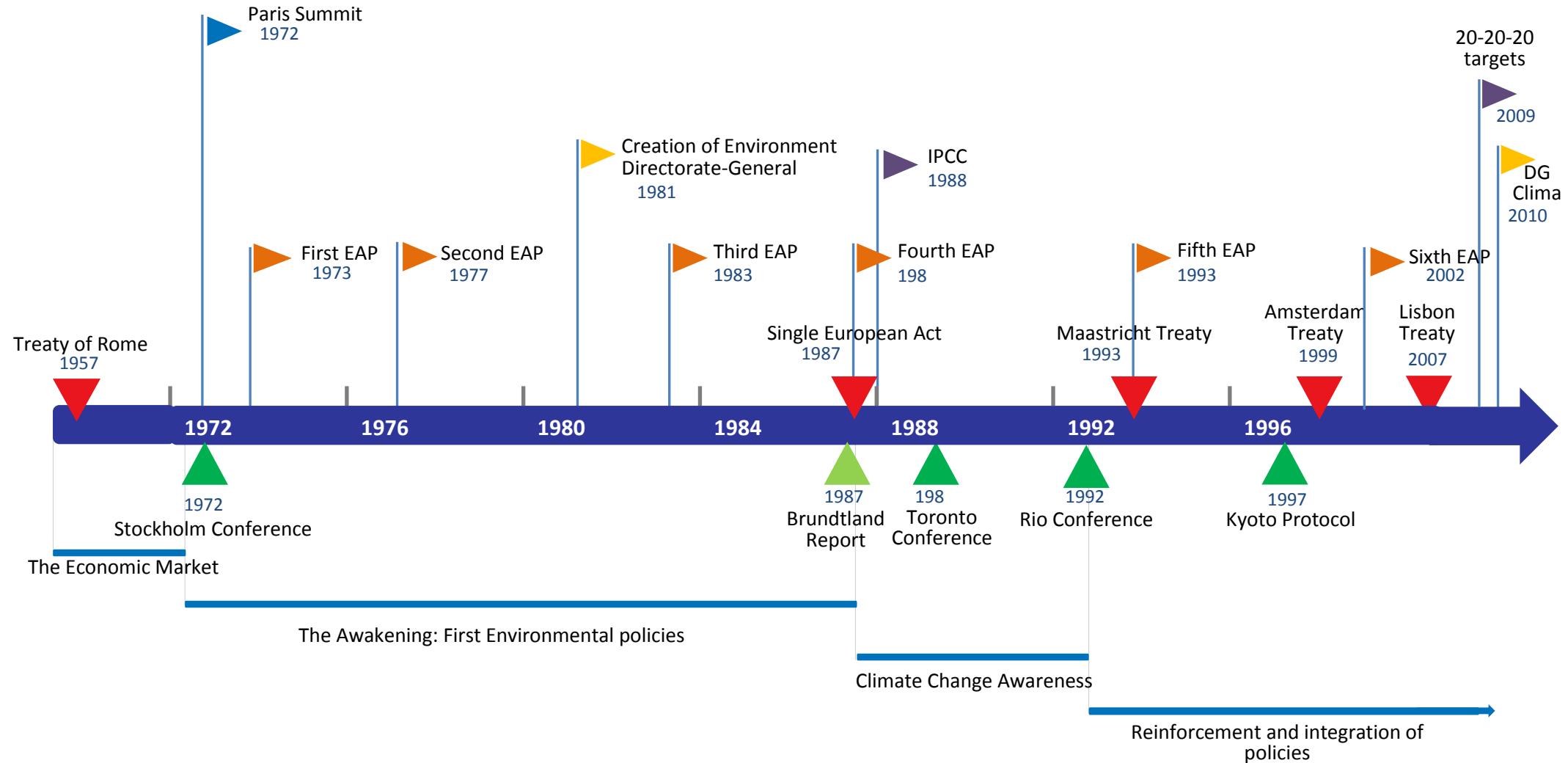
Figure 2.2: EU environmental and climate change Policy History

Scholars have offered various arguments to justify EU action in the field of environmental policy. First and foremost the trans boundary nature of many environmental issues, such as air pollution or climate change, justifies a supranational response (Collier, 1997b; Peterson, 1994; Weale, 1996; Wils, 1994). Second, the need to harmonise standards to strengthen the market (Collier, 1997b; Wils, 1994). Third, harmonising EU policies in the field of environment can facilitate speaking from one voice at the international level (Collier, 1997b; Peterson, 1994). In addition, EU environmental policies respond to the demand of many environmentally conscious citizens and non-governmental organisations (NGOs) who are concerned about the environment beyond their national boundaries (Wils, 1994).

2.4.2   EU Climate Change Policies: a growing concern

Climate change issues started to be addressed by the EU in the 1970s and 1980s subsequent to key international conferences which raised the alarm regarding anthropogenic climate change (Pallemaerts & Williams, 2006; Sjöstedt, 1998; United Nations Environment Programme, 1972; van Asselt & Rayner, 2010). International and European events such as the UN Stockholm conference, the Toronto conference (Bodansky, 2001; Paterson, 1996), the creation of the intergovernmental panel on climate change (IPCC), the 1992 Rio conference (Skjærseth, 1994), and the Kyoto Protocol, have played a crucial role in shaping EU policies on climate change (Andresen & Agrawala, 2002; Collier, 2002; Commission of the European Communities, 2005; Franz, Belfer Center for Science and International Affairs & Environment and Natural Resources Program, 1997; Haigh, 1996; Jordan & Rayner, 2010; Oberthür & Ott, 1999; Paterson, 1996; Sbragia, 2005; United Nations, 1995).

In the 2000s climate change policies became a key issue in the EU. A milestone was reached in 2007 with the Lisbon treaty which included the fight against climate change as one of the main objectives for EU policies (Krämer, 2011; Lee, 2008; Vedder, 2010). Since then an increasing number of EU policies and communications have tackled the need to reduce CO_2 and climate change policy has become one of the EU top priorities (Council of the European Union, 2007; European Commission,

2010). The adoption of the 20-20-20 targets[1] in 2009 marked another turning point (Commission of the European Communities, 2008b). It was described by Jordan and Rayner as "a package of proposals of unprecedented scale and complexity" (2010, p.74). The place given to climate change policies within the EU has never been more important. As a result, in 2010 the Commission decided to create a new Directorate General entirely dedicated to climate change policies.

Tackling climate change at the local level was first addressed by the UN. The 1992 Rio conference highlighted the need to address climate change issues across all level of governance and recognised that local authorities are key actors that need to be involved in the process. As a result, the United Nations established the 'Local Agenda 21' programme to foster action at the local level and encourage cities to address climate change and sustainable development issues. As a result, associations and networks such as ICLEI (Local Governments for Sustainability), a network made of thousands of cities committed to address climate change issues, were established. Collier (1997a) argued that networks such as ICLEI have had a significant impact at the local level. Similar networks have been established in the EU, notably the Covenant of Mayors, which is discussed in detail in this thesis.

2.4.3   EU environmental and climate change policy: impact on transport

This section aims to provide an overview of EU environmental and climate change policies related to transport, in particular urban transport. The impact EU environmental and climate change policy has had on transport is not well documented in the academic literature. Thus this section focuses on primary sources, principally EU official documentation.

Transport is responsible for a growing percentage of CO_2 emissions in the EU (Chapman, 2007). As illustrated in figure 2.3, transport accounts for 26% of final energy consumption[2] in the EU[1]. It is estimated that urban transport is responsible for

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[1] "A 20% reduction in EU greenhouse gas emissions from 1990 levels; Raising the share of EU energy consumption produced from renewable resources to 20%; A 20% improvement in the EU's energy efficiency." EU Commission, Climate Action website

[2] Final energy consumption is the energy finally consumed in the transport, industrial, commercial, agricultural, public and household sectors. it excludes deliveries to the

over 23% of all CO_2 emissions generated by transport (European Commission, 2013h, p.1).
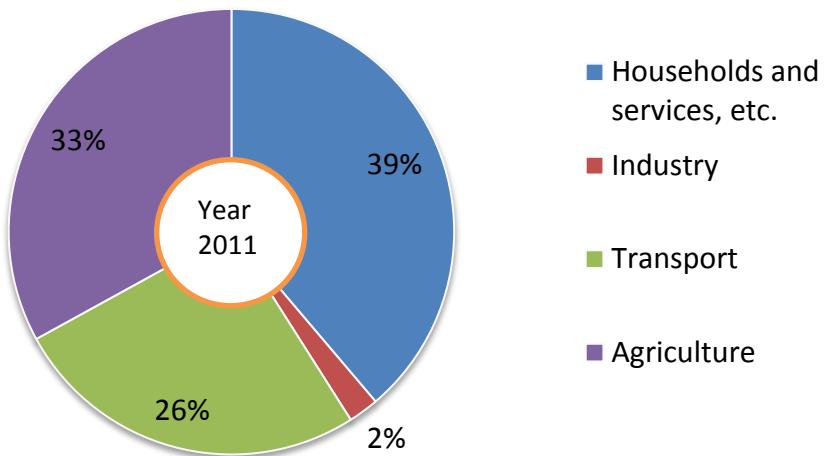
Figure 2.3: Energy Consumption EU 27 in 2013 (By Sector Million Tonnes of Oil Equivalent)

Source : EU Transport in Figures, European Commission, 2013

References to transport in EU environmental policies and environmental issues in EU transport policies emerged in the 1990s. Specific references to urban transport were highlighted in the 1990 green paper on the urban environment (Commission of the European Communities, 1990). However, the Commission clearly stated that these issues were not going to be addressed at the EU level. In the 1992 white paper on transport the need to reduce CO_2 emissions is also mentioned, and references were made to the need to improve the "quality of the urban environment" (European Commission, 1992, p.72). Yet again the white paper does not refer to specific EU action, and references to urban transport were only indirect. Thus EU transport and environmental policies started to acknowledge the need to address the impact transport has on the environment at the beginning of the 1990s but specific measures, particularly at the local level, were not proposed.

In 1998, two key EU communications marked a new milestone towards the integration of urban issues and transport in environmental policies. On the one hand

energy transformation sector and to the energy industries themselves.
[1] This diagram does not include statistics about Croatia, the latest EU member state.

the 1998 Commission communication entitled 'Sustainable urban development in the European Union: a framework for action' highlighted the need to address urban issues to tackle pressing environmental problems (EU Commission, 1998). On the other hand, another communication was entirely dedicated to "transport and CO_2". This communication frequently mentioned the term 'urban' and placed strong emphasis on public transport (Commission of the European Communities, 1998b). Subsequently, one of the first specific actions to be implemented was the 1998 voluntary 'environmental agreement' between the EU and the European Automobile Manufacturers Association (Commission of the European Communities, 1998a). However, the agreement proved to be a failure and manufacturers did not meet the agreed target on time (Official Journal of the European Union, 2007b). This prompted the Commission to revise its choice of policy instruments and to take firmer action. Thus the year 1998 signalled the increasing importance given to transport and urban issues within EU environmental policy.

In the 2000s a series of EU communications highlighted the Commission's intention to tackle the transport sector more vigorously (Commission of the European Communities, 2005; European Commission, 2005). In its 2001 Communication on the implementation of the European Climate Change Programme, the Commission placed a strong emphasis on transport (Commission of the European Communities, 2001a). However, CO_2 emissions emanating from transport continued to grow (Commission of the European Communities, 2007b; European Commission, 2013e) and specific EU action in this field was limited. Wurzel (2002) argues that strong industrial and business lobbyists partly explain why progress has been so slow in this field.

Slow progress has also been attributed to implementation issues. Jordan (1999), Haigh (1992) and Kramer (1995) argue that there is a gap between EU environmental aims and specific outcomes at the national and sub-national levels due to poor implementation of the laws. The lack of compliance with EU Environmental policy became increasingly evident in the 1990s and has remained problematic (Börzel, 2003; Jordan & Jeppesen, 2000; Jordan, 1999; Krämer, 2011; Lee, 2005; McCormick, 2001; Weale, 2000). In fact, the Commission reported that from 2003 to 2010 there were an average of 492 cases of infringements of environmental law per

year across all member states (European Commission, 2013g). According to Macrory (2006), directives used to be considered more as a 'commitment of policy intention' than as a 'genuine legal obligation'. Jordan´s main claim is that the lack of rigour in the implementation process emanates from the Commission's concern "to maintain the delicate 'balance' between governmental and supranational elements in the EU" (Jordan, 1999, p.87). Despite attempts by the Commission to tackle implementation problems, the 'implementation deficit' remains a major issue (Lee, 2005).

In the late 2000s, post the Kyoto Protocol, the Commission started to stress the urge for immediate action in the field of climate change and focused on transport issues. This is reflected in the 2007 communication 'Limiting Global Climate Change to 2 degrees Celsius'. In this document an entire section (d) is dedicated to 'Limiting transport emissions' (Commission of the European Communities, 2007b). Transport was also given substantial importance in the Communication on the 'Europe 2020 Strategy' (European Commission, 2011a). Shortly after that the Commission adopted a new target for CO_2 emission reduction: to reduce emissions by 80% by 2050 compared to the 1990 levels (European Commission, 03 2011b). This marked the start of the implementation of binding laws related to transport and CO_2 emissions, in particular regarding passenger cars and alternative fuels (Commission of the European Communities, 2008b; Official Journal of the European Union, 2007b; The European Parliament, 2009). Thus the importance given to transport in EU environmental policies intensified towards the end of the 2000s, and binding actions started to be implemented.

This change was confirmed in 2011, as transport emissions were identified as one of the biggest challenges for Europe and one of the key priorities to be addressed. The 2011 white paper on transport was an important milestone in the integration of EU transport and environmental policies. This communication proposed ten goals to achieve "the 60% GHG emission reduction target" in the transport sector (European Commission, 2011c, p. 4). Even though limited specific actions were proposed to achieve these goals, this reflected an important shift towards climate friendly transport policies.

2.4.4 Conclusion

This section has provided some background to better comprehend the impact environmental policies have had on urban transport. Understanding the evolution of EU Environmental policy in relation to transport is key to assess the impact EU policies have had on urban transport. Indeed, as discussed in chapter 5, EU environmental policies have had a substantial impact on transport, including urban transport. In addition, this background is particularly important to comprehend the impact policies such as the air quality directive or the covenant of mayors have had. However, limited academic literature has studied the impact EU Environmental policy has had on transport policy, and vice-versa, particularly in the field of urban transport policy.

As mentioned in this section, the establishment of EU environmental and climate change policy has been a gradual process shaped by external (e.g. international events) and internal factors (e.g. EU summits, communications). Environmental policy has become increasingly important, particularly climate change, and is now a priority for the EU. Environmental and transport policies have become more integrated over the years, in particular transport related to CO_2 emissions. Subsequently, several binding legislations have been established, mainly tackling fuel efficiency. However, specific action at the EU level has been limited and CO_2 emissions emanating from transport continue to rise. Yet the need to tackle transport issues in the context of EU climate change and environmental policies, and vice-versa, is stronger than ever, and even issues at the urban level have started to be addressed.

2.5 EU regional and urban policies: evolution and impact

The topic of this research addresses the impact EU policies have had at the sub-national level. In this context it is important to understand the evolution of the EU regional policy and to better comprehend the impact these policies have had at the local level. First, this section provides an overview of the evolution of the EU regional policy, particularly related to environment and transport. Second, it

highlights the impact EU policy has had at the local level, particularly through funding programmes and research and technological policy. Finally, the role of the EU at the urban level and the lack of understanding of the EU 'matter' as discussed in the literature is highlighted.

2.5.1 Evolution of regional policies in the EU

Despite provision made by the Treaty of Rome to include funds dedicated to the regions, the EU did not have dedicated regional policies at its inception (Allen, 2010). Originally created to lessen regional disparities and equalise GDP growth throughout the EU, the structural funds have grown over the years and represented one third of the EU budget in 2013 (Europa, 2013a). These funds include three major programmes: the European Social Fund (ESF) initiated in 1958, the European Regional Development Fund (ERDF) created more than a decade later; and more recently the Cohesion Fund established in 1993 and primarily dedicated to environmental and transport policies. It is estimated that one fourth of the total budget of the Cohesion Fund is dedicated to transport, and of this close to 3% is allocated to urban transport (Fraunhofer Institute for System and Innovation Research ISI, CE Delft & Transport and Travel Research Ltd, 2012, p.3).

EU regional policies started to address urban issues in the 1990s and have initiated a number of programmes and policies, particularly through the 2000-2006 and 2007-2013 Structural Funds (Atkinson, Terizakis & Zimmermann, 2010), as illustrated in table 2.4 below. For instance, in 2004 the EU provided 4.2 million euros to fund the Nottingham Tramway (European Union, 2009). Other major infrastructure projects were established as part of the cohesion policy, and more than 100,000 km of 'new or redeveloped' roads were funded (European Commission, 2011a). Many argue that the cohesion policy has contributed to finance unsustainable transport projects, in particular the construction of roads in urban areas (Banister, Stead, Steen, *et al.*, 2000). However, over the years funds have become increasingly concerned about environmental and urban sustainability policies, in particular the fourth structural funds programme which were initiated in 2007.

Date	EU Regional Funds History
1958	European Social Fund (ESF) – Target unemployment
1975	European Regional Development Fund (ERDF) - Mark the inception of the European Regional Policy
1986	Cohesion policy – Focus on environmental and transport policies
1989-93	First Structural Funds programme - Establishment of the Cohesion Fund in 1993
1994-99	Second Structural Funds programme
2000-06	Third Structural Funds programme –Include an urban dimension
2007-13	Fourth Structural Funds programme – EU regional policies collaborate with other funding programmes and EU entities in the field of environmental, transport and urban policies.

Table 2.4 History of EU Regional Funds

Table based on a report written by Commission (European Union, 2007)

2.5.2 Emerging EU Urban Policies

Comprehending the evolution of EU urban policies in the field of environment and transport is particularly important in the context of this thesis; yet limited academic literature has analysed this topic. The steady increase in urban population across Europe, and the fact that urban issues have repercussions beyond local boundaries, pushed the EU to tackle urban issues from the 1990s (EU Commission, 1998). In addition, it was recognised that urban areas throughout the EU face similar problems and that a coordinated approach at the EU level had become necessary (Atkinson, Terizakis & Zimmermann, 2010). Le Gales and Harding argue that the emergence of cities as governing coalitions has led to the creation of European urban governance (Galès & Harding, 1998). Indeed, cities have become important 'players' in the European Union arena.

The local environment issues were first addressed in a comprehensive way by the 1990 green paper on the urban environment (Commission of the European Communities, 1990). This communication recognised the common environmental problems faced by cities, including urban transport, but did not suggest any specific EU action. In 1997 the communication "Towards an urban agenda in the European Union" marked a turning point. It discussed the role of the Commission in the field of urban policies and highlighted the need for the EU to provide a long-term vision and to support cities in overcoming barriers – such as the lack of resources or competence (European Commission, 1997). This new role assumed by the Commission was highlighted in the 1998 communication entitled "Sustainable urban development in the European Union: a framework for action". This communication represented a ground breaking step toward sustainable urban development policies at the EU level and highlighted the importance of urban transport (EU Commission, 1998). However, EU actions at the local level have remained limited because of subsidiarity issues.

EU funding programmes and framework for research and technological development

Since the 1990s the Commission has created a series of tools that aim to address urban issues in a non-binding way. Amongst these, the Commission has been implementing a range of funding programmes that aim to finance or co-finance projects in collaboration with sub-national authorities. These 'grants' are mainly allocated on a competitive basis under the condition that cities co-finance part of the project. Hamedinger et al. (2008) describe these programmes as a 'testing-ground' for the EU policies. Indeed, funding programmes enable cities to test innovative policies and the outcomes often inform the Commission. Most of these funding programmes are supported through 'framework programmes' (FP). Framework programmes are EU schemes established by the Commission in the 1980s to support research throughout the EU. From 1984 until 2013 there have been seven framework programmes; the sixth (2002-2006) and seventh framework programmes (2007-2013) addressed urban transport and sustainability in city. Programmes such as the FP7 initiate funding projects to foster "collaborative research across Europe and other partner countries through projects by transnational consortia of industry and

academia" (European Commission, 2013d). Rommerts (2012) studied the impact which the Research Technology Development Framework programmes (RTD) have had in the field of urban transport. His results indicate that these programmes have had an impact on decision-making, knowledge and competence building at the local level and that:

> "project networks in the field of urban transport can act as platforms for policy transfer"(Rommerts, 2012, p.219).

However, limited literature has analysed the impact EU funding programmes have had at the local level. Hamedinger et al. (2008) investigated the impact which the EU Structural programmes have had on governance structures at the local level. They argue that local, domestic and institutional context 'conditioned' the impact EU funds have had in cities (Hamedinger, Bartik & Wolffhardt, 2008, p.2675). For instance, in a city like Graz, the uptake of EU policies was facilitated by the city's influential department dedicated to EU programmes (*ibid.*). Nevertheless, their paper has limitations. Few observations were made about long term changes in city planning and policies and the study focused on cities that were already familiar with 'European culture'. Therefore their conclusions might not apply to all EU cities. However, this study provided useful insights for this thesis.

2.5.3   Role of the EU at the Urban Level

Several scholars have pointed out the need for an EU framework to coordinate action at the local level (Atkinson, 2001a; Banister, 2000b; Collier, 1997a). As stated by Banister: "The EU has an important role in coordinating regional and national policies and in harmonizing targets and standards in Europe". (Banister, 2000b, p.124). However, literature about the role the EU should play at the local level, in particular regarding urban transport, remains sparse. This topic is addressed in more detail in the context of this thesis.

In the 2000s a debate was initiated regarding the role of the EU at the subnational level. As rightly pointed out by Atkinson (2002), the debate about the role of the EU at the urban level encompasses issues such as subsidiarity and democracy. The white paper on European governance, published in 2001 signalled an attempt by the Commission to clarify and strengthen its role at the subnational level (Scharpf,

2001). In the field of urban transport the Commission initiated a consultation phase leading to the publication of the 2007 green paper in an attempt to define its role. Responses were mixed, but most participants recognised the need for the EU to provide guidance and best practice dissemination to local authorities.

2.5.4 Lack of understanding of EU Policies at the local level

Even though the European Union has developed policies that have had an impact at the urban level, local policy makers and stakeholders remain usually unaware of them. The Eurobarometer surveys illustrate this fact and the Commission acknowledged that: " European citizens do not feel sufficiently informed about the European Union or its policies and institutions" (European Commission, 2008a, p.25). The 2001 white paper on governance recognized the need for the EU to be closer to its citizens. Furthermore, one of the aims of the structural funds was to "bring the EU 'closer to its citizens'" (Allen, 2010, p.230). However, Atkinson rightly noted the 'failure' of the EU to demonstrate its importance and relevance to citizens' daily lives (Atkinson, 2002). Even though the literature on this topic is limited, there seems to be an agreement about the clear lack of understanding local citizens show regarding the EU and its policies. This is further highlighted by this investigation.

2.5.5 Conclusion

The structural funds have formed the basis of the EU regional policy and have paved the way to the development of urban policies in the EU. Concerns for environmental and transport issues at the urban level started to be addressed by EU regional policy in the late 1990s. However, specific EU actions have remained limited because of subsidiarity issues. Most policy initiatives taken by the Commission have consisted of implementing non-binding instruments such as funding programmes. These funding programmes are predominantly run through EU research policy schemes, the framework programmes. The impact EU funding programmes have had in cities is insufficiently studied, particularly in the field of urban transport. Some scholars report that EU funding programmes have had an impact on local policy-making, but that their impact has varied from one city to another. The need for the EU to guide and coordinate the dissemination of information between cities is recognised by most

stakeholders. However, it is acknowledged that citizens at the local level remain mostly unaware of EU policies.

2.6 Conclusion

This investigation is set in the context of evolving policy-making and governance processes in the EU. Understanding the basic EU mechanisms, including its main institutions and its governance system, is key to assess the impact which the EU, in particular the Commission, has had at the subnational level. This chapter highlights the key role played by the Commission and the emergence of a growing number of actors in the field of transport and environment. Brussels-based associations representing cities and other lobbying entities play an important role in shaping policy-making in the EU. Interactions between these multiple actors across different levels and the range of policy instruments used by the Commission stress the complexity of the EU system.

Transport, environmental and regional policies overlap and have an impact on urban transport policy in the EU. This chapter has summarised the evolution of these policy sectors throughout the history of the EU. It concludes that transport policy has become increasingly influenced by environmental and climate change policy in the EU. In addition, as further described in chapter 5, the Commission has started to address urban transport issues, mainly through EU research policy and the use of soft instruments, such as funding programmes.

This chapter has provided some background to better comprehend the impact that EU policies have had on urban transport. Several limitations have been pointed out in the literature. First, the respective impacts which EU transport and environmental policy have had on each other, is under-researched. Second, limited academic work has been undertaken on urban transport policies at the EU level and its impact on local policy-making. This thesis attempts to address these gaps.

Chapter 3   Key Theoretical concepts

"A multi-dimensional model, recognising the explanatory power of each theory within the appropriate environmental context, makes it easier to see the theoretical explanations as complementary rather than in competition with one another."
Stevens Handley (Stevens, 2004)

3.1   Introduction

As mentioned in Chapter 2, literature assessing the impact EU policies have had on urban transport is very limited. However, in the literature various theoretical concepts have studied the impact of EU policies, particularly in relation to environmental policy. This chapter introduces the key theoretical frameworks which are used to inform this research. The combination of various theoretical lenses, or a 'multi-dimensional model' (Stevens, 2004), is employed to assess the impact EU policies have had on urban transport in a comprehensive and comparative way. As illustrated in table 3.1, five key concepts related to EU policy-making are crucial to this research. Each of these concepts is examined in the context of this investigation. They provide us with insights to better analyse and understand the impact of EU policy making at the national and sub-national level.

Theoretical Framework	Main characteristics and objectives
Europeanisation	▪ Studies the impact of EU policies at the national and subnational level. Examine impact in a broad and comprehensive way.
Policy Transfer	▪ Interrogates how a policy in one context is replicated or exchanged in another political setup or from one level to another, and what impact it has.
Multi-Level Governance	▪ Seeks to understand the balance of power between different entities and the interactions between actors within the EU.
EU Policy Instruments	▪ Identifies different regulatory or policy instruments which can be combined or used separately to reach a political or legal aim in the EU and investigates their impact.
Subsidiarity	▪ Examines and discusses the use of an EU principle which aims at organising and balancing power between different actors and different levels of governance in the EU.

Table 3-1 Key theoretical frameworks

The five key frameworks mentioned in table 3.1 contextualise EU policies and their impact at the national or subnational level and help shape the theoretical background of this study. These theories guide this thesis and provide the necessary conceptual framework to better comprehend the rest of the study.
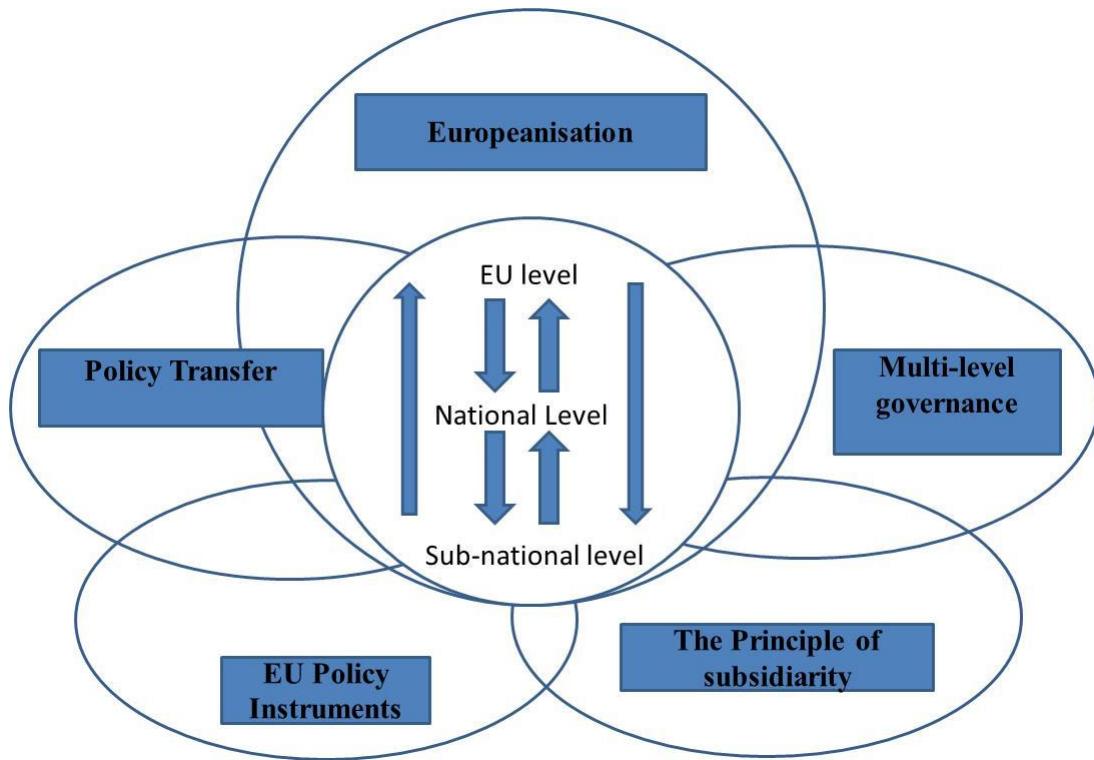
Figure 3-1 Key theoretical concepts and their relationship to one another

As illustrated in figure 3.1, these concepts are all interconnected and overlap. For instance, theories on multi-level governance provide a framework to better comprehend the subsidiarity principle. This chapter offers an overview of each theory, highlighting their interconnectedness, and discusses their relevance in the context of this investigation.

3.2 Europeanisation

3.2.1 Introduction and definition

The concept of 'Europeanisation' offers a framework to understand how member states and cities are transformed by the impact of the European Union. Definitions of Europeanisation vary. Cowles *et al.* (2001) understand Europeanisation as the change in 'structures of governance' in Europe. However, this definition lacks precision. The study prefers Featherstone and Radaelli's (2003) description:

"Europeanisation consists of processes of a) construction, b) diffusion and c) institutionalisation of formal and informal rules, procedures, policy paradigms, styles, 'ways of doing things' and shared beliefs and norms which are first defined and consolidated in the EU policy process and then incorporated in the logic of domestic (national and subnational) discourse, political structures and public policies."(Featherstone & Radaelli, 2003, p.30)

The vagueness of Radaelli's expression "ways of doing things" indicates that he visualises Europeanisation as an attempt to look at changes induced by the European Union in a holistic way. Other scholars view Europeanisation as a more institutional system where EU policy 'dynamics' are absorbed by national policy-making (Bache & Marshall, 2004; Benz & Eberlein, 1999). This study has analysed how specific EU policies have been incorporated in subnational discourse, political structures and public policies.

3.2.2 Top-down and bottom-up Europeanisation

The concept of impact, in the context of Europeanisation, is inclusive and covers a variety of impacts such as top-down but also bottom up (Radaelli, 2004). Top-down highlights the impact EU actions have at the national and sub-national level (Cowles & Caporaso, 2001). As stated by Timms: "The 'top-down' perspective can be seen as one taken 'at the centre' of the EU, whether by formal EU organisations, such as the European Commission (EC) or by academics and others taking 'a whole EU view'"(Timms, 2011, p.514). In contrast, according to Radaelli (2004), bottom-up studies isolate changes happening at the domestic level and intend to determine whether the change has resulted from any EU action or not. Dyson (2002) is critical of the top-down approach and claims that it induces biased studies whereas bottom-up approaches allow researchers to measure variables and different sources of influence about one particular change more objectively. This is what Radaelli calls "the danger of pre-judging the impact of Europeanisation" (Radaelli, 2004, p.8). By producing different sets of hypotheses or "alternative hypotheses" the bottom-up approach allows a counterfactual analysis which can be a reliable tool to test the validity of one hypothesis. This investigation has used a combination of both approaches to study the impact of the EU.

It is important to notice that the concept of bottom-up is interpreted differently by some. Atkinson (2001a) refers to bottom-up to describe initiatives taken at the local level that might then have an impact at other levels. This definition is also the one used by the Commission in its official documents (Commission of the European Communities, 2003). In that context bottom-up is synonymous with what some scholars have named 'uploading'. Uploading consists of passing policy from the sub-national or the national level to the EU level. As George (2001) describes: "Member states are not simply passive recipients of pressures from the EU; they also try to project national policy preferences upwards" (George, 2001, p.1) . Cases of 'Upload Europeanisation' are frequent in Brussels where associations representing cities, such as Polis, influence the Commission. This investigation mostly refers to the term bottom-up as described in this paragraph.

3.2.3 Direct and indirect Europeanisation

In their study on institutional and political change in the EU, Bache and Marshall (2004) observe that 'direct' and 'indirect' Europeanisation has had an impact at the urban level. Direct Europeanisation describes the ´intended´ consequences of an EU policy, whereas indirect characterises the unplanned results of an EU initiative. An example of indirect Europeanisation is the EU regulation 800/2008 on categories of aid compatible with the common market (Commission of the European Communities, 2008a). Although the regulation does not intend to tackle transport it may ultimately have an impact on the funding of private and public transport in member states and in cities. Both direct and indirect Europeanisation have been analysed in the context of this research.

3.2.4 Conclusion

The literature on Europeanisation has studied the impact the EU has had on its member states and aims to understand changes brought about by the EU at the national and subnational level. To some extent, assessing the impact the EU has had on mobility policies in cities is synonymous to investigating whether Europeanisation has changed urban transport policies. Nevertheless, overall it remains very theoretical and few studies have studied empirical evidence or specific changes on the ground, particularly in the field of transport policies. Very few

scholars have studied Europeanisation in relation to urban transport. This is probably explained by the relatively recent emergence of EU policies in the field of urban transport, as mentioned in chapter 2 and further described in chapter 5. Despite that, Europeanisation theories offer a conceptual framework that help to better understand theories such as policy transfer or multi-level governance. Top-down Europeanisation is a key focus of this research.

3.3   Policy Transfer

3.3.1   Introduction and definition

Policy transfer is closely related to Europeanisation and provides an interesting framework to analyse the impact EU policies have. It also describes processes such as top-down, bottom-up, upload and download forms of transfer. Dolowitz and Marsh refer to policy transfer as a:

> "process by which actors borrow policies developed in one setting to develop programmes and policies within another". (Dolowitz & Marsh, 1996, p.357)

However, this thesis uses Dolowitz and Marsh's latest definition. This describes policy transfer as:

> "a process by which knowledge of policies, administrative arrangements, institutions and ideas in a political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system"(Dolowitz & Marsh, 2000, p.5)

In other words, policy transfer happens when existing policies or the "knowledge about policies, administrative arrangements, institutions etc." (Dolowitz & Marsh, 1996, p.357) in one area are used or inspire actors in another area. Similar policies are then created or institutional change is induced. It is particularly relevant in the context of this investigation because policy transfer often refers to "one government or supranational institution pushing, or even forcing, another government to adopt a particular policy" (*ibid.*). James and Lodge (2003) highlight the fact that the breadth of the definition given by scholars makes it difficult to find evidence and to assess

change. However, the inclusiveness of the definition is also an asset in analysing the potential impact of EU policies. One of the objectives of this study is to assess how a piece of binding law (i.e. the Air Quality Directive) has been implemented at the local level, in terms of the transposition of its intended consequences and also other effects.

3.3.2 Forms of policy transfer

Various forms of policy transfer have been identified. Transfer can be "coercive" also called transfer through hierarchy, which can also happen through negotiation and, finally, transfer can be "voluntary" (Bulmer & Padgett, 2005; Dolowitz & Marsh, 1996; Rose, 1993). Although not mentioned by Dolowitz and Marsh (1996), an obvious parallel can be seen between coercive or voluntary and hard or soft policy. Coercive policy is often legally binding, and voluntary takes the form of soft law. However, in EU policy-making coercive and voluntary can overlap sometimes. Héritier (Heritier, 2001) highlights the fact that policy transfer, such as implementation processes, varies from one member state to another. The same EU legislation can lead to different policy inputs and outputs in different countries. This research examines more thoroughly how supranational and national institutions transfer policy via law and other policy mechanisms to subnational actors in different countries and more precisely, how the EU Commission and national governments transfer policy to different cities.

Policy transfer in the context of the EU can also refer to more complex processes. For instance, Radaelli (2000) observes how policy can be transferred between two entities through the intervention of an external 'agent'. For instance, he notices that the Commission often "stimulate(s) Policy Transfer by catalysing isomorphism processes" (Radaelli, 2000, p.25), in other words the Commission generates policy transfer by encouraging one political entity (e.g. a local authority) to replicate a policy model existing in another entity (e.g. another local authority). This is particularly visible through networks and programmes such as CIVITAS.

3.3.3 Success and failure of policy transfer

Scholars seek to understand what facilitates or prevents successful policy transfer. Rose (1993) suggests that the complexity of a policy constitutes an obstacle to policy

transfer. The more complex a policy is, the more difficult it is to transfer it. Administrative and institutional structures can also be a barrier. Bennett (1992) reports that the lack of financial capacity is a major constraint on policy transfer. Elements to overcome barriers have been suggested. For instance, sharing information about a policy as well as the predictability of its effects can ease the transfer (Dolowitz & Marsh, 1996; Rose, 1993). Recent academic literature has attempted to better understand successes and failure in policy transfer but limited studies have looked at urban transport policies.

3.3.4 Policy transfer in the context of voluntary programmes

A limited number of studies have reviewed policy transfer mechanisms in the context of voluntary and funding programmes initiated by the EU Commission. Betsill and Bulkeley (2004) notice that cities participating in 'transnational networks', such as the ICLEI 'Cities for Climate Protection Programme', joined the project to legitimise measures already adopted in their cities and have access to financial resources. Yet it had been assumed that the main reason to join such a network was to exchange information between participating cities. Further studies have illustrated that an EU funded programme facilitates policy transfer across countries (De Jong & Edelenbos, 2007; Hamedinger, Bartik & Wolffhardt, 2008; Marsden & Stead, 2011). It is particularly useful to contrast these statements with the findings of this investigation, especially when assessing the impacts of programmes such as CIVITAS or the Covenant of Mayors.

3.3.5 Policy transfer and urban transport

Few authors have investigated policy transfer in relation to urban transport, as highlighted by Marsden and Stead (2011). Stead *et al.* (2008) studied policy transfer and lesson-drawing between Western and Eastern European countries in the field of urban transport. Their conclusions suggest that to succeed, policy transfer has to happen at the right time and in the right context. However, the authors provide limited explanation about what the criteria are for success. Rommerts (2012) studied policy transfer in the context of the EU's urban transport policy. He concludes that policy solutions and tools constitute the majority of the elements transferred. Additionally, Rommerts (2012) highlights that trust is an important determinant of

policy transfer's success. This last point is largely under-studied, yet trust between policy actors plays a keys role in EU policy-making.

3.3.6 Conclusion

Policy transfer can occur when national and sub-national authorities adopt EU programmes voluntarily or under pressure, directly or indirectly. Policy transfer also happens when cities receive a policy from national governments or transfer a policy to the local, national or supranational level. The academic literature on policy transfer has been helpful to assess the impact EU networks and funding programmes have had. However, the policy transfer literature tends to focus on horizontal transfer, in other words on one entity reproducing what another entity has done. Given that this investigation has focused on top-down policy transfer the literature has not been too insightful on the topic. Theories on multi-level governance are closely linked to policy transfer and offer a better framework to analyse the impact EU policies have had.

3.4 Multi-level Governance

3.4.1 Introduction and definition

Multi-level governance theories are used to describe "patterns of policy-making" (Benz, 2000, p.21) and are particularly useful to understand complex multi-layered decision and policy-making in the context of the European Union. The concept of multi-level governance provides a framework which helps to situate and frame this research. This section reviews key multi-level governance literature in the context of the EU. It focuses on regional and environmental policies and highlights the gap in the field of urban transport and mobility.

Several definitions have been given to the term multi-level governance. The EU Committee of the Regions defines multi-level governance as a:

> "Coordinated action by the European Union, the Member States and local and regional authorities, based on partnership and aimed at drawing up and implementing EU policies. It leads to responsibility being shared

between the different tiers of government concerned and is underpinned by all sources of democratic legitimacy and the representative nature of the different players involved." (Committee of the Regions, 2009, p.6)

Multi-level governance is also described in a more simple way by Hooghe and Marks as the "the dispersion of authoritative decision making across multiple territorial levels" (Hooghe & Marks, 2001, p.xi). Hooghe and Marks have identified two types of multi-level governance actors that 'diffuse authority' in different ways (2003, p.241). Type 1 actors are primarily territorial jurisdictions that represent or govern groups of citizens or communities, such as national, regional or local authorities. Type 2 actors are institutions that are non-territorial but mainly focused on specific policy areas or 'tasks'. For instance, the European Environment Agency could be categorised as type 1, as it focuses on environmental issues within the EU, or lobby groups representing particular interests, such as UITP which represents public transport authorities and operators in the EU. In the context of this thesis type 1 is associated with vertical multi-level governance whereas horizontal multi-level governance is used to describe type 2 actors. Applied to the EU, the concept of multi-level governance is used to comprehend multi-level, horizontal and vertical exchange of policy between stakeholders including member states, regional and local authorities.

3.4.2   Power dynamics

Theories on multilevel governance highlight the decentralised aspect of power which is shared at different levels: European, national, regional or local (Hooghe & Keating, 1994; Hooghe, 1996). These theories also highlight the power dynamics between different levels of governance and the complexity of policy-making mechanisms within the EU. By studying multi-level governance, scholars have tried to answer the following questions: Who has influence in the EU? How is this exercised? What is the nature of the relationship between different levels of governance?

One question in particular has led to many debates amongst scholars: who exercises power in the EU? Peterson (1994) argues that the EU is close to a federal system, within which power is shared between different levels of government. Other scholars such as Jeffery (2000b), Fairbrass and Jordan (2004), and Bache and Flindlers

(2004), acknowledge the existence of a multi-level governance system, but claim that national government remains central to decision making, playing the role of a 'gatekeeper'. On the other hand, Hooghe (1996) criticises the assumption that national governments are always the dominant actor in the EU. For Hooghe (1996) there is a real balance in decision-making and power sharing between supranational, national and subnational authorities. According to others, the only real competing power in the EU is the European Court of Justice (George, 2004; Marks, 1992). The level of multi-level governance varies between countries. An equal share of power is more common in federal or decentralised states such as Germany or Spain (Marks & Hooghe, 2004) and less developed in more centralised states such as the UK (Fairbrass & Jordan, 2004). Overall, scholars (Hooghe, 1996; Peters & Pierre, 2004; Rhodes, 1997) recognise that different actors in the EU evolve in a multi-level environment and are inter-dependent.

The interactions between the subnational, the national and the supranational level, in the context of multi-level governance, have been widely studied. Subnational authorities have been developing different strategies to establish direct relationships with the supranational level, such as opening offices in Brussels (as previously described in chapter 1, section 1) (George, 2004; Marks, 1992). In addition, Benz and Eberlein (1999) observe that city-regions can have substantial autonomy from the national authorities when dealing with the European Union. This, argues George (2004), has contributed to a lessening in national governments' authority. On the contrary, Jeffery (2000b) suggests that subnational authorities are passive actors who are controlled by national governments and EU institutions, but that they demand a more active role in the EU arena. Jeffery (2000b, 2000a) also argues that, in the context of European integration, the national government's control over supranational and subnational actors is unsustainable. According to Bache and Flinders (2004), national governments will remain strong gatekeepers unless there is an increased 'democratic legitimacy' in the EU. Most scholars concerned agree that the share of power between different EU institutions is more effective than a highly centralised system and that multi-level governance policy has the potential to strengthen democracy in the EU (Bache & Chapman, 2008). Put in the context of this investigation, these theories provide conceptual tools to better analyse the dynamics between the supranational, the national and the sub-national level.

3.4.3 EU structural and cohesion funds and multi-level governance

Many authors have investigated EU structural and cohesion funds in the context of multi-level governance. Opinions converge to argue that EU funds have contributed to the development of multi-level governance in the EU (Allen, 2010; Bache, Andreou, Atanasova, *et al.*, 2011; Hamedinger, Bartik & Wolffhardt, 2008). For instance, Bache *et al.* (2011) and Bache (Bache, 2010) examined whether the EU cohesion policy introduced increased multi-level governance in South East Europe. Their conclusions highlight a change towards increased multi-level governance in these countries. Such work (Bache & Flinders, 2004) therefore points to a general increase in multi-level governance across the EU particularly through EU funding programmes.

3.4.4 Environmental and urban issues

Studies related to multi-level governance in the context of EU environmental policies have raised important points. Fairbrass and Jordan (2004) argue that the development of environmental policy in the EU has relied on multi-level governance mechanisms. Similarly Schreurs and Tiberghien (2007) claim that through multi-level governance the EU has reinforced its capacity to be a leader in climate change policy making. Jordan *et al.* (2012) support their claim but rightly point out that the effectiveness of the multi-level governance system in the context of environmental policy has not been sufficiently proven.

Many authors have argued that increased multi-level governance is necessary in the context of environmental policies in the EU. In relation to climate change policies, Collier (1997a) makes strong claims for multi-level co-operation and co-ordination to support action at the local level. Bulkeley and Betsill (Bulkeley & Betsill, 2005) also argue that increased multilevel cooperation is necessary if societies want to achieve environmental goals. Marsden and Rye (2010, p.1) rightly state that multi-level governance structures are necessary to effectively reduce CO_2 emissions in the transport sector. Van Asselt (2010) asserts that the success of many environmental policies in the EU depends on whether central governments are willing to sacrifice

some of their sovereignty to establish common policies. As stated in his concluding remarks on whether the Emission Trading System[1] will succeed in the EU:

> "[…] it remains to be seen whether Member States are genuinely willing to transfer more power to the EU institutions to ensure the environmental integrity and efficiency of the entire scheme" (van Asselt, 2010, p.140).

In the context of EU urban policies, Atkinson (2001b) makes the case for the EU Commission to play the role of a vertical and horizontal coordinator. Atkinson (2001b) accurately argues that urban policies across the EU need to be better coordinated between the local, regional, national and subnational level. This claim is also supported by Banister who rightly pointed out that "all actors at all levels need to be fully involved if sustainable transport in cities is to become a reality" (Banister, 2000b, p.125).

3.4.5   Policy integration

An emerging concept closely linked to multi-level governance is 'policy integration'. This concept is becoming increasingly important for environmental, climate change and transport policy in the EU. However, this field of study remains largely unexplored (Geerlings & Stead, 2003; Hull A, 2008). According to Stead (2008) policy integration consists of different cross level entities engaging in policy cooperation (i.e. dialogue), coordination (i.e. cooperation plus transparency) and integration (joined-up policy) of intersectoral or inter-organisational policies (Geerlings & Stead, 2003; Stead, 2008). Geerlings and Stead (2003) describe four types of policy integration: vertical, horizontal, inter-territorial and intra-sectorial. Stead (2008) notices that there is an increasing need for policy integration linked to transport and environmental policies. This research focuses on vertical integration, mainly the collaboration between the Commission and local authorities. This thesis also looks at horizontal integration, for instance, the integration of policies between different Directorate Generals, primarily DG MOVE, DG Environment and DG Climate Action.

The lack of policy integration in the field of EU environmental, climate change and transport policy has often been pointed out, including in large scale EU funding

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[1] A trading tool to decrease greenhouse gas emissions emanating from the industrial sector

projects (Geerlings & Stead, 2003). It is important to take this point on board since this thesis discusses policy issues across institutions and organisations. The concept of policy integration is thus helpful to identify barriers to policy implementation and impact at the local level.

3.4.6 Conclusion

Multiple theories on multi-level governance have facilitated the understanding of the distribution of power in the context of EU policies (Bache, 1998; Benz & Eberlein, 1999; Benz, 2000; Hooghe, 1996). It has also provided some useful insights into the interactions between different actors across levels. Understanding multi-level governance in the context of the EU is key to assess the success of EU mobility policies and ultimately supranational policies and initiatives at the urban level. However, the implication of a multi-level governance system for policy-making at the local level has not been sufficiently investigated. Indeed most of the studies have focused on the national or regional level. Moreover, additional research is needed to comprehend multi-level governance in relation to transport and urban transport policies.

3.5 EU Policy Instruments and their impact

3.5.1 Introduction

This section complements section 2.5 in Chapter 2. It aims to provide an overview of key theories related to EU policy instruments and their impact on policy-making in the EU. The following key question has been addressed in the literature: What impact have different EU policy instruments had? Understanding these concepts is important in comparing the case studies used in the context of this research; that is to compare three types of policy instruments: an EU Directive (2008/50/EC), a funding programme (CIVITAS) and a voluntary agreement (Covenant of Mayors).

3.5.2 Impact of hard and soft law

The impact binding law has had at the local level has been little studied in the field of urban policies. Ekins and Lee (2008) investigate the impact EU regulations related to

energy efficiency in buildings have had at the urban level. They conclude that the EU regulation has not had any substantial impact on the built environment in their case study country, the UK. Nevertheless, they observe that the regulation forced member states to "address certain issues" and has also provided "a forum for the exchange of policy experiences, successes and failures" (Ekins & Lees, 2008, p.4583). However, their paper does not provide sufficient details regarding methods and conclusions to be able to draw a parallel with urban transport policies.

Even though recent research has discussed the importance of soft law (Scott & Trubek, 2002; Trubek & Trubek, 2005) the impact of soft law at the local level remains under-studied. Soft law is defined as "EU measures, such as guidelines, declarations and opinions, which, in contrast to directives, regulations and decisions, are not binding on those to whom they are addressed" (Europa, 2011, p.1). Assessing the impact these policy instruments have had is complex. As summarised by Trubek and Trubek in relation to the European Employment Strategy, "It is easier to say it had no effect than to gauge how much it contributes to any change" (2005, p.350). Thus, the lack of literature on the topic is due to the fact that measuring the impact of soft law is difficult. Yet it is crucial to better comprehend the impact soft law - an increasingly popular EU policy tool - is having. This issue is explored in this thesis as it is directly related to the key questions addressed.

The Open Method of Coordination (OMC) is a form of soft law that has generated considerable interest amongst some scholars. The concept emerged at the beginning of the 2000s in the EU (Porte, 2002; Regent, 2003; Szyszczak, 2006). As described by Trubek and Trubek (2005), the OMC is a policy instrument that consists of establishing guidelines and objectives. The OMC has "open-ended, non-binding, non-justiciable qualities" (2005, p.344). The openness and inclusiveness of the definition makes it difficult to understand exactly what is considered to be an OMC. For instance, our hypothesis is that the Covenant of Mayors could be categorised as a form of OMC but no clear indication is provided in the literature to confirm this theory. Bulmer and Padgett (2005) are critical about the success of the Open Method of Co-ordination. Bulmer claims that "this weakly institutionalised form of governance has significantly less transfer potential than hierarchical variants" (Bulmer, 2007, p.24). According to them, it is decreasing the potential of coercive

transfer policy in the EU. Atkinson (2002) also warns that the OMC might not have any impact and could be a mere 'talking shop'. However, insufficient arguments are offered to justify these claims and limited studies have assessed the impact OMC has had in a comprehensive way.

On the other hand, some studies have highlighted the barriers to the successful implementation of soft law and the OMC. The conclusions of these studies highlight that for soft or OMC instruments to be effective, various governance characteristics are needed. Indeed, adequate administrative structures are necessary to adapt to the change but, more importantly, cooperation with key stakeholders in the cities or the regions is essential to guarantee the establishment of these policies (Radaelli, 2004; Rose, 2002). These recommendations are useful to assess the limitation of softer forms of law in this study.

Emerging EU instruments such as the OMC are commonly observed in the EU. Many authors have referred to 'new environmental policy instruments' or 'new environmental governance' in the EU (Scott & Holder, 2006). Jordan *et al.* (Jordan, Wurzel, Zito, *et al.*, 2003) study the use of policy instruments in the field of environmental policy from the 1990s. They observe the growing emergence of innovative EU policy instruments characterized as 'new environmental policy instruments' (NEPIs). The authors report that the three NEPIs examined– voluntary agreements, eco-labels and environmental taxes - have had limited impact on national policies. Additionally Kilpatrick and Armstrong (2007) notice that in some cases, the European Union uses soft policies to complement the enforcement of hard law, a combination referred to as hybridity. Directive 2008/1/EC on 'Integrated Pollution Prevention and Control' is a good example of this. This binding piece of legislation is accompanied by a soft tool, the guidance note produced by the European IPPC Bureau, an entity created to establish a dialogue between member states and industries and to provide support and information about the implementation of the directive. Therefore it seems that new policy instruments or hybrid instruments have become common in EU policy-making. Yet limited literature has analysed the impact of new policy instruments at the local level and in particular related to urban transport.

3.5.3 Evolution towards an increased use of soft instruments

As described in the previous chapter, at its inception EU environmental and transport policy predominantly used binding instruments. From the 1980s non-binding instruments started to become popular across the EU, particularly in environmentally aware countries like Germany (Böcher, 2012). This is likely to have permeated in EU policy-making and from the 1990s the use of soft instruments started to increase (Heritier, 2001; Jordan & Jeppesen, 2000; Jordan, Wurzel, Zito, *et al.*, 2003; McCormick, 2001). The 2001 White Paper on European Governance confirmed the gradual change towards the integration of non-binding instruments in the 'Community's method', it notably states that:

> "The Union must renew the Community method by following a less top-down approach and complementing the EU's policy tools more effectively with non-legislative instruments." (European Commission, 2001, p.4)

According to Atkinson, this White Paper could mark the rejection of "the top-down imposition of policy and emphasize(s) cooperation and a non-binding mode of operation" (Atkinson, 2002, p.784). As a result, the use of regulations became less common. However, directives have still been commonly adopted and were even explicitly encouraged by the 1999 Amsterdam Protocol (European Union, 1997). What seems clear is that the 2001 White Paper marked a clear change and indicated the will to institutionalise and foster the use of non-binding EU instruments. From the 2000s the uptake of soft tools occurred relatively quickly in the field of EU environmental policy (European Commission, 2001; Héritier, 1996; Jordan, Wurzel, Zito, *et al.*, 2003; Weale, 1996), whereas it has emerged more gradually in transport policy (Halpern, 2013).

Scott and Holder (2006) refer to a new approach to federalism in the EU, "experimentalist federalism", in the context of environmental policy on water quality and planning. This approach provides a more convincing alternative to the, rather outdated, *naïve instrumentalism* theory, that argues that politicians choose policy instruments depending on the problem they have to solve (Böcher, 2012, p.15). The "experimentalist federalism" approach is based on collaboration and multi-level

governance and gives importance to softer forms of policy and law. It is antagonistic to the classic community method which tends to be based on hierarchical policy structures and binding law.

Limited studies have tested these theories in the field of urban transport. Halpern (2013) notices that in the context of urban transport a wide range of EU instruments, mainly non-binding have been used. The gradual integration of soft tools in the field of transport policy was reflected in the 2006 mid-term review of the White Paper. The need for a "broader, more flexible, transport policy toolbox" (European Commission & DG Energy and Transport, 2004) is highlighted. Thus, even though this field remains relatively unexplored, it seems that the use of soft policy instruments has become increasingly popular in EU urban transport policies.

3.5.4 Conclusion

A brief overview of the literature on soft, hard law or new policy instruments demonstrates that theories on EU policy instruments are very informative and useful in the context of this investigation. They are going to be used to assess the impact and effectiveness of different policy instruments on urban transport policy in different EU cities. This provides an important context in which to test theories in the context of EU transport policies, notably that developed by Trubek and Trubek (2005). In other words this offers an opportunity to see whether soft law or, more precisely, the Open Method of Coordination (OMC), as described by Scott and Trubek (2002), offers an effective way to reduce barriers to cooperation and that it is therefore a better option than binding agreements. Theories on hard and soft law can be applied in order to establish which form of law is more appropriate depending on the context, and analysing whether OMC can be the precursor to harder forms of law. However, the relative lack of literature in relation to hard and soft law's impact at the urban level, particularly in relation to transport, limits the contribution of this field of study to this research.

3.6 Principle of Subsidiarity: the elephant in the room

3.6.1 Introduction and definition

The lack of academic work in the field of EU urban transport policy mainly reflects the lack of direct EU policies in the field. The EU does not have an institutionalised urban transport policy (as described in Chapter 2, section 2). As discussed further below, the lack of direct policy action in the field of urban mobility is mainly due to 'subsidiarity issues'. This section explores the meaning of subsidiarity, explains the importance it has for this study and discusses the implications for environmental and transport policies in the EU.

Defining the principle of subsidiarity is the object of many debates and controversies within academia and within the EU political arena. It is officially defined by article 5 of the Treaty establishing the European Union:

> "The Union shall act only if, and in so far as, the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level" (European Union, 2012, article 5)

A further, slightly more explicit, definition is provided by the European Foundation for the Improvement of Living and Working Conditions, a European Union body. It states:

> "The principle of subsidiarity regulates the exercise of powers in the European Union. It is intended to determine whether, in an area where there is joint competence, the Union can take action or should leave the matter to the Member States. The subsidiarity principle is based on the idea that decisions must be taken as closely as possible to the citizen: the Union should not undertake action (except on matters for which it alone is responsible) unless EU action is more effective than action taken at national, regional or local level."(Eurofound, 2010).

At a first glance, these definitions sound relatively simple, yet the meaning of the principle of subsidiarity has been the object of a long and controversial debate. This section examines the complexity of the principle of subsidiarity and the key elements at stake as discussed in the literature.

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In the long history of conflict of power between the EU entities and member states, the principle of subsidiarity was introduced to protect member states from losing too much power and control over decision and intervention (Estella de Noriega, 2002). Peterson (1994) and Jordan (2000) argue that the concept of subsidiarity in the EC (European Community) policies was first included in the 1987 Single European Act to justify EC action in the field of environmental protection. The principle was further established by the treaty of Maastricht (Collier, 1997b; Golub, 1996; Jordan, 2000). From the late 1990s the principle of subsidiarity implied that any action taken by the Commission should be justified and, unless the Commission brings an 'EU added value', it should not legislate. Jordan (2000) interprets this change as an opportunity for member states to reshape the definition to further protect their sovereign rights. In 1999 the "Protocol on the application of the principles of subsidiarity and proportionality" was established and aimed to clarify the meaning of the subsidiarity principle. Interestingly the protocol acknowledges that subsidiarity is a "dynamic concept" which depends on the circumstances and which pushes the EU to better justify its action (European Union, 1997). In 2009, the Treaty of Lisbon 'strengthened' the principle by officialising the intention of establishing a system for monitoring the application of the principle and gave national parliaments greater capacity to do so (Eurofound, 2010). Even though the protocol and the Lisbon Treaty brought some clarification, it purposely maintained the "suit any vision" characteristic of the definition (Peterson, 1994). Thus the official meaning of the principle of subsidiarity contains an inherent malleability and flexibility.

3.6.2   Different interpretations

Most studies highlight the fact that the definition of the principle of subsidiarity is unclear and can lead to different interpretations and outcomes (Estella de Noriega, 2002; Golub, 1996; Timms, 2011; Toth, 1992). Toth (1992) is very critical of the principle, first because of its lack of clarity and second because Toth argues that in the long term it would diminish the Commission's competences and power. Although this argument seems exaggerated and has not been proven, claims made that the lack of clarity and precision in the definition of the principle lead to confusing political interpretations and legal ambiguity, are convincing (Estella de Noriega, 2002; Toth, 1992). This lack of accuracy affects particularly environmental

legislation as it is a field where member states tend to be protectionist. Indeed, Golub argues (1996), national governments often invoke the principle of subsidiarity to prevent the Commission from legislating in areas falling within environmental policy, especially in Britain.

Scholars who have written about the principle of subsidiarity generally agree that the concept lacks clarity and explanation. In which situations should EU action be preferred compared to National? Under which criterion do policy makers decide that a policy is better handled at the local level rather than the EU level? All these questions are crucial in the field of environmental and transport policies. The principle of subsidiarity has been described by many as a Janus-faced concept which can be interpreted in different ways under different circumstances (Collier, 1997b; Golub, 1996; Jordan & Jeppesen, 2000; Peterson, 1994, 1994; Teasdale, 1993).

3.6.3   Subsidiarity and Environmental policies

Many authors have debated the interpretation of the subsidiarity principle applied to environmental policies (Wils, 1994). Golub (1996) claims that the principle can be interpreted in two contradictory ways. On the one hand it can be used to legitimise EU regulation in environmental law and policy, by stating that environmental threats are better handled at the supranational level. On the other hand, member states can claim that environmental issues are specific to a territory and therefore better managed at the national or subnational level. These two different interpretations can lead to confused policy making in the field of EU environmental policies.

Some scholars acknowledge that the evolution of the concept of subsidiarity is concomitant with political changes in the political arena (Jordan, 2000). As stated by Jordan and Jeppesen: "Subsidiarity […] is not an independent cause of policy change." (2000, p.73). Therefore the concept of subsidiarity is primarily a political one; it is a rule which balances powers within the EU (Jordan, 2000; Lenaerts, 1993; Peterson, 1994). Thus there is a strong correlation between the definition and political use of the subsidiarity principle and environmental policy making in the EU.

According to some scholars the use and definition of the subsidiarity principle is necessary in EU environmental policy. Backhaus (1999), for example, argues that the principle of subsidiarity benefits environmental policy and makes sense in the

context of a multi-level governance entity. However, little evidence is provided to support his argument. According to Ederveen and others (2006) the principle of subsidiarity is used by member states to juggle the alternating requirements of centralisation and decentralisation as needed and is somehow necessary. However, this implies that the principle of subsidiarity can be used very subjectively whenever a member state decides what seems contradictory to well organised EU governance. Golub (1996) argues that EU action in the field of environmental policy is not always justified, particularly issues that are not trans boundary or do not affect the internal market. However, EU action should be justified whenever a member state lacks policies or law in a certain domain. For example, Golub (1996) argues that an EU intervention to further protect the fauna and flora is not justified and should be left to the national authorities to deal with. However, one can also argue that the EU's action in this field is justified given the limited policies existing in member states to protect the fauna and flora, hence the need for a harmonised policy at the national level. Therefore the protection of the common good or the necessity to act when faced with member states inaction justifies EU intervention.

3.6.4 Subsidiarity and urban transport policies

Subsidiarity applied to EU urban policies is a very sensitive issue. Yet limited literature discusses it, particularly in the field of transport. The 2007 Green Paper on urban mobility raises the issue faced by the EU in relation to urban transport policies:

> "European towns and cities are all different, but they face similar challenges and are trying to find common solutions. Throughout Europe, increased traffic in town and city centres has resulted in chronic congestion, with the many adverse consequences that this entails in terms of delays and pollution. […] While it is true to say that these problems occur on a local level, their impact is felt on a continental scale: climate change/global warming, increased health problems, bottlenecks in the logistic chain, etc." (Commission of the European Communities, 2007, page 3)

The dilemma described by the commission in the Green Paper implicitly mentioned the subsidiarity principle. On the one hand, subsidiarity prevents the commission from initiating urban policies; on the other hand, problems generated by cities cross boundaries and have global repercussions.

In 1998 the EU Commission provided a clear definition of what the subsidiarity principle implies for urban policies in its communication entitled 'Sustainable urban development in the European Union: a framework for action'. It states:

> "Subsidiarity provides for decision-making at the lowest appropriate level. EU actions in urban areas will be most effective when they complement national, regional and local actions and bring a Community added value. The EU should take action that cannot be taken at a lower level with the same effectiveness and cost. In general, it should render the framework of EU policy more responsive to urban needs and create tools that cities and towns can use to their own benefit. It should also encourage member states to apply subsidiarity at home. Participation, accountability and local capacity are necessary conditions to make subsidiarity effective." (EU Commission, 1998, p.4)

This definition is a real call for increased democracy and enhanced levels of participation at the sub-national level. In addition, the Commission defends a vision of subsidiarity that implies cooperation across all levels of government. However, once again, it is just one interpretation of the subsidiarity principle and it is not the definition written in the treaties.

Timms (2011) is one of the few authors who has analysed this dilemma in the field of urban transport. Timms (*ibid.*) notices that the meaning of the principle of subsidiarity can vary according to whether it refers to aims, objectives or instruments. Timms suggests that if the EU is to achieve its ambitious targets in the field of CO_2 emissions and air quality, it might need to play a "stronger role" in the field of urban transport (2011, p.514). One of Timms´ recommendations to the EU is to more clearly define what the principle of subsidiarity means regarding urban transport, especially related to CO_2 emissions, pollution and safety. The issue of subsidiarity is going to be addressed throughout this investigation as it is key to comprehend and assess EU policies in the field of urban transport.

3.6.5   Multi-level governance, subsidiarity and sovereignty

The principle of subsidiarity is closely linked to multi-level governance concepts and issues of sovereignty. As stated by Golub: "Within the multi-level governance of the EU, the concepts of sovereignty and subsidiarity are intimately linked." (1996, p.687). The principle of subsidiarity regulates the exercise of power between

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different levels of governance, particularly between the EU level, the national level and the sub-national level. In addition it is often used by member states to protect their sovereignty and to prevent the Commission from regulating. This is well summarised by Jordan: "Subsidiarity addresses the tension between levels of governance over the control of policy making which is a characteristic of all multi-level systems."(2000, p.1313). Therefore subsidiarity is used as a tool to orchestrate power and maintain sovereign rights in the context of a complex multi-level governance system.

In theory, the subsidiarity principle should inform policy makers on when to take action at the EU level or when it is more appropriate to take action at the local level or at the national level. As rightly stated by Lenaerts: "The principle of subsidiarity *sensu stricto* involves the assessment of the need for community action." (1993, p.875). Thus, to address a policy issue on the EU arena, actors across different levels should discuss and define the appropriate action to be taken at the right level or between the right actors. A problem pointed out by Collier (1997b) is that regional and local authorities are not well represented on the EU arena and thus they are not part of the subsidiarity debate, although recently various entities such as the Committee of the Regions, associations such as Eurocities and regional representations in Brussels have filled this gap. Therefore the subsidiarity principle is mainly used to assess whether EU action is justified. Even though all levels of governance are concerned and affected by the decision, ultimately member states make the final decision.

Nation states which are reluctant to sacrifice their sovereignty benefit from the lack of precision of the definition of the subsidiarity principle (Collier, 1997b; Peterson, 1994; Toth, 1992). As highlighted by many, the UK has been the most pro-active member state in making use of the principle of subsidiarity (Collier, 1997b; Golub, 1996; Jordan & Jeppesen, 2000; Jordan, 2000). As stated by Golub (1996, p.689), "Britain saw subsidiarity as a mechanism to limit EC power". Historically, it has been argued that the principle of subsidiarity was mainly established because the UK government wanted the principle to protect their sovereign powers (Eurofound, 2010; Peterson, 1994). Thus the subsidiarity principle was probably established to prevent

EU institutions, mainly the Commission, from making laws that would infringe on sovereign power.

3.6.6 Subsidiarity: recommendations and conclusion

Understanding the principle of subsidiarity is key to assess the impact the EU policies have had and to comprehend the role the EU plays at the local level. This nuanced Janus-faced concept is highly political and lies beneath all policy-making happening at the EU level. It often serves to orchestrate the dispute for power in a multi-level political system. Limited literature has discussed the role of the subsidiarity principle in relation to urban transport policies, yet it is an essential part of the debate on EU urban policies, particularly transport. Studies that have looked at this issue highlight the importance of subsidiarity in the context of urban transport policies.

Even though the subsidiarity principle aims to take a decision "as close to the citizen as possible" (European Community, 1992) and to provide a safeguard for democracy (Collier, 1997b) it is often wrongly used by some member states to protect their national power. However, in Peterson's view, if well implemented, the subsidiarity principle could "help balance democracy with efficiency" and should empower sub-national authorities and help build a "Europe of the Regions" (1994, p.129). Indeed, if well applied, the principle of subsidiarity should involve all actors of the EU multi-level governance system. As stated by Collier: "Subsidiarity must not simply mean relocating powers to the lower levels but should imply the co-operation and co-ordination of activities between relevant levels of government." (1997a, p.55).

3.7 Conclusion

The five concepts analysed provide a useful framework to comprehend EU-policy making and to analyse change. The review of the literature has provided conceptual tools to frame and organize research results and has helped establish a framework within which to analyse and discuss the findings (see chapter 9). Research analysing the impact of EU environmental policies is particularly helpful, especially since this investigation assesses the impact certain EU environmental policies have had.

As illustrated in table 3.2, each concept contributes to the research to some extent. Europeanisation and policy transfer facilitate the establishment of the broad framework whereas multi-level governance, EU policy instruments and the literature on the subsidiarity principle provide more specific conceptual tools. The theoretical concepts discussed in this chapter are used in combination or separately, depending on the context, throughout the thesis.

Theoretical Concept	Contribution to the literature	Contribution to this research
Europeanisation and Policy Transfer	Observe and analyse change, EU mechanisms and EU policy making	Provide the broad framework and offer some tools to identify change generated by EU policies
Multi-level governance	Studies the interactions between EU actors at different levels in a multi-layered system	Provides an effective conceptual framework to inform this research
EU policy instruments	Investigates the variety of tools used in EU policy-making and their impact	Facilitates the assessment of the impact and effectiveness different policy instruments have had on urban transport policy in different EU cities
Literature on the Subsidiarity Principle	Examines the rule, how it is used by different actors, and the impact it has on EU policy-making	Used to understand the nature, power dynamics and barriers of EU urban transport policy

Table 3-2 Contribution of theoretical concepts

This survey of theoretical literature reveals the following important points. The literature on europeanisation offers two interesting approaches to identifying the relationship between local and EU policy. The primary focus of this research is the

top-down perspective. Parts of the policy transfer literature are useful in the context of the CIVITAS and the Covenant of Mayors programme, where cities are encouraged to share knowledge and experience. This research investigates the impact of EU policies at the local level in the context of a multi-level governance system. Close attention is paid to all the actors involved, their interactions, and how one EU policy filters from one level to another. EU policy instruments provide one of the key indicators to draw a comparison between the impact an EU Directive, and EU funding programme and an EU voluntary agreement have had on urban mobility policy making. Last but not least assessing the impact the EU has had in relation to the principle of subsidiarity is going to be an underlying theme in this thesis. Subsidiarity is the subtle rule that orchestrates relationships in the EU arena and it can be a powerful obstacle to initiate EU urban transport policies. However, sometimes the EU can also use the principle of subsidiarity to justify action on urban transport. This controversial subject is politicised and leads to different interpretations.

Limitations

Given the breadth of the topic, not all parts of the political science literature potentially relevant to this topic are represented; instead, the author selects elements of the literature review which are most relevant and useful to achieve the objectives of this research.

Gaps

As further discussed in the following chapters, several gaps were noticed whilst exploring the literature. In general the impact EU policies have had on urban transport has been under-studied. This can be explained by the fact that until the 2000s few EU policies tackled urban transport (Chapter 2). However, as further explained in chapter 4, EU urban transport policies are becoming more significant. This thesis contributes to the field by examining the impact of different EU policy instruments on urban transport. As mentioned, it employs a combination of theoretical frameworks, drawn from different disciplines, mainly political science and law.

Chapter 4   Methods

"There is no uniform approach in the methodology of impact assessment."
(Lichfield, 1996, p.68)

4.1 Introduction

This chapter outlines the research design of this investigation and describes the various methods used to identify and assess the impact EU policies have had on urban transport. This study is primarily based on qualitative methods including interviews - informal, unstructured and semi-structured − content analysis and coding. Even though qualitative research has been criticised for not being sufficiently rigorous, it is widely recommended by an increasing number of scholars, in particular to study processes in the field of political science (Flyvbjerg, 2006; Pawson & Tilley, 1997; Yin, 2003). Quantitative methods were also used to complement and corroborate the results of the qualitative study, primarily through survey analysis. The combination of qualitative and quantitative methods was chosen as it offers a richer understanding of complex issues (Church & Rogers, 2006). Thus, a range of qualitative methods complemented by surveys are best suited to answer the research questions (see section 1.2 chapter 1).

One of the main research methods used in this investigation is qualitative evaluation based on case studies. The value of employing case studies is widely recognised, as stated by Stake:

> "Case studies are of value in refining theory, suggesting complexities for further investigation as well as helping to establish the limits of generalisability." (Stake, 2005, p.460)

Yin (2003) stresses that case studies are particularly helpful to comprehend political and organisational phenomena. Comparing different case studies enables the investigator to obtain an in-depth comprehension of policy processes. Identifying similarities and differences between contexts is useful to explore the hypotheses established in this investigation (see section 1.2 chapter 1).

Semi-structured interviews form the backbone of the qualitative study. As described by Weiss (1994), these are particularly useful when describing processes and when the target group is restricted. In the context of this investigation, the target group is limited to key policy-makers across different levels. For instance, key policy-makers in charge of transport policies tend to be limited to three or four people in most medium size cities in the EU. This limits the scope for quantitative methods in the context of case studies and justifies the use of in-depth interviewing methods.

The limitations of the methods used are highlighted throughout this chapter. Scholars have stressed that one of the main issues in evaluating policy impact is the difficulty not only to measure but to attribute the initiative to specific elements, as there might be many variables (O'Leary, 2005, chap.10). To overcome this difficulty the investigation focuses on testing whether the EU has had an impact on decision, policy-making and planning.

The study has five stages, as illustrated in figure 4.1. This chapter summarises all five in detail. Stage one has researched all EU binding legislation across DGs directly or indirectly relevant to urban transport and has undertaken initial unstructured interviews with a broad range of stakeholders across levels of governance. The project then selected three pieces of EU policy that might have had an impact on urban transport, and two case study cities in each of the UK and France. In-depth semi-structured interviews were conducted at the supranational, national and sub-national level with a range of key stakeholders. Content analysis and coding were used to analyse the results of the interviews and the content of local transport policy documents. Finally, surveys were undertaken across EU cities to complement and corroborate the result of the qualitative analysis.

Stage 1
Identifying EU policies that have had an impact on transport

Stage 2
Selecting case study 'policies' and 'cities'

Stage 3
Undertaking semi-structured interviews

Stage 4
Content analysis of interviews and policy documents

Stage 5
Undertaking surveys across the EU
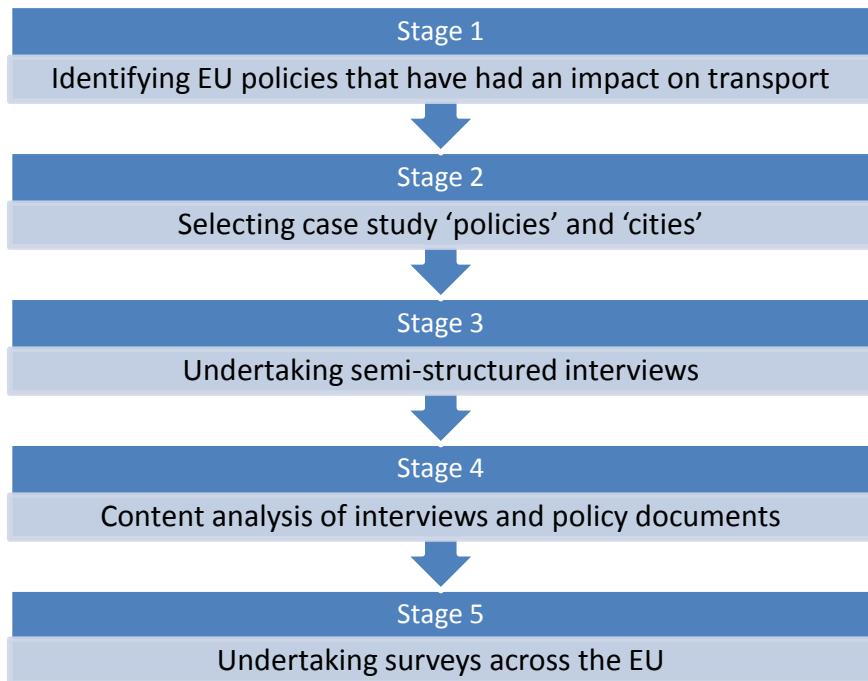
Figure 4-1 Methods: five stages

4.2   Identifying EU policies that have had an impact on transport

Phase one of the research aims at establishing an overview of the potential impact EU policies have had on urban transport. Two key methods are used. First, a systematic analysis of key EU policy documents is conducted. Second, initial interviews are undertaken to gain a comprehensive understanding and prepare the semi-structured questionnaire and in-depth interviews.

4.2.1   Searching through EU binding policies

The first part of this phase aims at mapping out EU legislations across all Directorate Generals (DGs) which have a direct or indirect effect on urban transport. Data for the research come from, in the first instance, the official web interface of the European Union called EUROPA in a sub section named 'Summary of EU legislation'. The sub-section provides a summary of 3,000 pieces of EU legislation divided into areas corresponding to each directorate general such as public health or enterprise. Each piece of legislation possesses a link directing it to EUR-LEX, an interface providing access to more than 2,815,000 EU documents with texts dating back to 1951. To

validate this analysis, results from the Commission's website and 'Eltis, the EU mobility portal' were used. Subsequent amendments to legislation have not been counted as additional pieces of legislation. The research attempted to examine non-binding policies, however, the online information provided by the Commission was not sufficiently comprehensive for reliable analysis. Thus, this part of the research focused on binding pieces of legislation. Content analysis is then applied to each piece of legislation to determine whether it makes direct or indirect references to urban transport. Further detail is provided in section 5.3 of chapter 5.

4.2.2 Initial interviews

Initial interviews provide an informative overview, and help 'test' and frame the questionnaire. In 2010 and 2011 a total of 20 unstructured interviews were conducted with a range of stakeholders across levels of governance, as illustrated in tables 4.1 and 4.2. The aim of these interviews was to gain a general understanding of the potential impact EU policies have had on urban transport. These interviews helped frame the structure of the research. The selection of the case study instruments and cities and the design of the questionnaires for the semi-structured interviews is based on the results of the initial interviews. These interviews were conducted off-the record and do not form part of the core analysis. Notes taken during these interviews informed the initial results. In addition, through these initial interviews key stakeholders were identified and contacted through recommendations. This exploratory phase of the research included the city of Madrid, Spain, to ensure that the themes of the research were not too specific and that the questionnaires were widely applicable.

Supranational level	National level
EU Commission DG Move o 2 participants	**UK Government** DfT– European policy o 1 participant
EU Parliament TRAN Secretariat o 1 participant	**French Government** France Representation to the EU - Transport o 1 participant
	Spanish Government Environment Minister – Air Quality o 1 participant

Table 4-1 Initial interviews - participants at the supranational and national level

Local level	Academia
Madrid Transport policy o 4 participants Planning o 1 participant Sustainability o 1 participant	**UCL** Public policy o 2 participants
London Greater London Authority – European Office o 1 participant London European Partnership for Europe o 1 participant	**Sheffield University** Politics o 1 participant
Cardiff Bus Users UK in wales o 1 participant	**University of South Wales** Transport o 1 participant

Table 4-2 Initial interviews - participants at the local level and academics[1]

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[1] Additional interviewee in the UK: Campaign for better transport

In addition, in September 2010, during the annual CIVITAS forum conference - a networking event involving hundreds of policy makers - a series of informal discussions were undertaken with a dozen policy-makers and politicians. These discussions complemented the initial interviews. These initial interviews and informal discussions formed the preparatory work leading to phases two and three of the research.

4.3   Selecting case study 'policies' and 'cities'

Phase two of the investigation consisted of selecting three EU policies as case study themes and four case study cities. This section provides details regarding the choice of case study 'policies' and 'cities' and some relevant background information, in particular regarding the case study cities.

4.3.1   Three case study instruments

Phase one helped identify case study instruments. The preliminary interviews with key stakeholders led to the selection of three case study instruments:

1.   the **directive 2008/50/EC on ambient air quality**, a binding instrument initiated by the Directorate General (DG) for the Environment
2.   the **Covenant of Mayors** , a voluntary programme established by DG Energy
3.   the funding **programme CIVITAS**, part of the seventh framework programme for research and technological development, initiated by DG MOVE

Each of these EU policies was selected because it has the potential to have an impact, directly or indirectly, on urban transport policy. Each focuses on a policy area: the directive 2008/50/EC is related to environmental and health policy, the Covenant of Mayors tackles CO_2 emissions, and the CIVITAS programme initiates practical urban transport projects. The choice of these three case studies allows comparison between different policy and legal EU instruments, namely binding, funding programme and voluntary agreement. Furthermore, it allows the study to examine whether policies initiated across different policy areas – mainly environmental,

climate change/energy and transport - have had a similar impact at the local level. Additionally, the range of case studies is useful to compare different EU policies in the context of a multi-level governance system. Figure 4.1 illustrates how these three pieces of legislation interact with the remainder of the legislative and policy framework, in the context of multi-level governance. The functioning of each piece of policy is detailed in chapter 5, 6, 7 and 8.
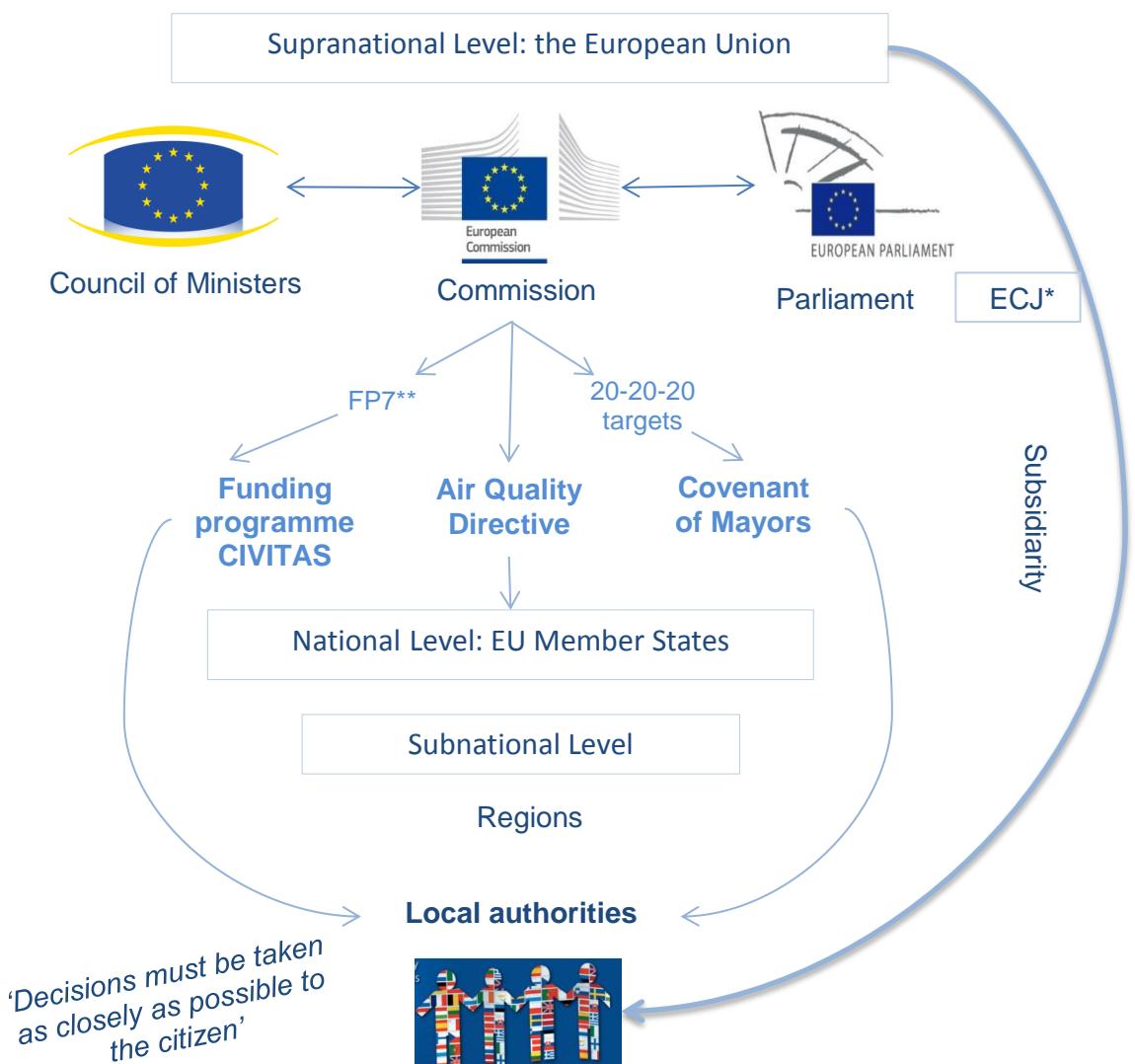
Figure 4-2 Case study instruments in a multi-level governance context

* ECJ stands for European Court of Justice
** FP7 stands for Seventh Framework Programme for Research and Technological Development

4.3.2 Four case study cities

In-depth research has been carried out in the United Kingdom, a country known as a Euro-sceptic (Gifford, 2010), but an EU member since 1973, and France, a founding member with a long history as a member state and traditionally 'pro-European'. These two countries have been selected because each of them has a complex and subtle relationship with the European Union. Both countries are comparable in terms of administrative structure, since they both have centralised systems. However, a number of cultural, political and geographical differences are instructive in highlighting the effectiveness of EU policies and the barriers to wider implementation.

In each country two cities have been selected. In the UK these comprise two unitary authorities: the city of Bristol which was involved in CIVITAS I, and the city of Cardiff which was not involved in any EU programme related to urban transport. In France, these comprised the city of Toulouse, a CIVITAS II city and Bordeaux which was not involved in any EU transport funding programme. All four cities are signatory cities of the Covenant of Mayors. The results of the initial interviews (see section 4.2.2) suggested that selecting comparable medium size cities was a sensible choice. Capital cities tend to be less comparable as they often have unique characteristics - such as London with its distinctive administrative structure (comprising the Greater London Authority and the Transport for London) – and small size cities are usually less affected by urban transport problems. Participants initially interviewed recommended several comparable cities in the UK and in France. Recommendations pointed towards Toulouse and Bordeaux in France and Cardiff and Bristol in the UK. These pairs of cities were chosen because they are broadly comparable in size, population and administrative structure, as illustrated in table 4.3. The geographical location of the case study cities is illustrated in figure 4.2. These four cities present interesting comparable and contrasting characteristics. Participants highlighted that these cities perceive themselves as a political 'rival' or 'neighbour' within each country and tend to compete against each other or use each other as a reference. The four case study cities are broadly representative of medium size cities in the UK and France. In the context of this thesis, medium size cities represent cities that have between 100,000 and 500,000 inhabitants, as categorised by

Giffinger *et al.* (2007, p.3). In the EU the majority of the citizens live in medium size cities representing approximately 260 million inhabitants out of approximately 500 million inhabitants in the EU (*ibid*).

It is important to note that due to limited human and financial resources the in-depth analysis undertaken in this thesis is limited to four case study cities in two western European countries. The author of this thesis was the only researcher in charge of undertaking all the semi-structured interviews and conducting the analysis, therefore the number of in-depth case study cities had to be limited to four cities where the author was familiar with the local language. Furthermore, in order to complement the results of the in-depth case studies, collaboration with other Brussels based organisations was established to undertake EU wide surveys, as further described in section 4.6. However, the list of cities to which the surveys were sent to was constrained by what the organisations could offer.

	Bristol	Cardiff	Toulouse	Bordeaux
Country, Region (or equivalent)	UK, South West of England	UK, Wales	France, Midi-Pyrénées	France, Gironde
Population (inhabitants)	437,500[1]	346,100[2]	447, 340[3]	242, 945[4]
Population wider administrative area (inhabitants)	1 million[5]	1.4 million[6]	950 000[7]	720 000[8]
Administrative structure	Unitary Authority	Unitary Authority	Collectivité territoriale[9]	Collectivité territoriale
Collaboration with neighbouring councils	West of England Partnership	South East Wales Alliance	Communauté Urbaine[10] Grand Toulouse	Communauté Urbaine de Bordeaux (CUB)
Local transport plan (or equivalent) -date	Yes - 2011	Yes - 2010	Yes -2012	Yes – 2000 ('following' report 2008)
CIVITAS demonstration programme **CIVITAS forum membership**	CIVITAS I Member of the CIVITAS forum	Member of the CIVITAS forum	CIVITAS II Member of the CIVITAS forum	Member of the CIVITAS forum
Covenant of Mayors	Signatory	Signatory	Signatory	Signatory
Air pollutants exceedance	N02; PM10	N02	N0; PM10	N02; PM10

Table 4-3 Four case study cities

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1 Bristol City Council mid-2013 population estimate

2 Office for National Statistics 2011 Census

3 Institut National de la statistique et des études économiques – 2011 Census

4 Site official de la ville de Bordeaux – 2010 Census

5 Source: Joint Local Transport Plan 3 2011- 2026

6 Source: South East Wales Transport Alliance Regional Transport Plan – 2010

7 Source : Plan de deplacements urbains de la grande agglomeration toulousaine 2012

8 Source: Observatoire du plan des deplacements urbains – 2008

9 Equivalent to a unitary authority

10 An urban community consists of a city and its independent suburbs

The choice of these four cities allows the use of a combination between a 'most similar systems design (MSSD)' and a 'most different systems design'. As described by Faure (1994, p.310), the most similar systems design is "a method for dealing with differences in similar cases". In other words, it consists of selecting comparable case studies with one key difference (Anckar, 2008). This method has been used to examine the impact of CIVITAS. The investigation studies differences between four similar cities, two that have been a demonstration city within CIVITAS (Bristol and Toulouse), and two that have not (as illustrated in figure 4.2). The MSSD is useful, particularly in the case of CIVITAS. According to Anckar (2008) the MSSD can also be used, to some extent, to compare cases with differences on a number of variables. Thus, it is also useful to compare the impact the air quality directive and the Covenant of Mayors have had in the four case study cities.

On the other hand, by selecting four different cities the investigation is, to some extent, using the 'most different systems design', "a method for dealing with differences in different cases" (Faure, 1994, p.315). The investigation has observed whether there is any convergence between the four case study cities in relation to the study of the impact of air quality policies, CO_2 emissions policies, in particular the Covenant of Mayors, and the CIVITAS forum. The combination of these two methods is strongly encouraged by Anckar (2008) as having the "ability to eliminate a large number of potentially relevant explanatory variables from further analysis" (Anckar, 2008, p.400).
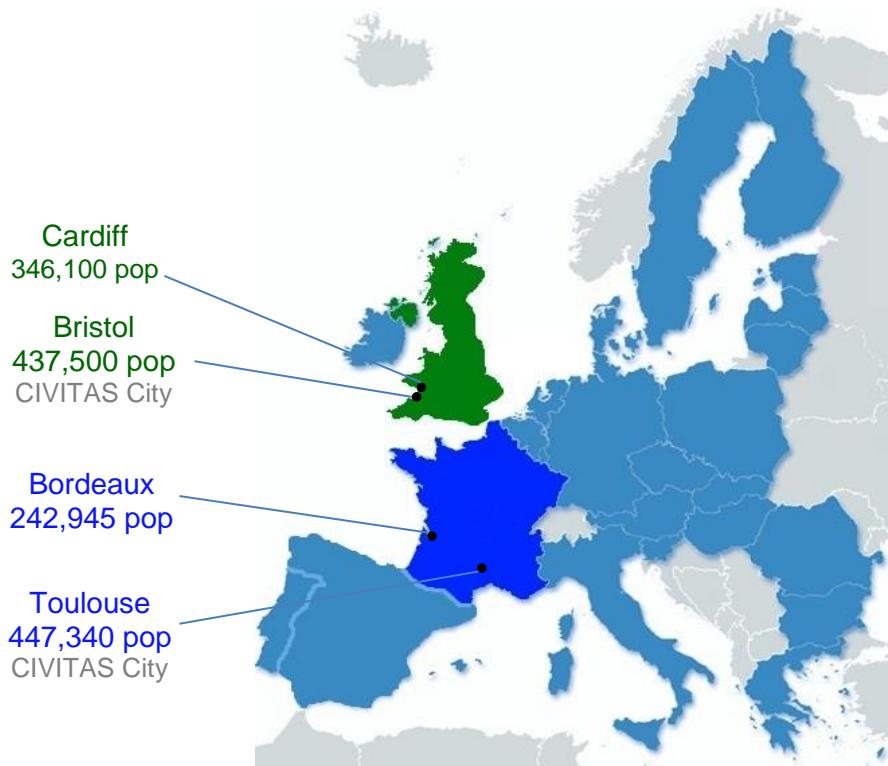
Figure 4-3 Case study cities (pop means population)

4.3.3 Background information on case study countries and cities

This section provides some background information to highlight the key similarities and differences between the four case study cities. As illustrated in table 4.3, the four cities have developed local transport plans or equivalent. In the UK and France, local transport plans have been compulsory since the 2000s (starting in 1996 in France) for cities of more than 100,000 inhabitants. In France, alongside the local transport plans, a number of urban planning plans have been established by the government to encourage integrated planning policies. These various urban plans are described in table 6.1, in chapter 6. In comparison, UK cities have limited centralised planning policies. A further difference worth noting is that, compared to British cities, French cities have more financial autonomy. This is mainly due to the fact that in France, local authorities are able to levy a tax on local businesses to subsidise transport policies. For instance, in Toulouse approximately 40% of public transport funds are

obtained through a tax that local companies pay to the local administration (Senat, 2014). In the UK, the majority of the funding available to local authorities emanates from the central government (UK government, 2012). Thus, British local authorities have more restrictions in relation to urban transport spending. Another difference worth noticing is the fact that even though both the UK and France are quite centralised countries, in the UK the devolved administrations have substantial autonomy. In the case of Cardiff, the Welsh government has had independent legislative powers since the establishment of the Government of Wales Act in 2006 (National Archives, 2006). Laws and policies decided by the UK government are managed by the Welsh government. Thus, Cardiff presents an interesting case study that involves an additional layer of government in between supranational institutions and local authorities.

Toulouse

The city of Toulouse, so called "intra muros"[1], is restricted to approximately 450,000 inhabitants. However, the majority of the policies in Toulouse, are managed by the 'Grand Toulouse'[2] which covers 118 peripheral smaller 'communes' (local administrations), and has 950 000 inhabitants. The mayor of Toulouse is the president of the 'Grand Toulouse', providing the city of Toulouse with substantial influence over the Grand Toulouse's policies. In Toulouse, unlike in the other case study cities, an independent public entity was established (in 2002) to manage urban transport. Tisseo is an 'Autorité Organisatrice de Transport Urbain' (Authority in charge of organising public transport), under the umbrella of the Grand Toulouse, which covers the majority of the Grand Toulouse territory. It is responsible for establishing local transport plans. In the context of this investigation, transport policy-makers at Tisseo were interviewed and policy-makers across other policy areas in the 'Grand Toulouse' (see section 4.4). As illustrated in red in figure 4.3, Toulouse has two lines of Metro; the first one was built in 1993 and the second one in 2003 to respond to the substantial demographic increase. Since 2010 it also has a tramway.

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[1] Meaning inside the old walls of the city
[2] An urban community
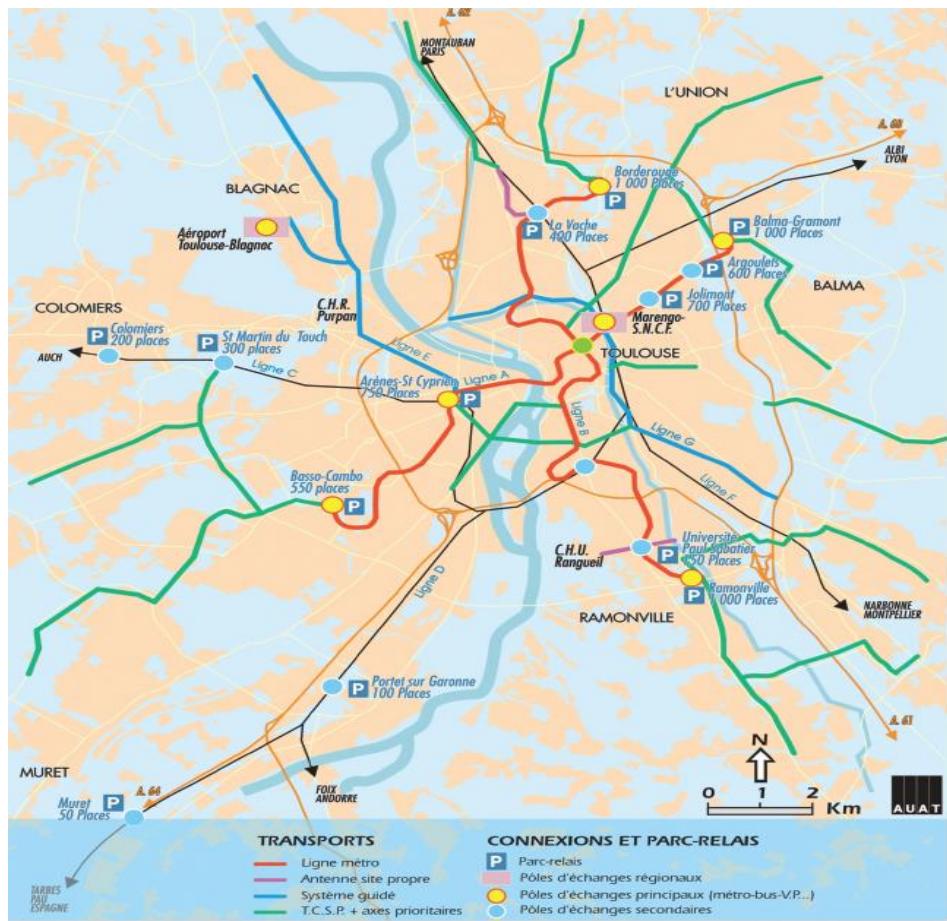
Figure 4-4 Map Public Transport Toulouse. Source : Plan de deplacements urbains de la grande agglomeration toulousaine (2012)

It is worth mentioning that Toulouse is a city that has been involved in several EU projects in addition to CIVITAS including the 'Mi Ciudad' and the 'Rehabitate'. A unit within the Grand Toulouse is dedicated to international and European affairs and one person within Tisseo is in charge of European projects. As will be mentioned in chapter 8, participants reported that the Tisseo team in charge of European policies (composed of two policy-makers), was established in the context of the CIVITAS demonstration project MOBILIS (2005-2009). This team of technicians has been very pro-active in engaging in EU projects, in collaboration with the European team at the Grand Toulouse. As a result, Toulouse has been involved in several city networks (e.g. Eurocities or Polis) and has applied for and has participated in various European funding projects (e.g. the SUMOBIS project from 2007 until 2013). Finally, several participants mentioned that Toulouse and Bordeaux are good case

studies to compare since they are often perceived as being 'political rivals' and tend to compare each other.

Bordeaux

In Bordeaux, as in Toulouse, the urban community 'Communauté Urbaine de Bordeaux (CUB)' is in charge of most policies, including transport. As in Toulouse, the mayor of Bordeaux is the president of the CUB, which gathers 28 smaller neighbouring 'communes' and has 720 000 inhabitants[1]. Within the CUB a 'mobility unit' divided into two sub-units (planning and implementation) is in charge of managing transport policies. In the context of this investigation, transport policy-makers from both units were interviewed, and policy-makers across different policy areas in the CUB. In addition, policy-makers from the urbanism agency, 'l'a'urba', a public entity established in 2010 under the umbrella of the CUB, were interviewed. Since the mid-1990s, under the influence of the mayor Alain Juppé, the city of Bordeaux has undergone substantial urban changes, as confirmed by several participants in Bordeaux. Alain Juppé, who became Bordeaux's mayor in 1995 (until 2004) and was re-elected in 2006, has had a strong political vision for urban transport in the city of Bordeaux and its periphery. Under Juppé, major urban regeneration schemes were initiated, with urban transport as a central element. The main highlight has been the establishment of a tramway system in 2003, now symbol of the city of Bordeaux, as illustrated in red and purple in figure 4.5.

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[1] Source: http://www.lacub.fr/
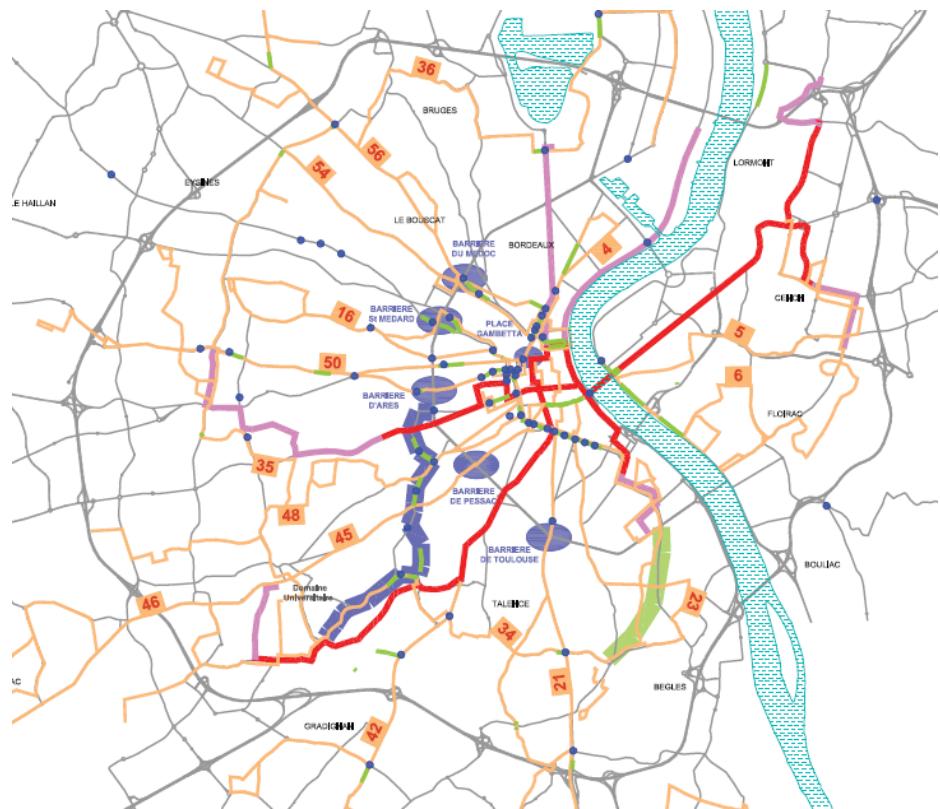
Figure 4-5 Map Public Transport Bordeaux. Source: Observatoire du plan des deplacements urbains – (2008)

CARREFOURS PRIORITE BUS
ZONES PRIORITAIRES A TRAITER
ITINERAIRES PRIORITAIRES A TRAITER
SITES PROPRE BUS PREVUS PAR LE PDU
COULOIRS EXISTANTS 17233 KM
TRAMWAY 1° PHASE 24.600 KM
TRAMWAY 2° PHASE 18.700 KM
LIGNES STRUCTURANTES SUR REASEAU TBC

Unlike Toulouse, Bordeaux has not been involved in many EU projects. Within the CUB, only one person is responsible for European policies. Participants interviewed admitted Bordeaux's lack of involvement, and to some extent lack of interest, in European projects. Some interviewees explained that Bordeaux's 'culture' has never been 'involved' in European policies, but rather 'inward looking' or focused on local policies.

Bristol

Bristol has been a unitary authority since 1995 and has an estimated population of 437,500 inhabitants. Most transport policies are managed by the city council's transport department. However, increasingly, transport policies are jointly managed through the 'joint transport executive committee' of the West of England Partnership

with three neighbouring local authorities: Bath, North Somerset and South Gloucester. The West of England Partnership represents approximately 1 million inhabitants. The first joint local transport plan between the four local authorities was established in 2006 and covered the period 2006-2011. In Bristol city council, key policy-makers in charge of transport policies were interviewed, including policy-makers involved in the 'joint transport executive committee'. In addition, policy-makers in charge of environmental and sustainability policies were interviewed (further detail in section 4.4).

Since the 1990s Bristol's politics started prioritising environmental and sustainability issues. In 2007 a unit in charge of environmental and sustainability policies, including climate change and air quality, was established. As a result, sustainable transport projects have been developed, in particular related to cycling. Moreover, rail facilities and infrastructure connecting the West of England Partnership authorities have been developed, as illustrated in figure 4.5. Several participants mentioned that the city of Bristol started to give increasing importance to EU policies related to sustainable mobility under the influence of the city council's leader, Helen Holland. Holland has been councillor and leader of the labour group since 1991, Commissioner for transport from 2002 and 2008, and leader of the Council from 2007 until 2009. Many participants reported that under the influence of Holland, and her team of transport policy-makers, the city of Bristol positioned itself as a progressive European city and as a 'European leader and champion' of sustainable mobility. Since the 2000s the city of Bristol has been actively promoting the use of public transport, walking and in particular cycling in the city. One of Bristol's limitations is the fact that the majority of the local buses are run by private operators, primarily 'First Bus'.
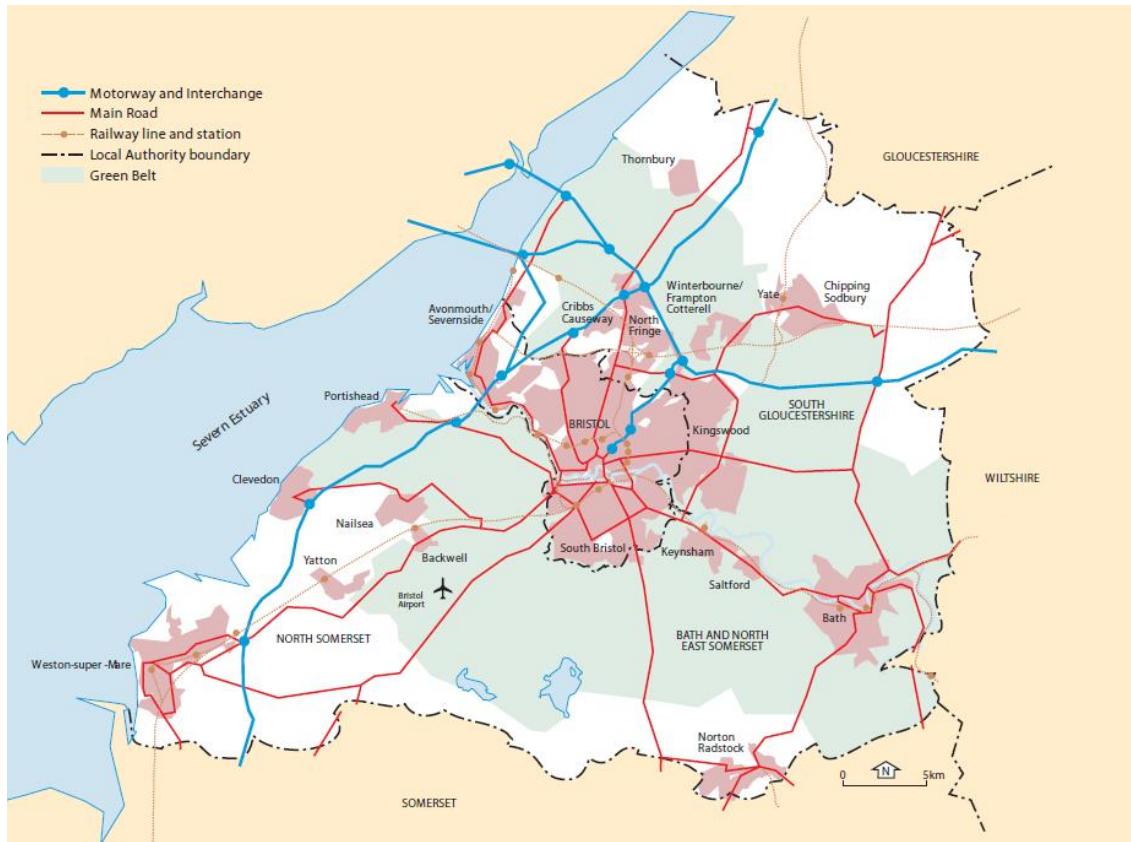
Figure 4-6 Map transport Bristol. Source: Joint Local Transport Plan 3 2011- 2026

The city of Bristol has been involved in several EU projects, in particular in the 2000s. At the beginning of the 2000s a 'European Project' team was established and proactively sought to participate in EU projects and obtain EU funding. However, since the change of local government in 2005, the European Team was abandoned and the transport policy team has been slightly less involved in EU transport projects. Despite this change, the city of Bristol still participates in EU initiatives such as the Green Capital Awards, and the city has obtained EU funding through programmes such as ELENA (as described in chapter 6 and 7).

Cardiff

Cardiff is a unitary authority, the capital city of Wales, a devolved administration that has had increasing legislative and political powers since 1998, including in the field of transport. The Welsh Assembly government distributes transport funding to local authorities in Wales, including Cardiff. As in Bristol, the city council is the entity responsible for managing most transport policies. Similar to Bristol's situation,

transport links between Cardiff and neighbouring authorities are jointly managed through a sub-regional entity, the South East Wales transport alliance. The South East Wales transport alliance includes 10 local authorities and represents close to 1.4 million inhabitants. Even though the South East Wales transport alliance influences transport policies in Cardiff, the city council remains the main actor in transport policy in Cardiff. In Cardiff, a range of policy-makers from the city council have been interviewed, in particular in the transport and sustainability units. Policy-makers at the Welsh levels have also been consulted.

Unlike Bristol, Cardiff's local authority owns and runs the majority of the local buses within the city, as illustrated in figure 4.7. Sustainability policy has been given increasing importance in Wales and Cardiff. Cardiff's city council has a sustainability unit in charge of climate change and air quality policies since the 2000s.
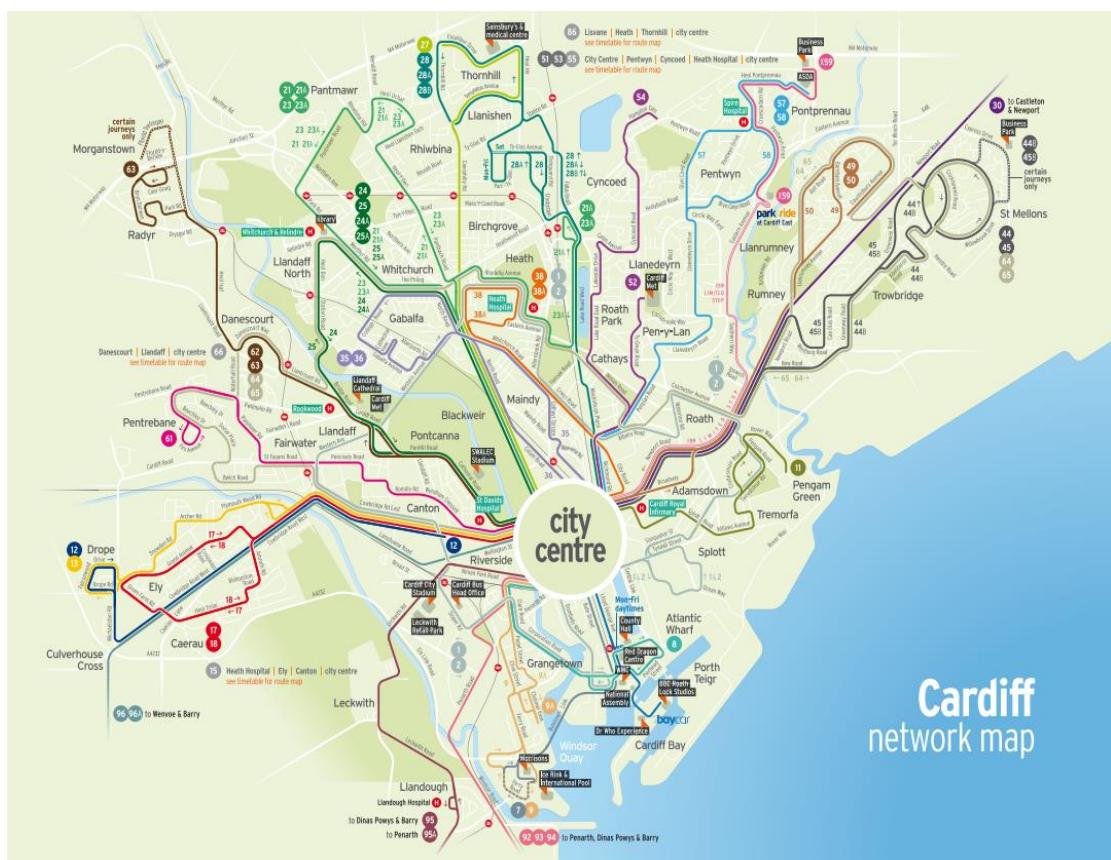
Figure 4-7 Map bus network Cardiff. Source: http://www.cardiffbus.com/ (2014)
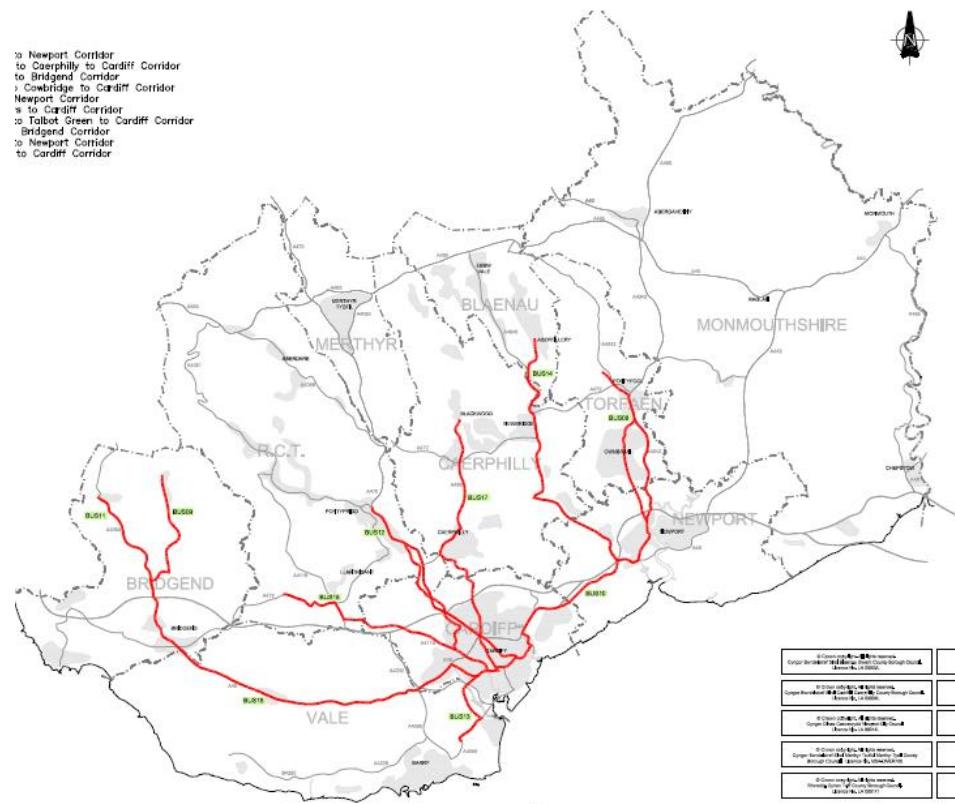
Figure 4-8 Map of buses Cardiff and Region. Source: South East Wales Transport Alliance Regional Transport Plan – 2010

The Welsh Assembly has a European funding office that manages and distributes EU structural funds. The city of Cardiff also has a European team, dedicated to finding European funds and establishing European links. However, even though Cardiff benefited from structural funds for regeneration projects in the 1990s, since the 2000s it has only been involved in a few European projects. Interestingly, and despite what has just been mentioned, Cardiff aspires to be a European city (Media Wales, 2006) and often compares itself with the city of Bristol.

Conclusion

Key differences and similarities between the four case study cities have been highlighted. Overall, the four cities have similar population and administrative characteristics. Each of the four medium size cities is the biggest city in its region, in the case of Cardiff it is also the capital city of Wales, a devolved administration.

Some administrative differences are noticeable between French and UK case study cities. In Toulouse and Bordeaux the urban Community is more politically integrated than in Cardiff and Bristol. As a result, the city of Toulouse and Bordeaux have slightly less autonomy over transport policies in their city, compared to Bristol and Cardiff whose partnership with neighbouring authorities is less politically significant. In the French case study cities, transport policy is almost exclusively managed by the urban community, whereas in Bristol and Cardiff the city council's transport department remains the main actor in charge of transport policy in collaboration with neighbouring authorities. Nevertheless, the mayors of Bordeaux and Toulouse remain the most influential decision makers within the urban community. Another difference worth pointing out is the fact that in Toulouse and Bordeaux, the local authorities have more control over public transport than in Bristol and Cardiff. In the French case study cities, public transport is almost entirely public, whereas in Cardiff and in particular in Bristol, many bus companies are run by private operators, with limited public control.

Finally, whereas Toulouse and Bristol have been involved in several EU projects and have established dedicated European administrative structures, Cardiff and Bordeaux are less involved in EU policies and projects. In the case of Bristol and Toulouse, the city's involvement in EU projects seems to be partly explained by historical and cultural reasons - mainly the cities' historical links with European policies - and by the fact that in Bristol and Toulouse some local politicians or policy-makers initiated links with European projects, whereas the cities of Cardiff and in particular Bordeaux have had less interest in European policies.

4.4   Undertaking semi-structured interviews

Stage three of the investigation focuses on interviewing a range of key stakeholders at the supranational, national and local level. Note that, interviewees are also called 'participants' in this thesis. This section describes the methods used to undertake the interviews and highlights their strength and limitations.

4.4.1 Methods

In addition to the 20 initial 'scoping' interviews, in-depth semi-structured interviews were conducted with 61 key stakeholders across the various levels of governance, as illustrated in table 4.4. The use of semi-structured interviews is widely recommended, in particular when interviewing civil servants (Bernard, 2000). The flexibility offered by semi-structured interviews enables participants to mention additional information which can prove very relevant for in-depth qualitative research, while maintaining a consistent overall structure.

The primary aim of the semi-structured interviews is to question key stakeholders regarding the influence and impact the EU has had on local transport policy, mainly regarding decision-making, policy making and planning. The majority of the interviewees are civil servants and policy makers, such as policy officers in the EU Commission, representatives of EU cities in Brussels and national or local policy-makers, as illustrated in table 4.4.

1. EU level	2. Horizontal level*	3. National level	4. Sub-national level
EU Commission DG Move o 3 participants DG Environment o 4 participants DG Energy o 2 participants DG Climate o 2 participants DG Regio o 2 participants	Eurocities Transport o 1 participant Environment o 1 participant Climate Change o 1 participant Governance o 1 participant	UK DfT*** - Climate Change policies o 2 participants DEFRA**** - Air Quality o 2 participants DECC***** Climate change and transport o 1 participant	Bristol City Council- Transport o 4 participants Air Quality o 1 participant Sustainability o 1 participant
Joint Research Centre o 1 participant	POLIS o 1 participant UITP o 1 participant FIA (Fédération Internationale de l'Automobile) o 1 participant	France Air Quality****** o 2 participants Climate Change – Transport****** o 2 participants	Cardiff Welsh Government - Transport o 1 participant City Council Transport o 4 participants Air Quality o 1 participant Sustainability o 1 participant
	LG Association** o 1 participant		Toulouse Transport o 5 participants Sustainability o 2 participants
	Ile-de-France Europe o 1 participant		Bordeaux Transport o 7 participants Sustainability o 2 participants

Table 4-4 List semi-structured interviews

*Brussel based 'lobbying' associations representing actors at the local level; ** Local Government Association (Represents UK cities); *** Department for Transport **** Department for Environment food and rural affairs; ***** Department for Energy and Climate Change; ****** 'Ministère de l'écologie, du développement durable et de l'énergie – air qualite' ******* 'Département lutte contre l'effet de serre - emissions'

Four key themes were central to the survey and influenced the selection of interviewees and the design of the questionnaires, as illustrated in figure 4.9. The four themes aim to answer the research questions raised in chapter 1 (section 1.2). First, the aim is to interview relevant stakeholders to gain a better understanding of the overall or general impact EU policies have had on urban transport. Stakeholders at the supranational and 'horizontal' level are targeted as they have a good understanding of European mechanisms and are able to comprehend the larger picture (see table 4.4, columns 1, 2 and 3). Participants at the national level were also consulted, even though some lacked European perspective.
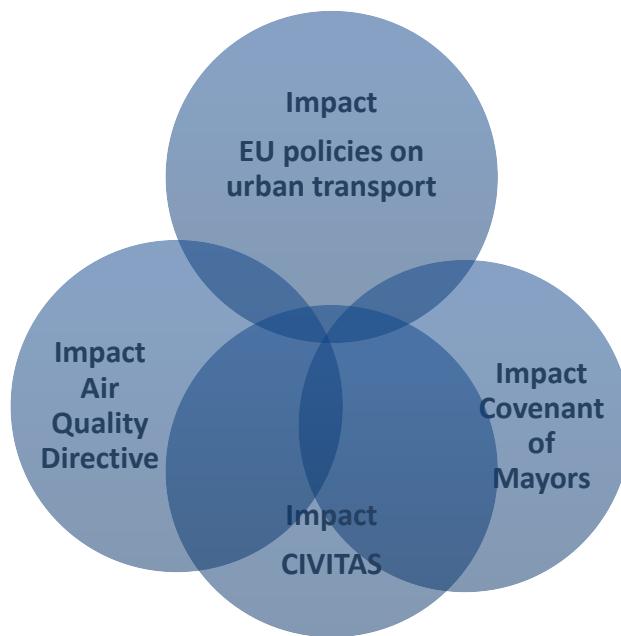
Figure 4-9 Semi-structured interviews themes/ groups of interviewees

In relation to the EU air quality policy case study, policy-makers and city representatives familiar with this policy area at different levels were targeted, in particular:

- DG MOVE officials
- DG Environment officials
- City representatives in charge of environmental and transport issues
- National government policy makers in charge of air quality policy
- Local policy-makers in charge of environmental and transport policy

At the local level all transport policy-makers were asked to comment on the topic.

Questions linked to climate change policies, and in particular the Covenant of Mayors, were addressed to policy-makers and stakeholders across different levels. The following actors were targeted:

- DG ENERGY officials
- DG CLIMATE officials
- DG Environment officials
- Joint Research Centre Officials
- City representatives in charge of environmental issues
- National government policy makers in charge of climate change policy
- Local policy-makers in charge of environmental and transport policy

Transport policy-makers at the local level were all asked questions related to the Covenant of Mayors and climate change policies.

Finally, in relation to the CIVITAS programme, a range of participants across sectors and levels were interviewed, in particular participants who are familiar with the CIVITAS programme, including:

- DG MOVE officials
- DG REGIO officials
- City representatives familiar with CIVITAS
- National government policy makers in charge of transport policy
- Local policy-makers in charge of transport policy

Local policy makers in Toulouse and Bristol (the two CIVITAS demonstration cities) were asked whether/what impact CIVITAS had on urban transport in their city. Participants in Bordeaux and Cardiff were questioned regarding their CIVITAS forum membership.

The interviews were conducted from 2011 to 2014. In the case of the interviews that were conducted in the year 2011 and 2012, follow-up questions were sent to the interviewees by email in the year 2014. On average, interviews lasted one hour and 15 minutes. All interviews were recorded and notes were also taken during the interviews. The majority of the interviews were transcribed, in particular interviews at the supranational, national and local level (see list in appendix 4.A). A number of interviews were recorded but not transcribed; in that case notes taken during the

meeting and the recording of the interview were used for the analysis. A code name was allocated to each participant to preserve anonymity. Each code name starts with a 'P' that stands for the word participant. It is followed by the number given to each participant and the code reference (e.g P34, Madrid council). The interviews conducted in French or Spanish were transcribed in their original language and when participants were quoted it was then translated into English.

Questionnaires

Phase one of the research (see section 4.2), in particular the initial interviews, helped shape the semi-structured questionnaire/topic guide. Questionnaire design varied depending on the theme/group and the level of governance of each interviewee, as illustrated in table 4.5. Appendices 4.B, C, D, E, F, G provide sample questionnaires illustrating the range of questions asked of different interviewees at different levels.

Participant/Groups	Key questions considered - Examples
All participants	• What is your role within your unit/department/company? • What role does and should the European Union play regarding urban transport policy?
General impact EU policies	**Supranational Level** • Over the past 10-5 years which binding and non-binding laws initiated by your DG have affected urban transport? **National Level** • To what extent do EU policies influence your policies? **Local level** • Over the past 10-5 years, which policies have had an impact on transport mobility policies? • Does the EU have any direct or indirect influence on local policies (compared to the regional and national state)? • Are there any policies originating from the EU which have had an impact on urban transport policies? • Do you think that policy makers and citizens are always aware that a number of laws and policies originate from Brussels? • What role does the EU play with regard to urban transport policy?
Air Quality policies	**All levels** • What impact has Air Quality legislation had on urban transport policies? • Would you have implemented similar policies without an EU Directive?
Climate Change/Covenant of Mayors	**All Levels** • Do climate change policies have an impact on transport policies? • Has the Covenant of Mayors had an impact on local policy? If so has it had an impact on urban transport policy?
CIVITAS	**All Levels** • Has CIVITAS had a long term impact on local authorities' transport policies? • What have been the main problems encountered during the CIVITAS project?

Table 4-5 Semi-structured questionnaires: key questions

It is important to note that the questions asked to participants varied depending on the level of governance, as illustrated in table 4.5. Indeed, general questions about the EU were very difficult to answer for most local actors who, for the most part, are not familiar with EU policies. On the other hand, questions about specific impact EU policies or legislation have had at the local level were mainly asked to local actors since EU actors are not aware of the local specificities.

4.4.2 Barriers and opportunities

This section discusses the limitations encountered during phase three and describes the solutions adopted to address these. In some cases the limitations were informative.

At the local level the difficulty is to identify potential direct and indirect impacts of EU policies, given that, in most cases local actors are unaware, or unable, to make the link between local and supranational policies. So instead of asking them to discuss EU policy, local policy makers were asked to describe key policies that have influenced their local transport policy. Then the potential link between local and EU policies was established, tracing the thread between different levels of governance.

Some of the interviews were undertaken in 2011 and others in 2012, 2013 and 2014. To ensure the comparability of the data some of the interviewees met in 2011 (6 local policy makers) were contacted through email or telephone in the year 2014 to discuss updates. However, it was not always possible, for example when the relevant stakeholder was not in post anymore.

The in-depth comparative research is limited to two Western European countries, France and the UK. It would have been informative to compare an old member state with a new member state and identify potential differences and similarities. However, the EU surveys address this limitation since they cover a range of cities across Europe, including in Eastern Europe (see section 4.6).

4.5   Content analysis of interviews and policy documents

Phase four undertook content analysis of the semi-structured interviews (conducted during phase three), and applied coding and content analysis of key policy documents in the four case study cities.

4.5.1   Content analysis of semi-structured interviews

To analyse data from the semi-structured interviews a framework matrix (appendix 4.H) was established partly based on the investigation's research questions, questions from the interviews, and additional themes that emerged from the interviews. The matrix is divided into main themes and sub-themes which are systematically cross-analysed to compare and contrast responses from participants (Miles, Huberman & Saldaña, 2014). The five main thematic categories are:

1. General impact EU policies on urban transport
2. Impact EU air quality policy
3. Impact EU climate change policy and Covenant of Mayors
4. Impact CIVITAS
5. Theories

The first category summarises participants' comments and opinion related to the general impact EU policies have had on urban transport. Five sub-themes appear in this first category (see appendix 4.H), as illustrated in table 4.6. The first two columns capture the participants' views about the general impact EU policies have had on urban transport and list specific EU policies named by participants, such as the air quality directive. The third column assesses participants' awareness of EU policies, in particular at the local level. The fourth column summarises participants' views related to the role the EU plays or should play on urban transport policies and finally, the last column lists the various recommendations made by participants related to this topic. Additional comments are also gathered in one column.

General impact of EU policies on urban transport
1. Impact of EU policies on urban transport, general comments
2. Specific EU policies which have had an impact on urban transport
3. Awareness of EU policies
4. EU role
5. Recommendations

Table 4-6 Matrix theme 'impact of EU policies'

In each sub-matrix, columns on the left hand side list the coding name of each interviewee, the organisation/entity it represents (colour coded according to the type entity or level of governance) and the interviewee's professional title/role (see appendices 4.H, I, J, K L).

The second category summarises participants' responses and comments related to the air quality directive (see appendix 4. I). It contains four sub-themes as illustrated in table 4.7. First, participants' comments/opinion related to the impact the air quality directive has had (or had not had) on urban policies. Second, the barriers or issues encountered during the implementation of the directive. The third column records comments made by participants who stated that without the EU directive, air quality policies would not have improved as much. Finally, recommendations and additional comments are included into two separate columns.

Impact the EU air quality directive has had on urban transport
1. Impact Air Quality Directive has had on local policies
2. Barriers to implementation/impact
3. 'Air quality would not have improved as much without Directive'
4. Recommendations

Table 4-7 Matrix theme 'impact of air quality directive'

The third category focuses on EU climate change policies and in particular the Covenant of Mayors (see appendix 4.J). This category was divided into five sub-themes as illustrated in table 4.8. First, participants' comments related to the impact EU climate change policies have had on transport were listed. Second, comments related to the general impact the Covenant of Mayors has had at the local level were recorded. Third the impact it has had more specifically on transport policy. A column was dedicated to listing the barriers to the Covenant of Mayors' implementation or impact. Finally, recommendations and additional comments were recorded.

Impact EU climate change and Covenant of Mayor policies
1. Impact EU CO_2 emissions policies on transport policies
2. General impact Covenant of Mayors
3. Impact Covenant of Mayors on transport policies
4. Barriers
5. Recommendations

Table 4-8 Matrix theme 'EU climate change and Covenant of Mayors'

A fourth matrix category lists participants' responses and comments linked to the CIVITAS programme (see appendix 4.K). Five sub-themes appear. First, the reasons why demonstration cities joined the CIVITAS programme are listed. Second, the impact CIVITAS has had on the short and long term in demonstration cities. Third, the impact the CIVITAS forum has had on local policy-making. A fourth column summarises the barriers or problems encountered during the implementation of the CIVITAS programme. Finally, two columns records participants' recommendations and additional comments.

Impact of CIVITAS
1. 'Why did cities join CIVITAS'
2. Impact of CIVITAS on the short and long term
3. Impact of CIVITAS Forum
4. Barriers
5. Recommendations

Table 4-9 Matrix theme 'CIVITAS'

A fifth category records participants' comments regarding key policy theories or concepts that emerged during the semi-structured interviews (see appendix 4.L). This category has three key sub-themes as illustrated in table 4.10. The first column summarises participants' comments related to the subsidiarity principle. The second column lists comments related to the concept of multi-level governance, including 'bottom-up' impact. Third, a column is dedicated to comments made about various EU policy instruments. Finally, a column records any additional comments.

Key policy theories/concepts
1. Subsidiarity
2. Multi-level governance   o Bottom-up impact

3. EU Policy instruments
    o Impact of soft instruments
    o Funding programmes
    o Impact of mixed instruments
    o Impact of binding instruments
    o Consultation/collaboration

Table 4-10 Matrix Theme 'Theories/concepts'

Cells within each of the five sub-matrices were then cross-analysed to compare participants' responses and comments. The summary of the analysis forms the basis of the four core chapters (chapters 5,6,7 and 8).

Indicators

A series of 'interrogative indicators' were used to identify the impact EU policies have had on urban transport in the context of the three case study instruments: the air quality directive, EU climate change policies/Covenant of Mayors, and the CIVITAS programme. As rightly stated by Church and Rogers (2006, p.44), indicators are "a quantitative or qualitative factor or variable that provides a simple and reliable means to reflect the changes connected to an intervention". The following key questions were used as indicators to frame and guide the analysis.

Assessing the impact of the air quality directive at the local level

1. Have local authorities included measures related to air quality in their local transport plans?
2. Do local authorities have a dedicated administrative structure to address air quality?
3. How many employees are responsible for air quality policies in the local authority?
4. Do the air quality unit/persons responsible collaborate with transport policy-makers/unit?
5. Have sustainable transport/mobility measures been implemented directly or indirectly as a result of air quality laws? If so, which ones?
6. What have the barriers/issues been in implementing the air quality directive?

Assessing the impact of EU climate change policies and the Covenant of Mayors at the local level

1. Have CO_2 emissions reduction policies influenced local transport policies? If so, which ones?
2. Are CO_2 emissions reduction measures mentioned in the local transport plans (or equivalent)?
3. Why have local authorities signed the Covenant of Mayors?
4. Has the Covenant of Mayors had an impact on/influenced local policies?
5. Has the Covenant of Mayors had an impact on local transport policies?
6. Do sustainable energy action plans (or equivalent) mention transport measures?
7. What have been the barriers/issues in implementing the Covenant of Mayors?

Assessing the impact the CIVITAS has had at the local level

1. Why have local authorities joined the CIVITAS programme or forum?

2. How many CIVITAS measures are still running in demonstration cities?
3. Have CIVITAS measures been included/referenced in local transport plans (or equivalent)?
4. Has CIVITAS influenced local policy-making, decision-making or planning in demonstration cities and forum cities?
5. What have been the barriers/issues in implementing CIVITAS measures?

These 'interrogative indicators' were particularly useful when analysing data in the context of the four case study cities, in particular to analyse the local transport plans (or equivalent). The results of the questions/indicators were then used to compare the four cities. These indicators also informed the survey questionnaires described in section 4.6.

4.5.2 Coding and content analysis of local policy documents

To complement and corroborate the results of the semi-structured interviews a systematic analysis of key urban transport policy documents was undertaken in the four case study cities. Bristol, Toulouse, Cardiff and Bordeaux's local transport plans (or equivalent) established since 2000 were gathered for analysis. Optical Character Recognition (OCR) was used to enable content analysis and coding. First, the content of each policy document was analysed to assess the importance given to European policies, air quality, CO_2 emissions issues, the Covenant of Mayors and references to CIVITAS, for instance, by looking at headings within the document and establishing whether sections of the document are dedicated to any of the topics under examination. Second, a coding exercise was undertaken. It consists of counting the number of times a specific word is mentioned. The recurrence of the following key words is reported within each transport document in the four case study cities:

In relation to air quality:

- Air quality
- Particulates/Pollution
- Directive 2008/50/EC

Climate Change/Covenant of Mayors:

- EU 20-20-20 targets or similar
- CO2 emissions/carbon dioxide/climate change

- Covenant of Mayors

CIVITAS:

- Demonstration projects/European project
- CIVITAS
- Specific measures that were introduced during the CIVITAS demonstration project

Results of the coding and content analysis of local policy documents complemented the results of the interviews; these results were summarised and cross-analysed in chapter 6 (tables 6.3, 6.4, 6.5, 6.6) chapter 7 (tables 7.2, 7.4, 7.6, 7.8) and chapter 8 (tables 8.4, 8.6).

4.6 Undertaking surveys across the EU

Finally, phase five consisted of undertaking EU wide surveys to complement and corroborate the results of the in-depth analysis. This section describes the elaboration of the surveys, the methods used to analyse the survey results and the limitations.

4.6.1 Air Quality Survey

At the end of the year 2013, an EU wide survey was carried out to further assess the impact EU air quality policy has had on urban transport. The survey was conducted in collaboration with Eurocities and Polis - two Brussels-based associations representing local authorities in Europe - in order to obtain relevant contact details across the EU. Due to practical restrictions regarding access to contact details, a restricted group of participant cities was selected. The 27 capital cities in the EU were the target group of this survey[1]. The aim of the survey is to establish whether the EU air quality directive has had a direct or indirect impact on urban transport policies in various capital cities across the EU. Key transport policy-makers in various EU capital cities were contacted directly or via Eurocities or Polis (sample email in appendix 4.N).

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[1] Croatia was not included as it only joined the EU in 2013

An online questionnaire composed of 10 questions was sent to the participants (see appendix 4.N). The first part of the questionnaire aims to obtain basic information about local air quality policies, in particular related to air quality action plans and management areas. Second, questions related to local transport plans (or equivalent) and potential links with air quality policies are asked. Third, key questions assessing the potential impact the air quality directive has had on urban transport policies are posed. Finally, questions about barriers to implementation and recommendations are mentioned.

In total, twelve participants (all transport policy-makers) responded to the survey but only nine completed it. This represents a response rate of 33% of all EU capital cities (excluding Croatia). Transport policy-makers in the following cities responded: Berlin, Copenhagen, London, Stockholm, Oslo, Paris, Rome, Vienna, and Warsaw. Scandinavian and Western European countries[1] are well represented whilst Eastern European countries[2] are under-represented.

The results of the air quality survey (sample in appendix 4.O) were compiled in spreadsheet application software and analysed. First, responses were compared and converted into diagrams to illustrate the total number of answers to key questions (see section 6 chapter 6). Second, coding and content analysis were conducted to analyse the responses to the open ended questions. Recurrent themes were identified and verbatim quotes from participants (anonymised) are used to illustrate the key themes.

4.6.2   CIVITAS Survey

To complement the results of the in-depth analysis related to CIVITAS, a large scale survey was undertaken amongst CIVITAS forum[3] and demonstration[4] cities. The survey aims to assess the impact CIVITAS has had on policy-making, decision-

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[1] This study considers the following countries as Western European countries: Finland, Sweden, Spain, Portugal, Austria, Luxembourg, Denmark, Germany, France, Belgium, the Netherlands, the United Kingdom, Ireland, Italy and Greece.
[2] This study considers the following countries as Slavic and Eastern European countries (later referred to as Eastern Europe): Lithuania, Slovenia, Cyprus, Slovakia, Bulgaria, Latvia, Estonia, Poland, Czech Republic, Hungary, Romania, Malta and Croatia. This geographical division is based on data from the United Nations Statistics Division, and includes candidate countries and member states which joined the European Union after 1994.
[3] CIVITAS member cities
[4] Cities that have received funding to implement CIVITAS measures

making and planning, primarily in CIVITAS demonstration cities. The CIVITAS survey was conducted in collaboration with the CIVITAS Secretariat in 2012 and included questions aiming to evaluate the CIVITAS Secretariat activities.

Key transport policy-makers, officially registered as CIVITAS 'contact point', were contacted through email in all of the 210 CIVITAS forum cities, including all 57 CIVITAS demonstration cities (sample email in appendix 4.P). Even though the survey was completely anonymous, respondents were asked to name their city which limited the anonymity of their participation and thus might have affected the objectivity of their responses. Furthermore, the fact that it was run by the CIVITAS Secretariat might have introduced a bias. To counter-balance these potential issues, respondents were informed that the results of the survey were going to be independently analysed by an academic researcher. Furthermore, the in-depth analysis undertaken at the local level in two CIVITAS cities counter-balances this potential limitation.

An online questionnaire with a total of 25 questions was sent to all 210 CIVITAS cities (see appendix 4.Q). Some questions only target CIVITAS demonstration cities whilst others focus on CIVITAS forum cities; some targeted both. The first part introduces the survey and asks participants key information about their city. Second, forum network member cities were asked to describe the reasons why they became a forum member and whether they intend to become a demonstration city. The third part is dedicated to demonstration cities (CIVITAS I, II or PLUS). They are encouraged to write about their reasons for becoming a demonstration city. Fourth, participants are asked to rate CIVITAS resources and services. Fifth, several questions deal with the benefits and impacts of CIVITAS in which respondents were asked to assess the impact of CIVITAS. The next part focused on finding out how many cities have a local transport/mobility plan and/or have a sustainable mobility plan and the profile of these cities. Questions were asked to find out whether CIVITAS could have influenced these plans. The seventh part was dedicated to reviewing CIVITAS themes and measures, their potential impact and popularity. Finally, respondents were asked to offer general feedback about CIVITAS, especially about how CIVITAS should develop in the future.

In total 57 participants completed the survey with an overall response rate of 27%. 44 out of 57 demonstration cities are represented which represents a 77% response rate, as illustrated in figure 4.9. The analysis of the survey results (chapter 8) focuses on demonstration cities (and not on forum cities only).
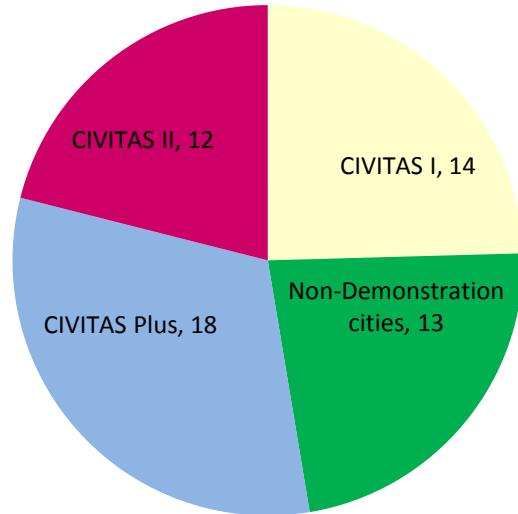
Figure 4-10 CIVITAS survey respondents

The majority of the respondents are transport policy makers (69%) or politicians or civil servants responding on behalf of a politician. Cities from 23 of the 31 CIVITAS Forum countries responded, as illustrated in figure 4.10. The majority of the respondent cities have a population of between 100,000 and 400,000 inhabitants, which is, on average, representative of the population of all CIVITAS cities.
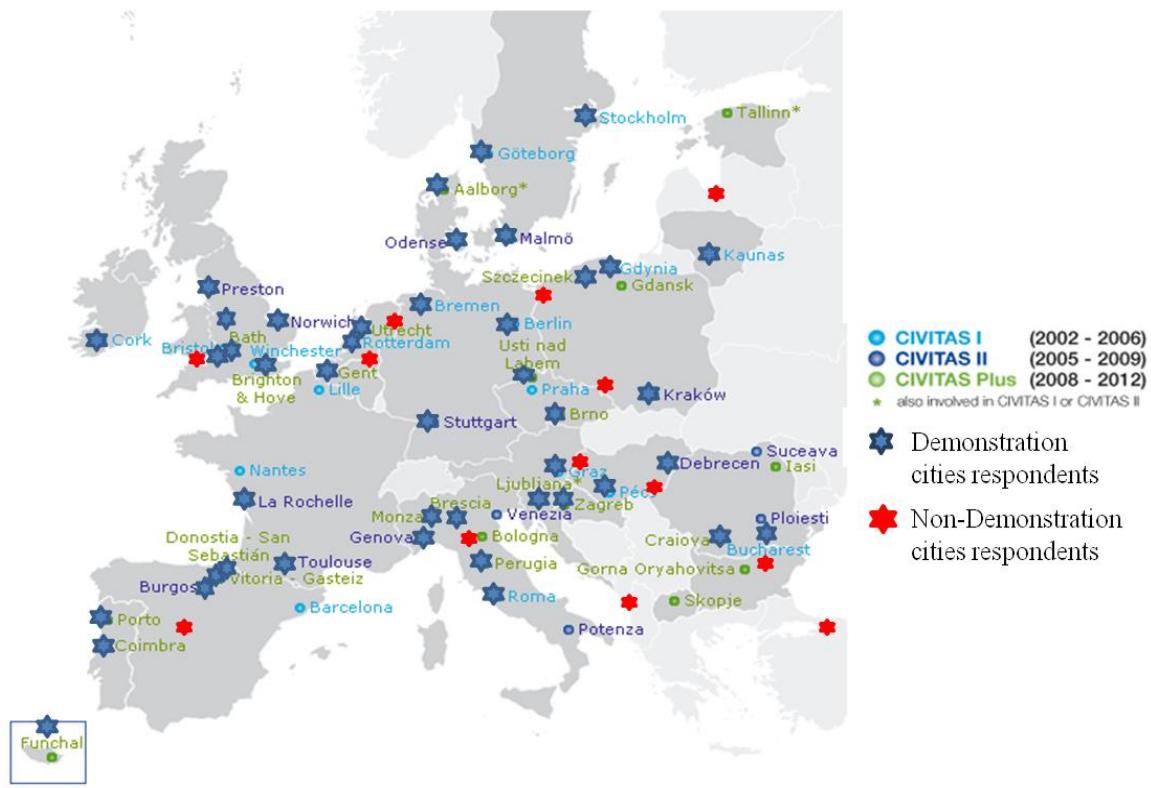
Figure 4-11 Location of the CIVITAS cities respondents

Results of the CIVITAS survey are analysed using different methods. First, quantitative results are compiled in spreadsheet application software. Results are then cross-analysed to identify potential variables and relevant themes (see sample result analysis in appendix 4.R). Chi-square tests are used to analyse various results and establish any potential relationship between the different variables. If the chi-square test indicates that the 'P-value' is less than the significance level (0.05), the null hypothesis is not accepted and the relationship between different variables is highlighted. Furthermore, content analysis and coding is used to identify themes in the responses to the open questions. Table 4.11 provides an example of the content analysis and coding methods used to analyse the results of the open question which asks participants to list the 'three main arguments they would use to convince other cities to join the CIVITAS programme' (full table in appendix 4.S).

Theme	Key words	Content & Quote extracts	Word Frequency
1. Knowledge Information Resources	➤ Knowledge ➤ Know-How ➤ Information ➤ Technical resources	• To know about successful mobility measures • CIVITAS: "Is the best way to gain fundamental technical information in an informal way". • "Very good platform to discuss measures and to get inside information from all around Europe". • "Increase knowledge in mobility field (technical matters, rules, trends...)" • "To select the technical solution which fits better to their needs" • "Find out about the vast array of tools towards sustainable mobility in urban and peri-urban areas"	42

Table 4-11 Sample content analysis and coding: 'Benefit of CIVITAS programme'

4.6.3   Covenant of Mayors

In the context of the Covenant of Mayors, a survey could not be conducted. Numerous attempts to run a survey in collaboration with the Covenant of Mayor's office or to have access to data[1] were made but Commission officials were reluctant to collaborate. This reluctance could be explained by the fact that some Commission officials are aware that the Covenant of Mayors' impact on transport policies has been limited (as further described in chapter 7). Given the number of signatory cities (over 6000) undertaking a representative survey without the support of the Covenant of Mayors' office would have been unrealistic. After countless attempts to cooperate with key Commission officials, a decision was taken not to run a survey in the

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[1] The EU Commission commissioned a 'mid-term evaluation report' as further described in chapter 7

context of the Covenant of Mayors. Thus, the results of the in-depth analysis related to the Covenant of Mayors could not be complemented by a European survey.

Chapter 5   EU urban transport policies: impact and role

"*European towns and cities are all different, but they face similar challenges and are trying to find common solutions. [...] While it is true to say that these problems occur on a local level, their impact is felt on a continental scale: climate change/global warming, increased health problems, bottlenecks in the logistic chain, etc.*" (Commission of the European Communities, 2007, p.3)

5.1   Introduction

Even though there is no legal framework to support EU action on urban mobility (Halpern, 2013; Rommerts, 2012), the EU Commission has been initiating policies and programmes directly or indirectly targeting urban transport. It is therefore important to gain a better comprehension of why the Commission wants to get involved at an urban level and the impact the EU has had on the field of urban mobility. The aim of this chapter is to provide an overview of EU policies related to urban transport and the impact they have had.

First, this chapter attempts to understand the evolution of EU urban transport policies by analysing key EU documents and discussing the literature. Second this chapter provides an overview of the EU legislation likely to have had an impact, direct or indirect, on urban transport. It discusses the results of the analysis and cross-analyses them with groups of participants' responses. Finally, key themes that have emerged from the interviews are analysed, including multi-level governance, policy instruments and subsidiarity.

5.2   Evolution of EU policies addressing urban mobility

5.2.1   EU Urban Transport in the 1990s: a 'soft' evolution

Despite the recent increase in EU policy activity in the field of urban transport, the evolution and impact of EU urban transport policy remains largely under-studied. It

is partly explained by the fact that the EU does not have a 'fully institutionalised' urban transport policy as urban transport is not mentioned by the EU treaties (Halpern, 2013; Rommerts, 2012). As highlighted by Timms (2011), and as further discussed in this chapter, this is mainly explained by the fact that the Commission's action in this field is restricted by subsidiarity issues (for definition see chapter 3, section 3.6). Thus, to some extent, the lack of academic work in the field of EU urban transport policy reflects the lack of direct EU policies in the field.

However, scholars who have studied this topic recognise the recent emergence of urban transport policies on the EU arena (Banister, 2000b; Banister, Stead, Steen, *et al.*, 2000; Halpern, 2013; Pflieger, 2012; Rommerts, 2012; Stead, de Jong & Reinholde, 2008; Timms, 2011). Halpern (2013) divides the history of EU urban transport policies into three phases: the first phase from 1995 until 2000, which Halpern calls "instrumental activism", the second phase starting in 2001 and lasting until 2010 that, according to Halpern, consists of the "reorganisation of actors" and a third phase from 2010 until 2013 characterised by the decrease in resources dedicated to sustainable mobility. This thesis contests this characterisation for several reasons. First, even though urban mobility was addressed through certain EU projects pre-2000s, it was not formally a "subtheme of the EU transport policy" until the establishment of a dedicated unit within DG Energy and Transport in the year 2000, as reported by Rommerts (2012, p.43). Second, Halpern argues that since the year 2010 there has been a "weakening of the EU's political capacity in this policy field" (Halpern, 2013, p.13). Even though the EU's 'political capacity' - Halpern does not provide a definition of that term- has always been limited in the field of urban transport, due to subsidiarity reasons, the Commission is not less active in this field since 2010, as argued by Halpern. On the contrary, as discussed below, an increasing range of EU policies and measures have been tackling urban transport issues.

Direct EU action in the field of urban transport was preceded by a decade of 'soft' EU actions addressing urban transport. In the 1990s the EU's framework programmes for research and technological development (RTD) launched funding programmes that had an impact on urban transport. Most of these research projects were related to intelligent technology applied to transport, such as the DRIVE I (Dedicated Road Infrastructure for Vehicle Safety in Europe) programme launched

in 1989. This programme focused on "telematics" applied to road safety and one of its four aims was to improve "urban and inter-urban traffic control" (Cordis, 2009). Projects such as DRIVE I were mainly orientated towards research and aimed at fostering knowledge and informing policies.

From the mid-1990s increasing focus was allocated to projects related to urban transport within the EU. As stated by a Commission official in 2013 "Even if the treaties do not mention it, the EU has had an interest in the urban for more than twenty years. Programmes such as URBAN I marked the beginning of its policy" (P12, DG REGIO). The URBAN programme, principally funded through the European Regional Development Fund (ERDF), was launched in 1994 and addressed local issues mainly related to urban regeneration. Mobility issues were a subtheme of the programme. The URBAN projects: "mainly focused on physical regeneration of deprived urban neighbourhoods, local economic development, environmental issues, mobility and public space…" (European Union & Regional Policy, 2009, p.10). In addition, the 1995 green paper on 'the Citizens' network' (Commission of the European Communities, 1995a) mentioned the need to strengthen public transport systems in urban areas.

This trend continued in the late 1990s. The fifth framework programmes (1998–2002) included, for the first time, projects directly addressing urban issues including transport issues. Indeed, a sub-theme was dedicated to 'Sustainable Mobility and Intermodality' and another was dedicated to "Sustainable urban transport" under the heading "City of Tomorrow and Cultural Heritage". Research programmes investigating and testing urban transport solutions pave the way to more direct 'urban mobility policy' at the EU level.

It is important to note that the Commission, particularly DG transport, did not establish 'formal' or direct urban transport policies because of subsidiarity concerns. The 1992 Maastrich Treaty strengthened the common transport policy but at the same time restated the importance of the principle of subsidiarity:

> "(…) its explicit recognition of the concept of subsidiarity requires that decisions within the common transport policy, as in other areas, should be taken and implemented at the most appropriate level." (Commission of the European Communities, 1995b)

This explains why in the 1990s Commission action in the field of urban transport has mainly been through research programmes or 'soft' tools and why urban transport was not a headline theme in these projects.

Table 5.1 and figure 5.1 illustrate the evolution of EU urban transport policy. They list and demonstrate the key EU policy instruments explicitly targeting or addressing urban transport since the 2000s. In addition, it should be noted that programmes such as URBACT I (2003-2006) and II (2007-2013) have addressed urban transport.

Policy Instrument/ Year	Funding Programme	White Paper	Green Paper	Action Plan/Communicatio	Other Soft instruments
2001		Transport White Paper: European transport policy			
2002	CIVITAS I -2002>2006 Sixth Framework Programme > 2006				European Mobility Week: Once per year
2003					Energy in transport Intelligent Energy Europe programme (STEER): such as EPOMM, etc.
2005	CIVITAS II - 2005>2009				
2006		Mid-term review of the EU Commission's 2001 Transport White Paper			
2007	Seventh Framework Programme > 2013		Green paper on urban mobility		
2008	CIVITAS Plus- 2008>				Covenant of Mayors
2009				Action Plan on urban mobility	Eltis urban mobility web portal restructured
2010				Europe 2020 Strategy	
2011	European Innovation Partnership (EIP) Smart Cities and Communities	Transport White Paper: Roadmap to a single European Transport area			
2012	CIVITAS Plus II - 2012>2016				Sustainable Urban Mobility campaign
2013				'Urban mobility package'	

Table 5-1 EU Commission's Policy Instruments and programmes addressing urban mobility
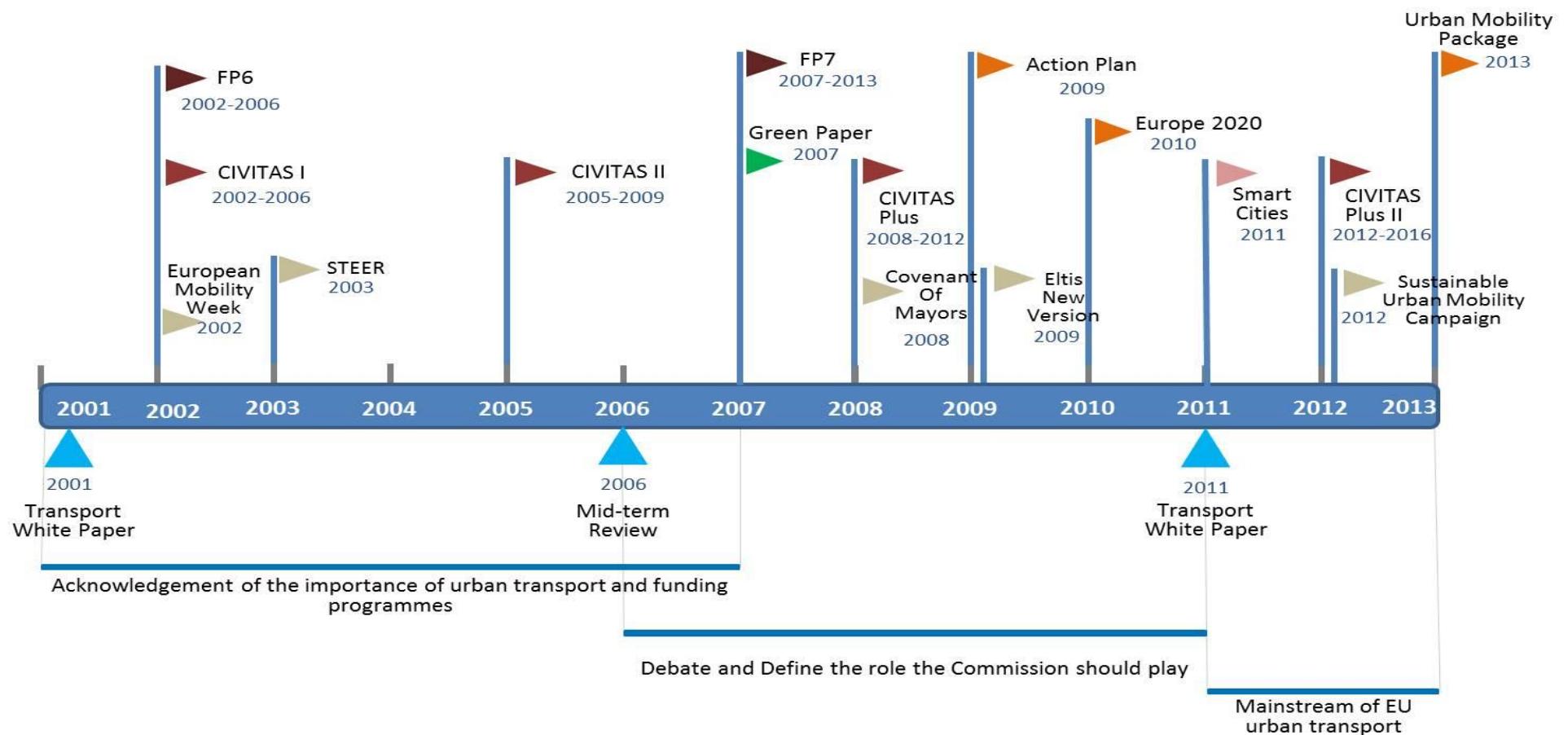
Figure 5-1 Evolution of EU policies addressing urban mobility

As illustrated in figure 5.1 above, this investigation argues that EU policies directly and explicitly addressing urban transport have followed three key phases, but not those identified by Halpern (2013). The first phase (2000-2006) consisted of the EU Commission acknowledging the importance of urban transport and launching a series of funding programmes directly tackling urban transport. The second phase (2007-2011) initiated a debate and attempted to define what role the EU should play in the field of urban transport. Meanwhile, further 'soft' programmes addressing urban transport were initiated. Finally, the current phase (from 2011) has witnessed further mainstreaming of urban transport issues at the EU level with increased policy commitments and statements.

5.2.2   Phase 1: 2000>2006

The 2001 transport white paper highlighted the importance and the need to address transport issues generated at the urban level. However, the white paper clearly states that the role of the EU in this field is limited by the subsidiarity principle. As stated: "(…) in line with the subsidiarity principle the Commission proposes to place the emphasis on exchanges of good practice aiming at making better use of public transport and existing infrastructure" (Commission of the European Communities, 2001b, p.19). Thus the Commission limited its role to promoting the exchange of best practice between cities. Yet for the first time the Commission officially included urban transport issues within the realm of its responsibility. To some extent the 2001 white paper formalised, for the first time, EU policy in the field of urban transport. Therefore it represented an important initial milestone.

To fulfil this new responsibility, the Commission established the funding programme CIVITAS. The launch of CIVITAS in 2002 marked the beginning of direct Commission action dedicated to urban transport and a shift from research orientated projects to empirical 'demonstration' projects aiming at implementing urban transport policies. As it further explained in chapter 8, through CIVITAS the Commission went beyond facilitating the exchange of best practice. Indeed, it was conceived to have a strong political impact so that it would foster sustainable mobility policies in cities. The involvement of political leaders at the local level was one key element of the initial project (P4, DG MOVE). CIVITAS focused on fostering the exchange of best practice but also intended to initiate political change at

the local level. Indeed, for the first time an EU funding project was exclusively dedicated to urban transport. Thus the CIVITAS programme symbolised the beginning of EU urban mobility policy through funding programmes and soft instruments. CIVITAS was followed by further projects, notably those initiated by the Intelligent Energy Europe programme promoting energy efficiency in transport. Therefore the beginning of the 2000s marked the start of EU funding programmes exclusively dedicated to urban transport and the beginning of 'soft' policies explicitly addressing urban transport.

In 2006, the mid-term review of the 2001 white paper assessed the progress made and efforts needed to achieve EU transport policy goals by the year 2010. The paper introduced the concept of 'joint solutions' to tackle urban mobility problems but insisted that it should be done "while fully respecting subsidiarity" (European Commission, 2006, p.14). According to Stead (2006) the mid-term review represented a step backward compared to what was announced in the 2001 white paper, and the Commission "retreat(ed) from further action on urban transport issues" (Stead, 2006, p.368). On the one hand, Stead's argument is correct. The mid-term review did not represent a significant political change in the field of urban mobility. Nevertheless this thesis argues that it marked a slight evolution towards increased EU urban mobility policies, primarily because it announced the establishment of a consultative green paper aiming to "identify potential European added value to action at local level" (European Commission, 2006, p.14). Therefore the Commission did "pause" policy action but prepared for further steps to justify EU action in the field of urban mobility.

5.2.3   Phase 2: 2007>2011

The publication of the 2007 green paper 'Towards a new culture for urban mobility' marked a turning point. Some Commission officials reported that this green paper was highly political and controversial, because it was perceived by some in the EU as a breach of the principle of subsidiarity. However, the Commission justified its publication by presenting the green paper as a broad and inclusive consultation exercise with key stakeholders in the field of urban mobility. A participant representing cities reported that the conclusions of the green paper were a fair representation of the stakeholders' views (P18, Eurocit). This exercise initiated an

important debate and discussion regarding the role the EU should play in the field of urban transport. The green paper provides evidence that the Commission needed to justify its action to member states. Whilst the green paper recognises that urban transport issues need to be primarily dealt with at the national, regional and local levels, it highlights the need for the EU to play a role too. Finally, the green paper placed urban mobility on the EU's political agenda and identified a number of policy areas where EU action can provide an added value.

The green paper was quickly followed by an action plan on urban mobility, published in 2009. This action plan, and it particular the Council's conclusions endorsing the action plan, represented another breakthrough for EU urban transport policies. It reiterated some of the conclusions reached in the green paper and clarified the role the EU should play in the field of urban transport. The need to address urban transport issues to achieve EU goals is clearly stated. The action plan defined the EU's role by referring to dissemination and mentioned:

> "The EU can stimulate authorities at local, regional and national level to adopt the long-term integrated policies that are very much needed in complex environments. The EU can also help authorities to find solutions that are interoperable and facilitate smoother functioning of the Single Market." (Commission of the European Communities, 2009, p.4).

It presented a set of twenty actions to be implemented by the Commission and member states by 2012. It is clearly mentioned that the Commission should respect the principle of subsidiarity. As a result, the actions proposed are mainly non-binding ranging from funding programmes, voluntary agreements, exchange of best practice, campaigns and research projects. However, the Council's conclusions mentioned that urban transport policies should be dealt with by the "competent authorities" (implicitly including the EU Commission) and invited the Commission to address urban transport. The action plan on urban mobility and the Council's conclusions paved the way to the 2011 Transport White paper.

The Communication 'Europe 2020 Strategy for smart, inclusive, and sustainable growth' was published in 2010 and summarised the EU's overall strategy for growth until 2020. This document is significant because it stressed the need to address urban mobility issues to establish an effective and sustainable transport system in the EU. However, the emphasis is put on the responsibility national governments have and

very little is said about the role the EU should play. It stated that member states will need to "focus on the urban dimension of transport where much of the congestion and emissions are generated."(European Commission, 2010, p.14). Thus the Europe 2020 Strategy indicated that urban transport issues had become an EU wide concern, but remains the primary responsibility of national governments.

5.2.4 Phase 3: 2011>2013

The 2011 White Paper "Towards a single European transport area" marked another milestone for EU urban transport policies. Indeed, it officially recognised urban transport as one of the key pillars of the EU transport policy and placed great emphasis on addressing urban mobility issues. The white paper also indicated that urban transport policies are likely to play an increasingly key role at the European Union level. Ambitious targets and goals to be achieved in the field of urban transport were announced, such as halving the use of 'conventionally fuelled vehicles' in urban areas and achieving "CO_2-free city logistics" by 2030 (European Commission, 2011c, p.9). However, it is clearly stated that EU intervention at the urban level should be non-binding and few specific EU actions are listed regarding urban mobility. These actions refer to Sustainable Urban Mobility Plans (SUMPs), studies on urban road user charging, and a strategy for near- 'zero-emission urban logistics' 2030. Bolder statements are made referring to the possibility of implementing binding measures such as to: "Examine the possibility of a mandatory approach for cities of a certain size, according to national standards based on EU guidelines" (European Commission, 2011c, p.26). Even though few specific actions were proposed, the white paper strengthened and further justified EU action in the field of urban mobility. It was a clear indication of the Commission's ambition to step up its efforts in the field of urban mobility.

The most recent development in the field of urban mobility is the 2013 Communication 'Together towards competitive and resource-efficient urban mobility' also referred to as 'Urban mobility Package'. This document reinforced the Commission's approach and commitment in the field of urban mobility. It stressed the need to "overcome fragmented approaches" (European Commission, 2013h, p.2) by introducing standards and highlighted the need for increased EU action. It placed particular emphasis on the need to increase collaboration with member states and

address specific recommendations to national governments. At the same time the need to respect the subsidiarity principle is reaffirmed and the actions proposed are exclusively non-binding. Therefore in the 2013 'mobility package' the Commission strengthened its urban mobility policy, through the continued use of soft instruments and a new multi-level governance approach.

5.2.5 Transport White Papers: an indication of change

As mentioned in chapter 2, Commission communications such as white papers are important policy documents that are used to 'announce' policy proposals. The list of key Commission communications addressing urban transport since 2000, including white papers, is summarised in table 5.2 and shows the increased importance allocated to urban transport.

Year	Communication	Summary
2001	Transport White Paper	Acknowledges the importance of urban transport policies but limits the role of the EU in this field
2006	Mid-Term review	Mentions that the EU should further address urban transport issues
2007	Green Paper 'Towards a new culture for urban mobility'	Raises the debate about the role the EU should play in urban transport through a wide consultation
2009	Action Plan on Urban Mobility	Lists a series of soft actions to foster sustainable mobility at the urban level
2010	Europe 2020	Emphasises on the need to focus on urban transport
2011	White Paper on Transport	Mentions clear goals in the field of urban transport
2013	Together towards competitive and resource-efficient urban mobility	Proposes a set of actions to be taken at different levels, particularly regarding sustainable mobility plans

Table 5-2 Commission Communications related to urban transport

The EU transport white papers are produced by the Commission and approved by the Council. They are key political statements that lead to policy action in the field of transport and reflect policy change. Analysing the content of policy documents such as white papers and searching for the occurrence of certain words represent a good indication of the change occurring in the EU's political agenda. A simple coding exercise of the EU transport white papers indicates a change in the vocabulary used throughout the years. As illustrated in table 5.3, the use of certain words (measured in percentage related to the total number of occasions versus total number of pages) has increased over the years. This is particularly noticeable with the following words: urban, mobility, sustainable (or synonym), and climate change (or synonym). Results suggest that urban mobility issues have become more important for the EU transport agenda along with the need to address sustainability and climate change issues. This confirms the results of the analysis undertaken and reflects the increasing importance of urban mobility and sustainability issues for EU policy-making.

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Document Title	Date	Number of times "urban" is mentioned	No. of Times "mobility" is mentioned	No. of Times "sustainab*" or "sustainability" is mentioned	"Environment*"	" CO_2 " or "Climate Change"
White Paper Transport (72 pages)	1992	21 0.29*	27 0.37	16 0.22	114 1.58	0 : climate change 0 :GHG 0 : CO_2 0.00
White Paper Transport (124 pages)	2001	42 0.34	18 0.14	31 0.25	80 0.64	5 : climate change 0 :GHG 0 : CO_2 0.04
Mid-term review of the European Commission's 2001 Transport White Paper (29)	2006	24 0.82	35 1.21	25 0.86	55 1.90	1: climate change 4 :GHG 9 : CO_2 0.48
White Paper Transport (30 pages)	2011	38 1.27	46 1.53	25 0.83	22 0.73	6: climate change 12: GHG 11: CO_2 0.97

Table 5-3 Occurrence of certain words in EU Transport White papers - * Number of times word used divided by page length of document

5.2.6 Current policies: increasing EU action on urban mobility

The Commission is aware that many of its key policy issues or concerns cannot be successfully addressed unless the urban level is targeted. Indeed, a whole range of policy issues require policy intervention at the urban level. From air quality to CO_2 emissions, improving citizen's health, road safety or reducing noise levels, part of the solution for all these issues lies in tackling urban transport, as reported by some participants. As stated by a Commission official: "You can only succeed in many of these policy fields if also the urban dimension is included and action at the local level is taken" (P4, DG MOVE). Banister and others (2000) also pointed out the gap between EU objectives for sustainable development and specific measures in the field of transport at the subnational level. As problems become more pressing the Commission is gradually pushing forward urban mobility on the EU political agenda.

As a result, EU policies and programmes have strengthened their focus on urban mobility. The Commission reports that EU funding allocated to urban transport has increased substantially since the year 2000 (European Court of Auditors, 2014). It estimates that from 2000 to 2013 over 10 billion euros has been allocated to urban transport (European Court of Auditors, 2014, p.4). However, a detailed breakdown of this data is not provided by the Commission.

In addition, the project 'Smart Cities and Communities' will dedicate €40 million in 2014-15 for urban transport policies (European Commission, 2013b, p.4). Furthermore, the new framework programme called Horizon 2020 (from 2014 until 2020), announced that it will allocate 31,748 million euros to address "climate change, [and] developing sustainable transport and mobility" (European Information Association, 2013). Even though there is no breakdown for urban mobility, this clearly indicates that urban transport issues have gained importance and that a substantial increase in resources has been dedicated to urban mobility in the EU. Thus, EU funding instruments across directorate generals (DGs) are increasingly addressing urban mobility issues.

5.3 EU policies addressing urban transport across all Directorate Generals

So far this chapter has focused on EU transport policies but a number of non-transport policies initiated by the EU have addressed directly, and indirectly, urban transport and are likely to have had an impact on mobility policies in cities. As stated by Rommerts:

> "Over time, the attention it [the EU Commission] has given to urban transport appears to have slowly increased. But not only transport policy pays attention to urban transport. It is also addressed by other sectorial policies at EU level."(Rommerts, 2012, p.215)

Rommerts' reference to 'other sectorial policies' alludes to the indirect impact various EU policies have had on urban transport; a topic which remains largely unexplored in the literature and which this thesis attempts to address.

This section aims to provide an overview of the binding instruments initiated by different directorate generals (DGs) in the EU Commission that are likely to have had an impact on urban transport. Figure 5.2 below shows the results of research that looked at EU legislation across all DGs which are likely to have had a direct or indirect effect on urban transport (the method used is further described in section 4.2, chapter 4, and extract of the table summarising the results is illustrated in appendix 5.A). Details and complete coverage regarding non-binding EU instruments addressing urban transport were difficult to obtain or incomplete, so this section focuses on binding instruments only. However, as previously mentioned, the number of EU non-binding instruments addressing urban transport (including Commission communications and funding programmes) is likely to be very high.

The EU Commission does not always clearly indicate from which DG pieces of legislation originate. For example, regulation 1370/2007 on public passenger transport services by rail and road features both in DG MOVE and DG Competition; in the context of this thesis it has been categorised as DG MOVE as it receives most attention on the DG MOVE website. It is therefore in the context of this margin for uncertainty that the results presented in figure 5.2 must be viewed. Even though a thorough search has been conducted across the EUROPA website and validated with

the Eltis website, some EU legislation having had a direct or indirect impact on urban transport might have been missed in this search.

As illustrated in figure 5.2 and table 5.4 below, legislation has been categorised as having a "Direct" (D) or "Indirect" (ID) 'potential' impact on urban transport. A direct impact is defined as an explicit reference in the legislation's summary or the core text of the legislation to transport or mobility in an urban area. As illustrated in table 5.4, Directive 2009/33/EC on the 'Promotion of clean and energy-efficient road transport vehicles' explicitly refers to 'urban mobility' and gives examples of transport in an urban context.

Indirect impact is more difficult to identify. Where a piece of legislation or policy makes an oblique or implicit reference to transport in its text or in its official summary, or where the legislation refers to transport but does not constitute the core of the legislation, the impact has been defined as indirect. In other words, when it is incidental to the legislation and when it is not the primary focus of the EU legislation. As illustrated in table 5.4, Directive 2002/49/EC concerning the 'Assessment and management of environmental noise' is a good example of legislation addressing urban transport indirectly. The Directive's primary focus is noise reduction; it makes one reference to urban policies and traffic planning and none to urban transport or mobility. However, though the directive does not directly address or mention urban transport, it is likely to have an impact on it.
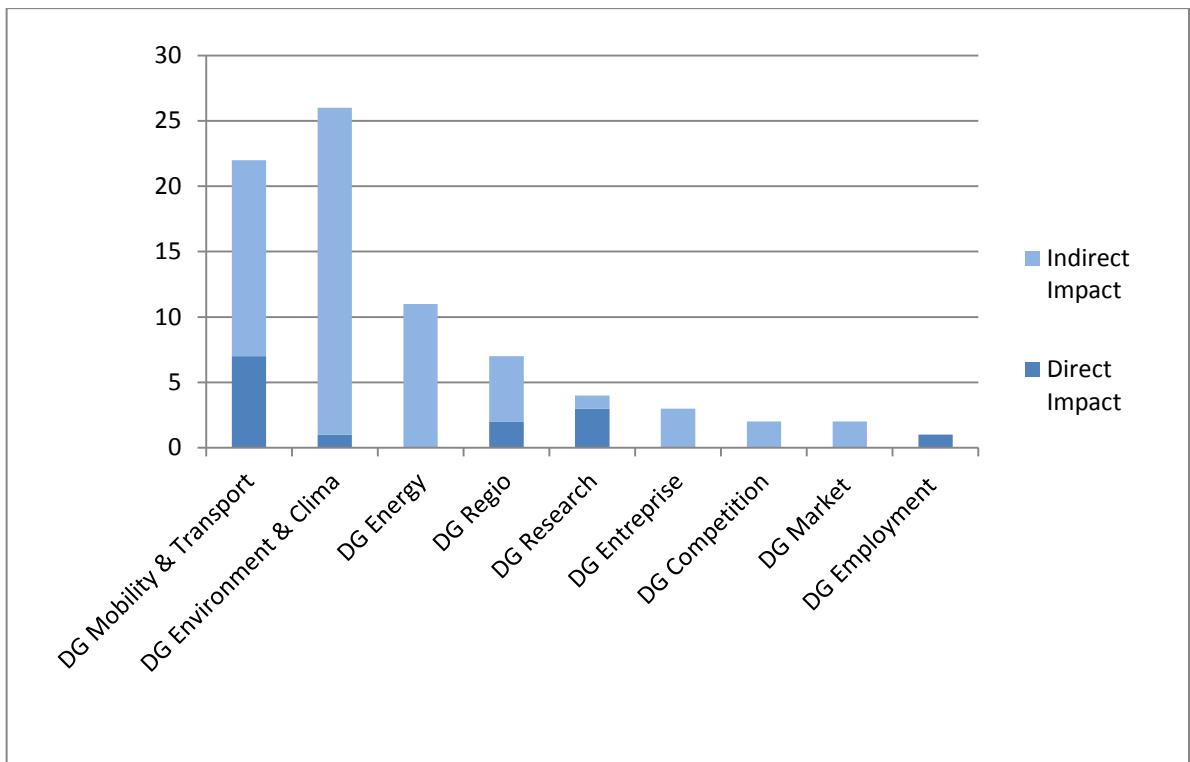
Figure 5.2: EU legislation addressing urban transport directly or indirectly

The results of this search (illustrated in figure 5.2 above) indicate that many DGs, which at first sight may appear unrelated to transport, can end up promulgating legislation which does affect urban transport. For instance, the directorate general in charge of employment, social affairs and equal opportunities proposed the Council Decision on 'Community strategic guidelines on cohesion' which referred to public transport at the local level. Further examples are provided in table 5.4 below. These results illustrate the fact that non transport policies have a significant impact, mainly indirect, on urban transport.

DGs	Legislation	Direct or Indirect Impact
Mobility	Promotion of clean and energy-efficient road transport vehicles, Directive 2009/33/EC	**Direct** – Five mentions to the term 'urban mobility'
Environment or Clima	Assessment and management of environmental noise, Directive 2002/49/EC (DG Environment)	**Indirect** – References to 'road traffic noise' and 'traffic planning' and 'local measures meant to reduce the noise impact' but no explicit reference to urban mobility
Energy	Promotion and use of energy from renewable sources, Directive 2009/28/EC	**Indirect** – References to 'renewable sources consumed in transport', and 'collaboration with' or 'encouraging local authorities'
Competition	Competition to transport by rail, road and inland waterway, Regulation 169/2009	**Indirect** – Regulation applying to the transport sector in all countries, including in urban areas.
Regio	European Regional Development Fund 1301/2013.	**Direct** – Mentions to promoting local mobility

Table 5.4 Example of legislation emanating from different DGs addressing urban transport directly or indirectly

Fourteen of the 78 pieces of EU legislation directly affect urban transport; whilst 64 (82%) of the total number can be described as indirect legislation. It clearly illustrates the fact that urban transport is impacted by more indirect policies than direct policies. It is noteworthy that although DG MOVE accounts for most of the legislation which has a direct impact on urban transport (7 pieces of legislation), DG Environment and Clima are the DGs which have initiated the most legislation which affects urban transport directly or indirectly (26) – more than DG Move. It is important to note that almost half of all legislation affecting urban transport is initiated by only three DGs: DG Environment, Clima and DG Energy (47.5%). Interestingly, and further to what has been said above about the importance of both

these strands of legislative influence, interviews have confirmed that legislation initiated by DG Environment have had a significant impact on urban transport policies.

5.4 Impact EU policies have had on urban transport

The impact EU policies have had on urban transport is seldom mentioned in the literature. Pflieger (2012, 2011) has studied the impact EU funding programmes have had on urban transport policy-making. She concludes that programmes such as CIVITAS have acted as an 'accelerator' of sustainable transport policies at the local level, but that the overall impact on local policy-making remains limited. In addition, one of Pflieger's main conclusions is that local authorities are increasingly involved in EU transport policies; by doing so policy makers and politicians aim at obtaining funding and promoting their city in the European arena. However, her research has investigated the impact CIVITAS has had in one country only (France). Further research is necessary to validate her results and confirm whether these are representative. This investigation attempts to further analyse the impact the CIVITAS programme has had on urban transport, as discussed in chapter 8.

The participants interviewed at the EU and at the horizontal level (see chapter 4, section 4.4) were asked to name the policies or legislation emanating from the EU that have had the most impact on urban transport. The 18 participants who replied to that question listed a range of EU policies and legislation directly or indirectly affecting urban transport. As illustrated in figure 5.3, the most frequently named were the air quality directive (initiated by DG Environment) and the Euro Standards 5 and 6 (initiated by DG Enterprise and industry). The noise directive (DG Environment) was also frequently quoted. Responses indicate that directives initiated by DG environment have had a substantial impact on urban transport. One Commission official in charge of climate change policies argued that "Environmental policies have had at least as much impact as transport policies on urban transport" (P14, DG CLIMA). Participants who quoted regional and structural funds mentioned that the impact on urban transport has mainly been negative since the funds have promoted the building of many roads and highways, encouraging the use of private

vehicles. The green capital award was mentioned by two Bristol policy makers. Finally responses suggest that EU binding directives have had most impact followed by non-binding programmes such as CIVITAS.

EU policies that are perceived to have had the most impact on urban transport

Air Quality Directive
Euro Standards
Noise Directive
Clean vehicle Directive
Regional and structural funds
Road safety
Passengers' rights
Green Capital Award
CIVITAS

■ Number of Participants

0   10   20
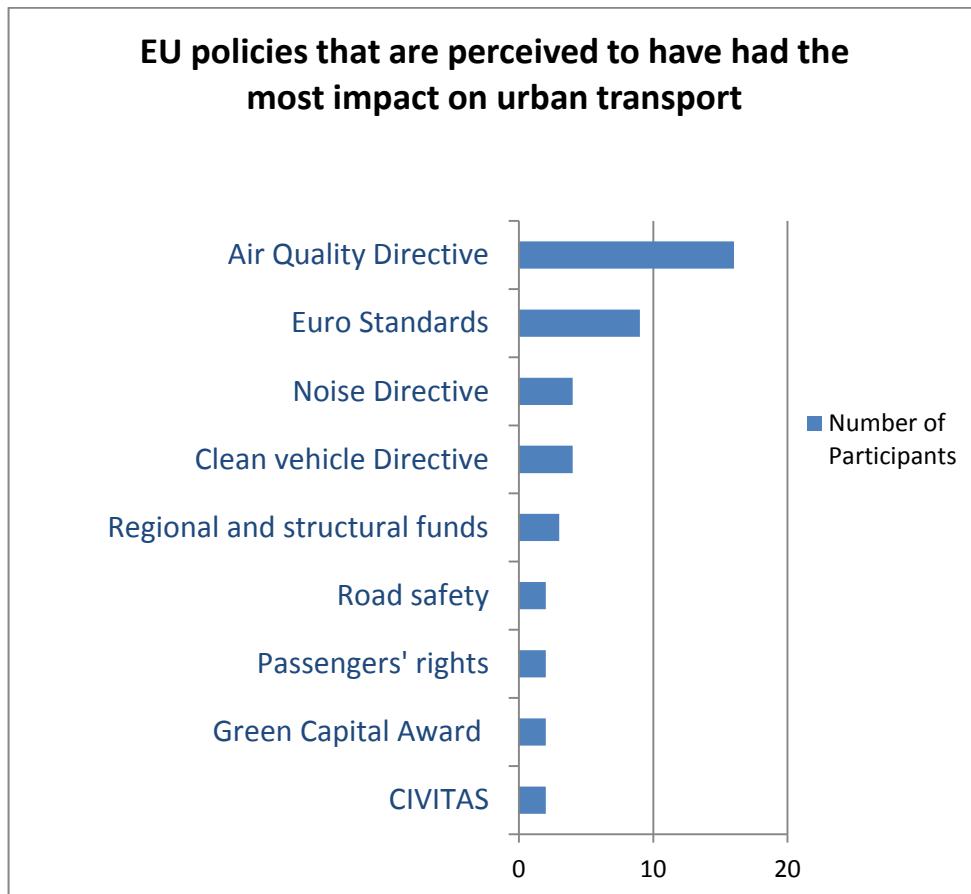
Figure 5.3: Responses to the question: which EU policies have had most impact on urban transport?

It is important to note that when asked the question "which policies have had most impact in your city?" local actors mainly mentioned national or local policies. Some of their national policies, such as air quality laws, emanate from the EU but local actors were not necessarily always aware of this - as further described later in this chapter. Therefore the majority of local actors were not able to name EU policies that have had an impact on urban transport. This could be explained by the fact that, compared to national or local policies, only a limited number of EU policies have had an impact at the local level. It could also be because local actors are not aware that some policies emanate from the EU level.

5.5 Themes that have emerged from the interviews

In relation to the topic 'the impact EU policies have had on urban transport' various themes have emerged from the interviews. This section reports on four topics: multi-level governance, policy instruments, subsidiarity and the lack of awareness at the local level.

5.5.1 Multi-level governance

Discussions with the participants interviewed at the EU and horizontal level (see chapter 4, section 4.4) highlighted the importance of multi-level policy making in the field of urban transport. In this context, the emergence of new actors in the EU arena was identified. Indeed, as EU policies affecting urban transport have increased, a growing number of consultancy companies, city networks and associations related to EU urban transport have been established in Brussels. By having representatives in Brussels, local authorities have intended to establish a more direct relationship with the Commission (as illustrated in figure 5.4). For instance, the UK local governments association decided to establish an office in Brussels in the late 1990s to "monitor and communicate what is happening in the European Institutions" (P21, LG). Associations or networks representing cities translate the information which comes from the EU to cities and vice-versa. The word 'translating' here has two meanings: the literary meaning 'to translate' from one language to another, and it also means to translate the "EU Jargon" and the way the EU functions into everyday language. Therefore these associations are the interface or 'contact point' between different levels of policy-making and play an active role in representing local authorities and in influencing policy making at the EU level.

Interactions between subnational authorities and the Commission remain mainly informal and happen via Brussels-based representatives. Commission officials are usually receptive and open to meeting with city representatives or attending networking events and frequently consult them. Formal interactions between the Commission and subnational authorities - mainly through their representatives - occur during consultation phases. All these interactions generate bottom-up policy-making. Indeed, as highlighted by several participants, including Commission officials, consultation exercises and informal meetings do influence the

Commission's policies. A participant reported that during the 2002 CIVITAS demonstration project, local policy-makers involved in the project were frequently consulted by Commission officials and "did influence Europe" (P38, Brist). Thus influencing or lobbying the EU Commission is now an established part of the policy-making process in the field of urban transport.

Figure 5.4 attempts to illustrate the complex interactions in relation to EU urban mobility policies in a multi-level and multi-layered governance system and complements section 2.2 (chapter 2).
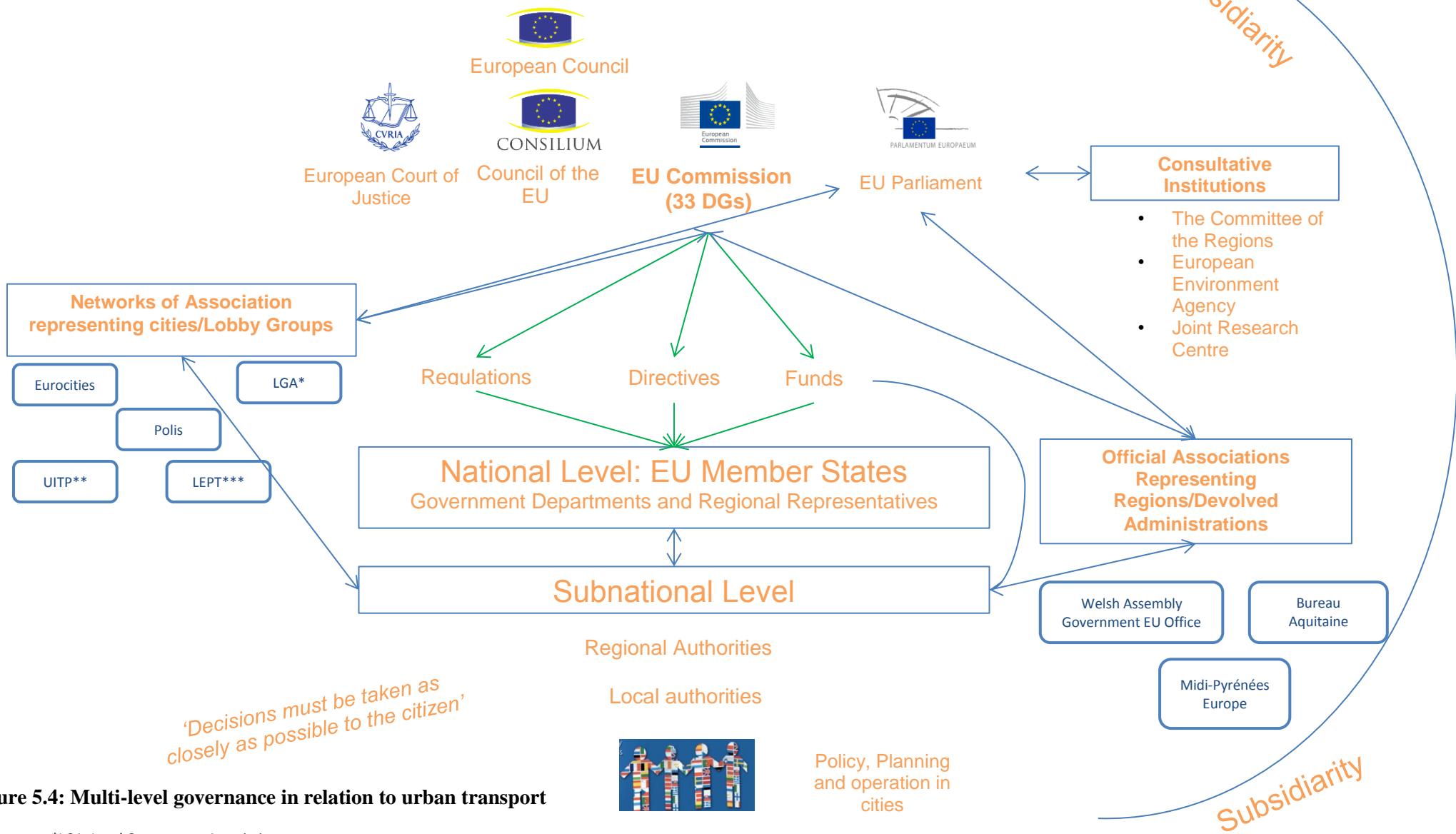
Figure 5.4: Multi-level governance in relation to urban transport

*LGA: Local Government Association
**UITP: International Association of Public Transport
***: London European Partnership for Transport

Figure 5.4 illustrates the different EU actors at the supranational level, including consultative institutions such as the European Environmental Agency. The figure also highlights the numerous actors involved in EU policies at the horizontal levels, such as lobbying associations representing local authorities. At the national level, associations representing regions or devolved administrations can play an active role in EU policy-making. As illustrated in figure 5.4, multi-level governance is closely linked with the subsidiarity principle. As previously mentioned (Chapter 3) the subsidiarity principle is used to regulate the exercise of power between different EU actors across different levels. In the context of urban transport policies it is particularly significant, as illustrated by one participant box 5.1 below:

> *"Competition between different levels of government is nothing new to me. Already at a national level it's always a discussion what is best decided at which level and I think this is basically what the subsidiarity principle also says. [...]if you have a federalist structure, some of the decisions are taken at the local level, some are taken at the regional level, some at the national level, some at the European level. Of course, for the European level then the question asked is: are we properly addressing this at our level or should we only provide a framework? [...] this is a standard situation that we are facing in all policy areas and certainly in those areas where there's a shared competence."* (P4, DG MOVE).

Box 5.1: Multi-level governance and subsidiarity

The frequent "contacts through multi-level governance" in the EU arena are the results of 'shared competence' between different entities at different levels.

5.5.2   Policy instruments

Most participants were asked to discuss the impact different policy instruments have had, mainly binding and non-binding EU tools, in the context of urban transport. The majority of the participants who responded represented the EU level, such as Commission officials, or city representatives based in Brussels. This section summarises and discusses participants' views and comments on the topic.

Eleven participants gave their opinion on the impact of **soft** instruments in the European Union, mainly participants representing EU institutions or cities. As illustrated in figure 5.5, five participants were very enthusiastic about EU soft tools and their impact. It was reported that soft tools "send a strong political message" (P24, Polis) and that they are a key element of EU policy-making in the field of urban transport. As stated by a Commission official:

> "the big centralised things have less and less space in most policy areas in Europe while the large decentralised programmes are extremely important" and voluntary agreements such as the Covenant of Mayors "…are the projects of the future" (P6, DG ENER).

In addition, city representatives mentioned that non-binding instruments promote "awareness" and guidance for local authorities.

Three commission officials working on environmental issues expressed doubts about the impact soft instruments have had. One participant stated that since the failed attempt to establish voluntary agreements (mainly with car manufacturers), "non-binding policies have lost their popularity" (P14, DG CLIMA). Commission officials working on environmental issues tend to be frustrated by the lack of progress with 'softer' policy instruments. Figure 5.5 illustrates the opinion of participants who commented on EU soft policy.
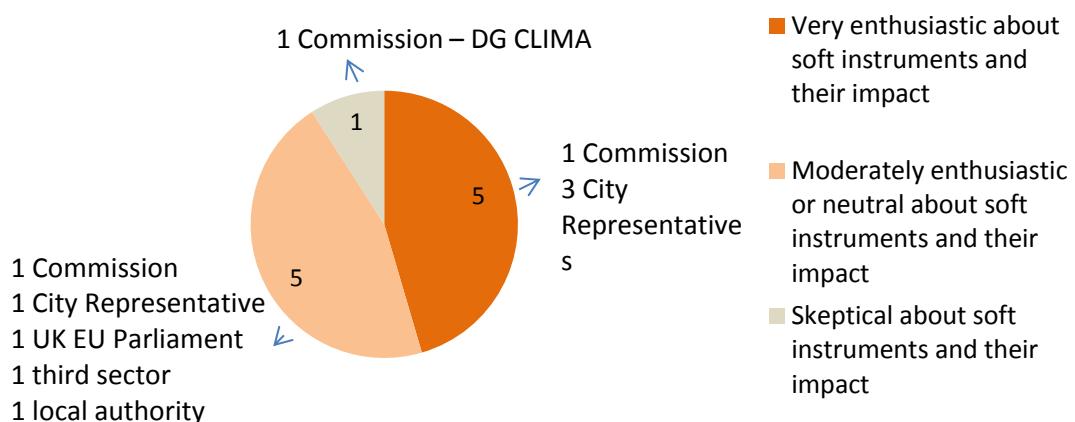
Figure 5.5: Participants' opinion on EU soft tools and their impact

In relation to the impact of **binding** policy instruments in the context of urban transport and environmental policies, responses were mixed. On the one hand, Commission officials in charge of environmental issues argued that binding instruments are necessary. On the other hand, city representatives were not in favour of EU binding instruments. From the point of view of the Commission officials, binding instruments remain the most effective way to have an impact. As stated by one of them:

> "You have limited time and limited human resources and the question is how best do you deploy those limited resources to bring about an improvement in the environment, if you're putting out soft advisory documents which has no stick, no incentive, then compare that to a possible infringement case for non-compliance and the imposition of a hundred thousand euro a day fine"(P8, DG ENV)

From the officials' perspective, only binding instruments have the potential to have a wide scale impact and force policy-makers and stakeholders to "to face up to the problem" (P14, DG CLIMA). On the contrary, five city representatives stated that EU binding instruments overall are perceived negatively by cities, especially in the UK. Arguments referred to binding instruments being 'too burdensome' for cities, or lacking flexibility and not taking into account local differences. Therefore, local authorities seem reluctant to accept binding EU instruments, whereas Commission officials view it as the most effective tool to achieve high policy objectives.

Funding programmes were mentioned by many as having a strong impact on urban transport. Eleven participants, mostly Brussels-based city representatives, raised the topic. All stated that EU funding programmes have had a positive impact on urban mobility. Indeed, according to many participants, cities often lack financial resources and competences to implement innovative transport solutions and are keen for increased EU funding and EU guidance. As a city representative stated: "To trigger a green revolution you need money" (P16, Eurocities). As will be analysed in more detail in the case of CIVITAS, participants referred to funding programmes as important to foster innovation, exchange of best practice or to gain political credibility.

The need for a **mix** of policy instruments was mentioned by several participants. Participants referred to a mix between soft and hard instruments and argued that they

should be complementary. For instance a Commission official stated: "Starting with soft methods seems logic […] then hard if necessary" (P3, DG MOVE). Depending on the circumstances, one type of instruments can be more appropriate or the combination of both. Four participants mentioned the fact that 'conditionality' mixed with funding programmes is an effective tool. As explained by a participant "I will give you money if… (you comply with CO_2 emission targets or air quality targets)" (P3, DG MOVE). 'Conditionality' in the context of urban transport funding programmes is becoming popular amongst Commission officials who view it as a tool to foster change without having to impose laws. Therefore many participants mentioned that using different type of mixed policy instruments is appropriate for EU urban transport policy. Table 5.4 summarises the level of impact different EU policy instruments have according to participants.

Impact EU policy instruments on urban transport	Very High Impact	High Impact	Medium or Low Impact
Commission Communications (e.g. Green or White Papers)			Impact is mainly internal "Political statement within the EU"
Funding Programmes		Provide financial resources, competences, political credibility to cities Foster innovation, exchange of best practice	
Mixed Instruments		Hard and Soft tools are complementary Conditionality in Funding programme is effective	
Binding Instruments	Impact on a large scale Effective but burdensome, perceived negatively by local authorities		

Table 5-4: Participants' assessment of the impact EU policy instruments have on urban transport

Finally, it is interesting to note that there is an intricate relationship between the principle of subsidiarity and the choice of EU instruments. The less binding an EU policy instrument is, the less likely it is to breach the principle of subsidiarity. This is the reason why 'direct' EU urban transport policies have tended to be soft instruments.

5.5.3   Subsidiarity in Urban Transport

The subsidiarity principle is a controversial topic that stimulates debate amongst academics and actors involved in EU policy-making (as mentioned in chapter 3). It is particularly important in the context of local policy-making and is an underlying point of discussion in all debates on EU urban transport policies. This sub section reports and discusses findings from the interviews related to the subsidiarity principle.

Even though the semi-structured interviews did not ask direct questions about subsidiarity, many participants raised the topic. Thirteen participants initiated a conversation about the subsidiarity principle and offered their views and interpretations. These participants represent different levels of governance from the European Commission, to national, local level, networks of cities based in Brussels, or the third sector.

Some participants highlighted the lack of clarity of the definition of the principle of subsidiarity. As described by a Commission official:

> "Some people interpret that as: the EU wants to take action in a field which used to be reserved for local authorities. In that case there is a subsidiarity issue. From our perspective, the Commission is not trying to infringe on the local authorities' competences at all. The Commission is just trying to support local efforts or to enable policy and local actors, especially when the national framework does not exist" (P4, DG MOVE)

As pointed out in the literature (section 3.6, chapter 3), participants noticed that the vagueness of the definition often leads to different interpretations.

Some participants argued for a strict application of the subsidiarity principle in the field of urban mobility. As stated by a French government official: "Local circumstances are so different that it is better for the EU not to legislate in the field of

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urban transport" (P62.1, Gov Ecology). Some participants reported that member states tend to be 'protective' about subsidiarity and often use the subsidiarity principle as a tool to protect their sovereign power and 'keep' urban policies in the national policy-making arena. This has led the Commission to be very careful about the lexical field or 'terminology' used in official documentation. As reported by a Commission official: "So often a certain action will be viewed differently whether you approach it from under the heading of urban mobility or not", "how you present and approach it" is key (P4, DG MOVE). Thus the wordings of an EU policy related to urban mobility are carefully chosen not to risk a 'subsidiarity breach'. Therefore member states tend to strengthen the subsidiarity principle to their advantage to maintain their sovereign powers.

Seven participants, including two Commission officials, mentioned that the subsidiarity principle is a practical necessity and that decisions should not be taken at the EU level unless justified. As explained by Commission officials, the Commission has limited human and financial resources and de facto cannot deal with policies across the 28 member states. The problem was well summarised by a policy official at DG Environment:

> "you have a European commission which is staffed by just over 20 thousand people (…). There are more people who manage Scotland than there are managing the whole of the EU." "If there is no added value for the EU to act then we should not be acting" (P8, DG ENV)

In addition, it was argued that problems are unique in each city and that local authorities should have the flexibility to implement their chosen solutions.

However, most participants recognised the need for EU Intervention at the local level. The need for EU action in the field of environmental policies, mainly pollution and CO_2 emissions, was highlighted. As stated by one Commission official: "Pollution in one country affects people living in another country so you have to act in a common consistent way across the EU" (P8, DG ENV). The need for harmonized policy action at the "highest level" to tackle issues such as climate change was mentioned.

5.5.4 Justification for EU action at the local level

Some participants, particularly Commission officials, highlighted the fact that tackling urban transport issues at the supranational level is necessary if the EU is to achieve its policy targets, in particular CO_2 emissions and air quality. As stated by a Brussels-based city representative: "It is impossible to achieve Kyoto objectives and other commitments if the EU does not tackle urban issues, notably transport" (P20, UITP). Another participant, a Commission official, justified EU action by stating: "Urban transport is the common thread to many environmental and health problems, pollution, noise, CO_2 emissions, lack of physical activity, etc. so it is important to address it at the EU level" (P8, DG ENV). According to these participants, the Commission has a role to play and a responsibility to support, encourage, or provide a framework for action to achieve EU policy targets at the local level. As summarised by a policy officer at the Commission:

> "Now the main responsibility to take action at the local level lies, of course, with the decision makers at the local level; but at the same time I think that much of the burden to make sure that the EU reaches its key objectives in a number of policy fields lies on the shoulders of local actors, they should not be left alone in doing so." (P4, DG MOVE)

Another reason highlighted by participants is the need for joint and harmonised solutions to common problems at the urban level. Indeed, very often transport issues faced by one local authority are found in many other cities in different countries. As stated by one participant: "It is not good if thousands of cities try to find solutions separately for similar problems" (P12, DG REGIO). Thus, according to some participants, the Commission's intervention in the field of urban transport is justified because it provides a framework to foster common solutions to common problems.

5.5.5 The EU: an excuse to implement unpopular measures?

One of the themes that emerged from the interviews is how the EU is used politically. Five local policy makers in Cardiff, Bristol, Toulouse, Bordeaux and two Brussels-based city representatives, made interesting comments about this topic. When asked what impact the EU has had, the policy-makers acknowledged that often the EU is used as an excuse to implement unpopular measures. As described by some participants, expressions such as: "it is not us it is mandatory from the EU", ""It is

imposed by Brussels" or "Europe wants us to have clean cities etc." are often used by local politicians or policy-makers. On the other hand, if a policy emanating from the EU is popular, participants report that it is common for local politicians to take 'credit for it'. As honestly admitted by a local policy maker in Cardiff:

> "Interestingly often you will find people blame European legislation for things that they can't do", on the other hand "when it comes to funding […] you take the credit yourself.[…] why would you want to give credit to some people who are five hundred miles away in Brussels. I wouldn't!" (P25, Cardiff).

So the EU is often used politically to implement unpopular measures or to take credit for successful ones.

5.5.6 Lack of awareness of EU policies having an impact at the local level

Local actors were asked whether they, their colleagues, or local stakeholders, are aware that certain policies such as the air quality directive emanate from the EU. The majority clearly stated that there is very little awareness amongst local actors and stakeholders and that they are 'unlikely' to know that there is a link with the EU. Policy-makers in Cardiff mentioned that most EU policies "get lost in translation" on their way from the Commission to the local level. This is significant in a city like Cardiff where EU policies are transcribed into national laws and then integrated into Welsh policies; thus, by the time they reach the local level they are not associated with the EU anymore. Therefore, most participants agreed that there is a lack of awareness at the local level regarding the origin of legislation coming from the EU, as illustrated in box 5.2 below.

"*EU policies get lost in translation*"
Cardiff policy maker

"*There is a view that the Welsh Assembly has more power than it actually has, whereas those powers are actually coming from the EU…*"
Cardiff policy maker

"*Given that 80% of French law emanates from the EU, we must be implementing EU law without knowing*"
Toulouse policy maker

Box 5.2: Views of whether actors are awareness that some policies emanate from the EU

5.6 Conclusion

This chapter has reported on the historical evolution of EU urban transport policies and on the overall impact EU policies have had on urban transport. In addition, it has summarised several participants'views on key topics related to EU urban transport policies.

This thesis argues that there has been an increase in urban transport policies initiated by the EU Commission since the 2000s and that, at the Commission level, there is a growing willingness to tackle urban mobility issues. The subsidiarity principle has restricted direct and binding action in this field and has pushed the Commission to use softer instruments.

Results indicate that EU policies having an impact on urban transport emanate from a broad range of Directorate Generals. Policies that have had an indirect impact and non-binding instruments are very numerous. Results also highlight the particular importance of the impact of EU environmental policies on urban transport.

Urban transport policies in the EU are shaped by multi-level governance. Direct communication and interactions between the supranational and the subnational level have been developed in the field of EU transport policy. A growing number of Brussels-based associations and networks form a communication platform between regional or local authorities and the EU Commission. Most of these interactions remain informal, except when the Commission organises consultation exercises. Yet, these interactions inform and influence the Commission, resulting in frequent cases of bottom-up policy making.

The majority of the participants who discussed the impact different EU instruments have had are based in Brussels and represent EU institutions or cities. Most participants support the use of soft instruments in the context of EU urban policy and stated that, despite being hard to measure, they have an impact at the local level. Funding programmes are a popular tool supported by city representatives and local authorities. On the other hand, there were contrasting views regarding the use of binding instruments. Commission officials argued that it is the most effective tool for environmental policies, whereas city representatives voiced their concern and reported that cities are reluctant about the use of binding instruments, particularly in

the UK. Soft instruments are preferred by many as they are less likely to 'breach' the subsidiarity principle. Many participants defended the use of a mix of policy instruments, such as a combination between hard and soft law and conditionality associated with funding programmes.

Even though not all participants mentioned the subsidiarity principle, the topic was spontaneously raised by many and was implicit in other cases; this highlights the importance of this concept in relation to EU urban policies. Some participants confirmed – as suggested by the literature - that in the field of urban transport, the lack of clarity of the concept of subsidiarity principle has led to different interpretations. In general, the subsidiarity principle seems to be used as a tool to prevent the EU Commission from legislating in the field of urban transport and therefore a barrier to the establishment of firm EU policies in the field of urban transport. According to many participants, the principle of subsidiarity is justified and some argue, particularly at the member states level, that it should be strengthened to further limit EU intervention. However, most participants who raised the topic, argued that EU action in the field of urban transport is justified.

Chapter 6   Directive 2008/50/EC: Regulating the level of air pollution

"*An EU Directive is necessary because air pollutants have no boundaries*" (P62.2, gov eco)

6.1   Introduction

As highlighted in chapter 4, policies emanating from DG Environment have addressed, directly or indirectly, urban transport, in particular the EU directive on air quality. This chapter examines whether the EU directive 2008/50/EC on ambient air quality and cleaner air has had an impact on urban transport in the European Union. It assesses whether the directive has generated policy output, including alteration of political agendas or specific modification in the city's investments and infrastructure. Although this piece of legislation concerns air quality, it is likely to have had a direct and indirect impact on many policy areas, especially urban transport.

The European Environment Agency has studied the link between transport and air quality (European Environment Agency, 2013, 2006b), including a report examining the implementation of EU air quality laws at the urban level. That report highlights the challenges faced by cities in implementing air quality laws, such as issues regarding the location of the monitoring stations (EEA, 2013, p.6). Recommendations were made to improve monitoring such as increased guidance concerning the positioning of the measuring stations in cities. The report recognises that to reduce the level of harmful pollutants, in particular PM10 and NO_2, many cities have implemented transport measures (EEA, 2013, p.38). However, this report focuses on implementation issues at the local level but does not analyse the impact EU air quality policies have had on transport. In general, the impact the air quality directive 2008/50/EC remains under-studied, particularly in the field of urban transport.

6.2 History

European Economic Community laws related to air quality date back to the 1980s. Two key laws were introduced in 1980 and 1982 to tackle air pollution; one was focusing on sulphur dioxide and suspended particulates and the other on lead. The danger to human health of air pollution and the fact that air contamination crosses national borders justified action at the EU level (Hildebrand, 1992; Jordan, 2005). From the mid-1980s several EU laws were adopted tackling a range of air pollutants such as nitrogen dioxide. The first directive that made an attempt to harmonise air quality issues was the 1996 Council directive on ambient air quality assessment and management. This directive established a common framework to analyse air quality in each member state. Since 1996, various directives have tackled different pollutants such as ozone or NO_2 and have introduced new requirements for measurement and assessment.

As the impact air pollution has on health started to be highlighted in the 2000s, notably by the World Health Organisation (WHO), pressure increased on the EU to adopt stricter legislation. It is estimated that 70% of air pollutants are generated by urban traffic in the EU (European Commission, 2014a) exposing 90% of urban residents to air pollutants deemed extremely harmful for human health by the World Health Organisation (European Environment Agency, 2013). Regular exposure to high concentrations of these pollutants aggravates and causes cardiopulmonary disease, worsens heart disease, and causes premature death, amongst other things (WHO Europe, 2005; WHO, 2014).

The adoption of the directive 2008/50/EC marked a turning point. This piece of legislation gathered most of the relevant EU regulations on air quality into one single piece of legislation. It established strict targets and limit values to be achieved by a certain date for most air pollutants; it also reinforced monitoring and introduced deadlines to reach the agreed targets. All member states were actively involved in drafting the proposal, and despite some controversy regarding certain pollutants such as NO_2, common limit values were adopted. However, as reported by a Commission official:

"I think it's fair to say that when these limit values were adopted nobody knew the difficulty that some of these might actually cause." (P8, Commission).

One of the key justifications for the adoption of the directive was the "trans-boundary nature of pollutants" as stated in the directive (European Union, 2008 art 25). Thus, the Commission justifies action taken at the EU level to tackle an issue that concerns all member states.

In 2013 the 'Clean air Package' was adopted by the Commission to complement the 2008/50/EC directive. It established new objectives for 2030 and stricter national emission ceilings for the main pollutants (European Commission, 2013a). Therefore, addressing air pollution issues has become increasingly important in the EU.

6.3 Functioning

Once adopted, the EU directive 2008/50/EC on air quality was transposed into national law in all member states. Figure 6.1 illustrates how the directive on air quality filters down from the supranational to the local level and vice-versa. As illustrated, once the directive has been transcribed into national law, governments become legally responsible for its implementation and to achieve the limit values[1]. Given that the legislation is a directive, member states have the flexibility to adopt the measures they deem most adequate to achieve the limit values in their country.

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[1] According to the EU directive 2008/50/EC, article 2, 'limit value' means: "a level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained."
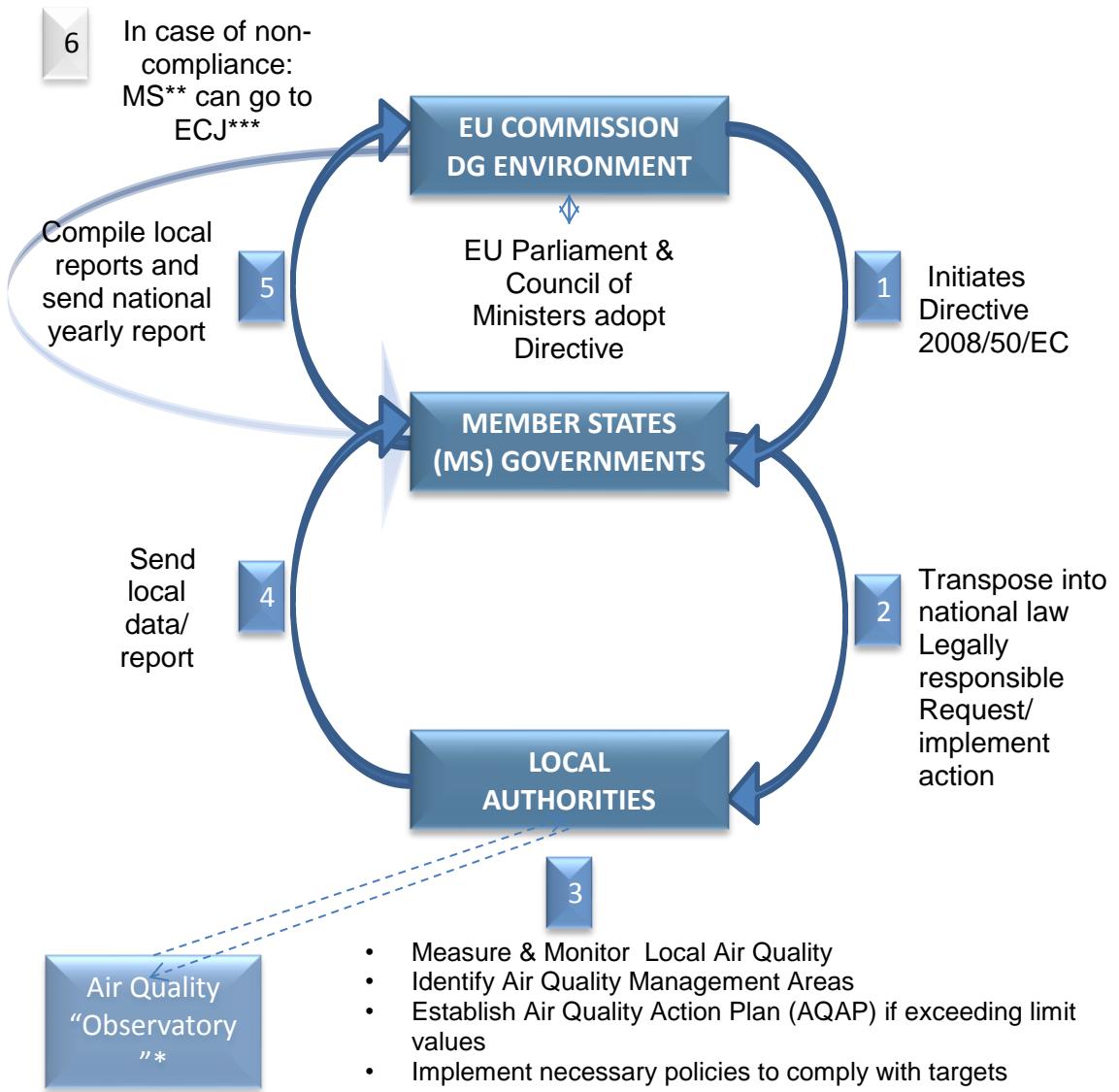
Figure 6-1 Directive 2008/50/EC functioning

The actions taken locally vary from one country to another. In most cases local authorities become indirectly responsible for monitoring levels of air pollution, complying with limit values and reducing people's exposure to pollutants. Depending on the city, measures are then adopted to reduce air pollution or reduce people's exposure to pollutants.

The first step for authorities in each member state is to measure air quality in urban areas where air quality is likely to be poor. The focus of the directive is on 'agglomerations' above 250 000 inhabitants or in densely inhabited 'zones' (European Union, 2008 art 2.17). The relevant authorities are then in charge of monitoring air quality in the designated urban areas

If the air pollutants exceed the limit values then a series of actions have to be taken. The first step is the establishment of an air quality plan. The directive does not provide guidelines for the establishment of these plans, but it is expected that the plan will list measures of actions that the relevant authorities intend to implement in order to comply with the limit values. Even though the need to reduce emissions 'at source' is highlighted by the EU directive, the focus is on reducing population's exposure to pollutants. Second, if measurements indicate that the level of air pollutants exceeds the limit values, short terms measures should be taken to decrease the population's exposure to pollutants. The directive does not particularise the type of short term measures to be implemented but mentions that they "may include measures in relation to motor-vehicle traffic" (European Union, 2008 art 24.2). The directive targets the level of pollutants in relation to people's exposure to pollution; thus focusing on urban areas where there is a combination of high levels of traffic generating pollution and a high density of population.

Finally, air quality data and action plans in each designated local authority are then gathered by national authorities and compiled into a yearly report that is submitted to the Commission. The Commission is then in charge of assessing the results and of monitoring whether the appropriate measures are taken and implemented by member states.

Direct interaction between the Commission (i.e. a team of six people responsible for air quality at DG Environment) and local authorities is rare given that national governments are solely responsible for the implementation of the law; however, Commission officials report that various workshops involving local authorities (mainly through regional representatives) have been organised to discuss the air quality directive and its implementation. For instance in April 2010 a technical workshop on NO_2 was organised involving national and sub-national representatives. Even though Commission officials recognise the need to establish further dialogue

with local authorities, they argue that the Commission does not have the capacity (i.e. lack of financial and human resources) to engage with the thousands of local authorities from 28 member states. In addition, the Commission has produced additional soft policies or guidance documents to complement the directive and support its implementation which mainly target national governments, such as guidance describing how to produce annual reports.

Even though the focus of the directive is not related to urban transport and the directive does not make any direct references to 'urban transport', transport issues are frequently referred to and are indirectly linked to the local level. Specific mention of transport policies are referred to in the section related to the establishment of air quality plans. The directive clearly states that these plans should contain information related to "air pollution abatement measures" including:

> "procurement by public authorities (…) of road vehicles, fuels and combustion equipment to reduce emissions, including the purchase of new vehicles, including low emission vehicles;
>
> measures to limit transport emissions through traffic planning and management (including congestion pricing, differentiated parking fees or other economic incentives, establishing low emission zones);
>
> measures to encourage a shift of transport towards less polluting modes" (European Union, 2008 Annex XV).

It is important to note that the directive mentions 'public authorities' in broad terms and does not refer to urban areas directly. However, it is indirectly targeting urban policies, in particular transport, given that, as previously shown, most air pollution affecting human health emanates from urban transport.

6.3.1 Implementation of the Directive in the UK and France

In most countries the directive 2008/50/EC has been transposed without substantial modifications. However differences are noticeable in the way the directive is being implemented in different countries. This sub-section investigates the way the directive has been implemented in the two case study countries, the UK and France.

United Kingdom

In the UK the 1995 environment act established an initial framework addressing air quality issues, partly by incorporating EU regulations in the field of air quality in the 1990s. The 2008/50/EC EU directive on air quality was only transposed in 2010. It became a separate legal instrument dedicated to addressing air quality in the UK called the Air Quality Standards Regulations, as illustrated in figure 6.2. Although the Department for Environment, Food and Rural Affairs (DEFRA) co-ordinates air quality policies in the UK as a whole, each devolved administration is in charge of transposing the EU directive into law. However, the name of the regulation and the content remain almost identical in different administrations in the UK. Figure 6.2, refers to Wales as an example.
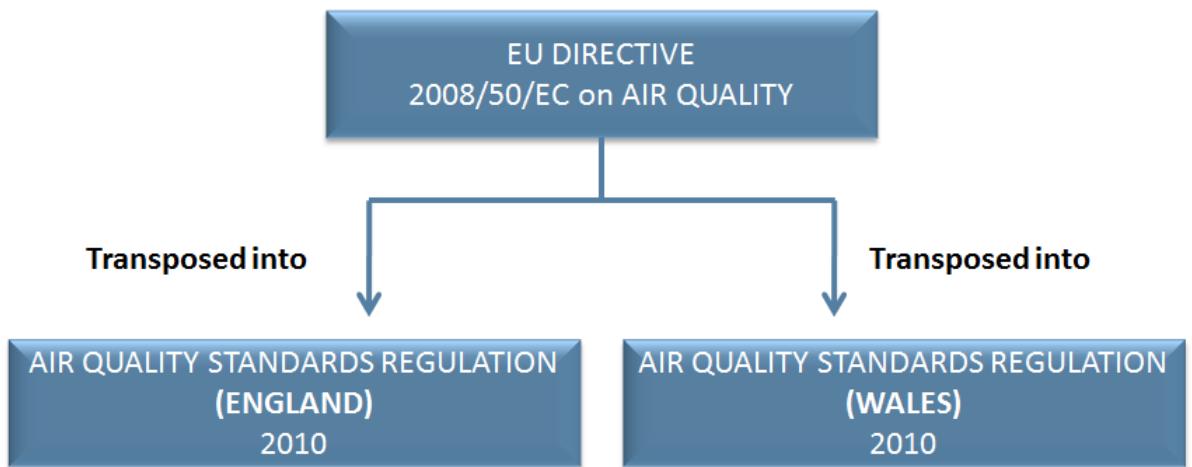
Figure 6-2 Transcription air quality directive UK

In the UK, the national government assumes full responsibility to implement the directive and adopt measures at the national level. As stated by a government official, local authorities have a 'requirement to work towards national objectives' but are not legally responsible to comply with the air quality regulations (P41, DEFRA). However, this topic has been highly controversial in the UK, as reported by participants. Making local authorities legally responsible to comply with the directive has been debated, in particular in the case of London where limit values are regularly exceeded.

The monitoring of air quality in cities, in compliance with directive 2008/50/EC, is carried out by the national government, indirectly run by local representatives, as illustrated in figure 6.3. There are some exceptions, such as Bristol, where the monitoring is exclusively managed by the local authority which is in charge of collecting data and sending it to the government, as illustrated in figure 4. If limit values exceeded in an urban area, the area is declared an 'air quality management area'; following which, local authorities are asked to establish an air quality plan in consultation or in 'conjunction' with the government. As stated by a government official this is "to make sure that they follow the guidance in producing them" (P41, DEFRA). Local authorities are then in charge of implementing the necessary measures agreed and are required to report on progress made to implement their action plan.
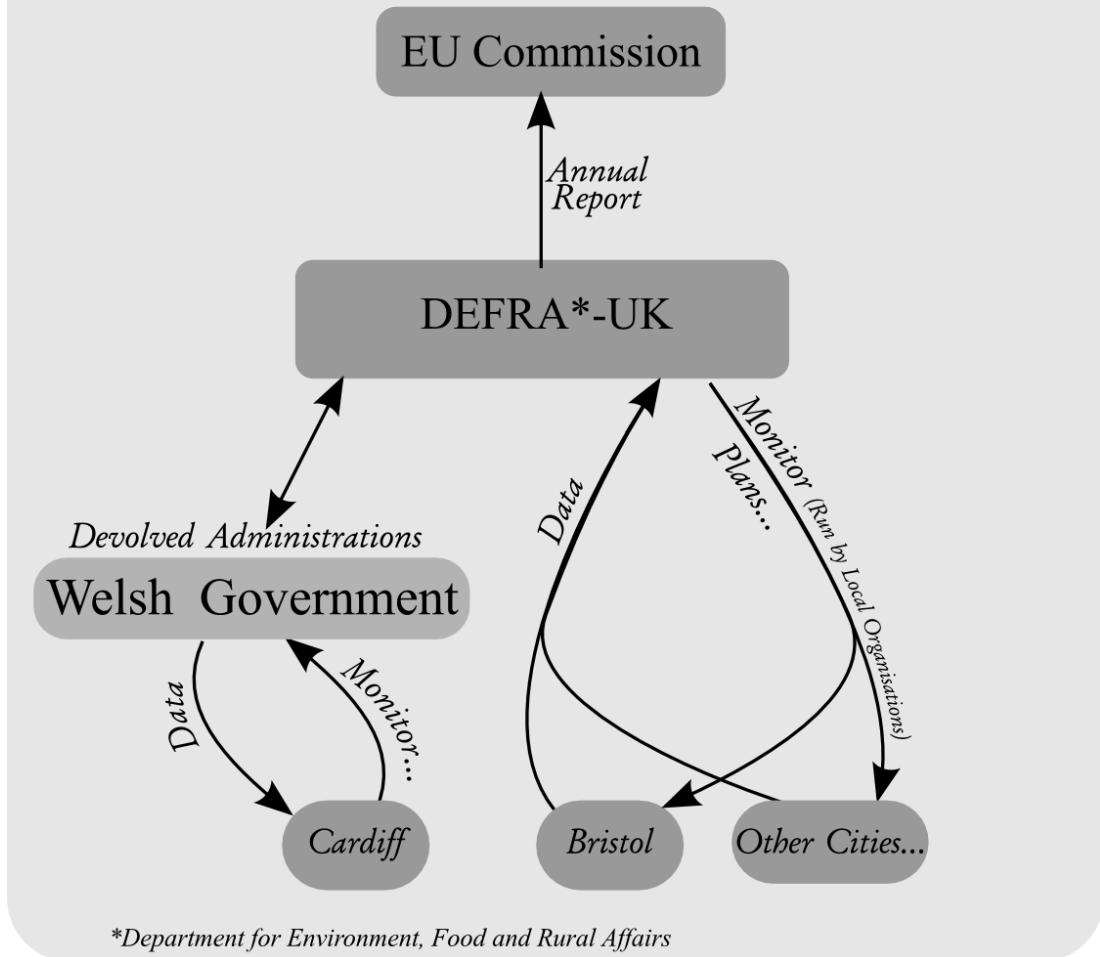
Figure 6-3 Functioning directive 2008/50/EU UK

In the case of the devolved administrations, they are responsible for implementing the air quality law. In Wales, the Welsh Assembly is in charge of implementing the law; this includes monitoring and establishing air quality plans, and for publishing an annual report for Wales. Similar processes apply in Scotland and Northern Ireland.

Finally, the national government is responsible for gathering data collected across the UK, including in the devolved administrations, and for sending the annual compliance report to the Commission. This report also contains modelling data to supplement the data collected through monitoring. In case of non-compliance, the UK government is the sole entity responsible.

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France

In France, air quality issues have been addressed through various national laws, as illustrated in table 6.1. The 1996 LAURE law (Loi sur l'air et l'utilisation rationnelle de l'énergie) on air and energy already addressed air quality issues at the local level by introducing local transport plans. According to government officials, the introduction of local transport plans has been a key tool to tackle air pollution in France. This first step was complemented by the 'plans régionaux de la qualité de l'air' and the 'plans de protections de l'atmosphère'. In 2000 the 'code de l'environnement' was established and integrated all relevant laws concerning environmental matters. When the EU 2008/50/EC directive was transposed in 2008 it was integrated into the code de l'environnement (Livre II Articles L220-1 to L220-2), as illustrated in figure 6.4. It is worth mentioning the 'Grenelle de l'environnement', a national event that led to the adoption of political commitments to protect the environment, including objectives regarding air quality. Because France had difficulties complying with the EU directive on air quality, a 'Plan particules' was initiated in 2010. This marked a turning point that led to further steps, such as studying the possibility to establish low emission zones (Zones d'Actions Prioritaires pour l'Air). Even though nine local authorities showed initial interest to implement ZAPA, none of them took the risk to implement it. As stated by a government official, local authorities:

> "would have preferred if the government would have imposed it on them, so that they did not have to bear the political decision" (P62.2, gov eco).

Eventually, with the change of government, the ZAPA project was abandoned. Further laws have been adopted related to air quality, in particular the 'Schemas Régionaux de Climats de l'air et de l'énergie' that involve regional authorities. Through these schemes regional authorities have to identify 'sensitive' areas where pollution is high. More recently, in the push to comply with the directive 2008/50/EC, the government launched a committee, the "Comité interministériel de la qualité de l'air" (in September 2012). This working group involves all local authorities interested or needing to implementing new measures to tackle air pollution. A proposal to establish an 'emergency plan' for air quality issues was established. The plan mainly targets transport issues, such as reducing speed limits in

cities (Ministère ecologie, 2013). Government officials report that subsequent to the launch of the committee, air quality has been given priority on the political agenda of many cities, and that it is likely to have a significant impact on local transport policies.

Name	Year	Impact on air quality and transport
LAURE – Loi sur l'air et l'utilisation rationnelle de l'énergie	1996	• Make PDU compulsory in urban areas larger than 100 000 inhabitants • Force local authorities to address air quality issues
PRQA - Plans régionaux de la qualité de l'air	1996	• Regional authorities in charge of assessing air quality every five years
Plans de protections de l'atmosphère	1996	• Tackle air pollution in urban areas larger than 250 000 inhabitants. First established in 1996, revised in 2001 and in 2013 • Focus on transport measures
Code de l'environnement	2000	• Consolidate all legal texts related to environmental issues, including air quality • Integrate the directive 2008/50/EC
Grenelle de l'environnement	2007	• Introduce a series of policies related to air quality including a national target to reduce fine particulate by 30 % until 2015
Plan Particules	2010	• Applies Measures taken by Grenelle and the EU air quality directive with a special focus on transport
Schéma régional du climat, de l'air et de l'énergie	2011	• Establish objectives to reduce air pollution, including pollution emanating from traffic

Table 6-1 National laws related to air quality in France
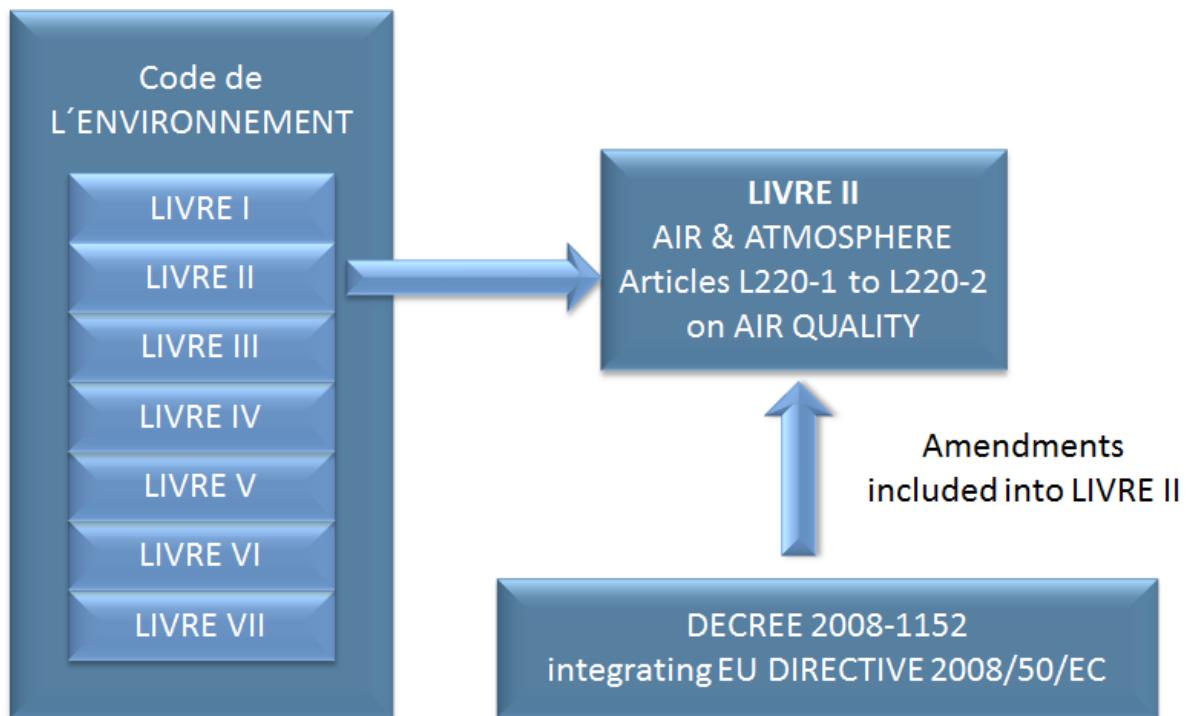
Figure 6-4 Transcription air quality directive France

Government officials report that the air quality directive has helped prioritise pollution issues both in transport and more widely. As explained by some participants, tensions between transport and air quality policy makers are frequent because transport policies are traditionally associated with growth and responding to demand, whereas air quality policies often aim to reduce or restrict traffic. According to government officials, this is one of the reasons why, until recently, air quality issues were not given priority at the national level.

The French government is legally responsible for the implementation of the directive in the French territory, as illustrated in figure 6.5. As far as monitoring is concerned, it is delegated to Regional associations funded by the government called 'Associations Agréés de Surveillance de la Qualité de l'air' (AASQA). The AASQAs, in collaboration with local authorities, are in charge of establishing monitoring stations and collecting data about air quality in their region. The AASQA also use modelling to predict air quality and regularly send their data to the ministry which assesses the information.
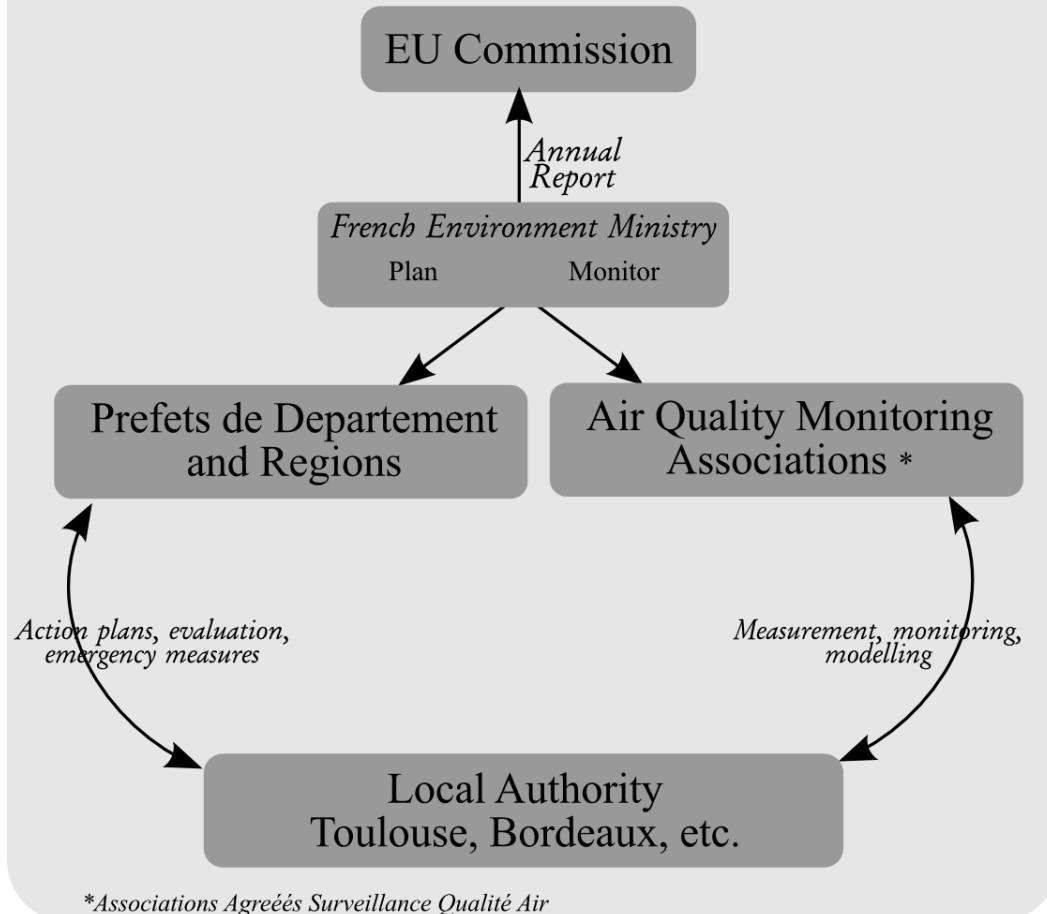
Figure 6-5 Functioning air quality France

If an urban area exceeds the limit values, the Prefet de departement[1], the official representing the state in the regions, is in charge of establishing action plans. The action plan is drafted in collaboration with local authorities. Government officials report that convincing mayors to adopt unpopular measures is often challenging. As stated by a government official: "Air quality issues are not always well understood by local actors, we need to get them involved, to encourage them to take action" (P62.2, gov eco). Local policy-makers are encouraged to propose short and long term measures which are then assessed by the national authorities. Government officials describe the air quality plans as their "local tool" to comply with the directive (P62.2,

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[1] Officials in charge of applying national policies and laws in regions.

gov eco). The establishment of the plans is then monitored by the Prefet de department. Thus, national authorities are the principal actor in the establishment of air quality plans but long-term measures are expected to be initiated by local authorities.

In France, short term emergency measures are implemented when the level of pollutants exceed levels that are considered unsafe for human health. These short term 'emergency' measures are implemented by the Prefet de Departement, with or without consulting local authorities. Under such cases the Prefets have special 'police power' and can take immediate action at the local level. First, sub-national authorities have the legal duty to alert all residents to pollution risk and advise on health precautions. Second, various emergency measures are implemented, mostly related to reducing or restricting traffic. Government officials note that in some cases the Prefet might take decisions against the will of the mayor, if necessary. It is a strong political act. In relation to emergency measures, France has gone beyond the expectations of the directive. Officials report that the emergency measures system was adopted to protect citizens' health and to "raise awareness amongst local actors and the population" (P62.1, gov eco).

Finally, all data is collected by the government and compiled in an annual report which is then sent to the European Commission. Government officials report that direct contacts between the government and the Commission are infrequent.

6.3.2   Non-compliance issues

Cases of non-compliance are very common in the case of the directive 2008/50/EC on air quality. In 2011, 20 member states were in non-compliance, including the UK and France. One of the most problematic pollutants is NO_2 (Nitrogen dioxide), whose levels exceed the limit values in many EU cities. For instance in France, Bordeaux and Toulouse have exceeded NO_2 limits most years since 2008, as has Bristol in the UK where local authorities admitted that they "are struggling to meet" the target (P37, Brist Trans). For most countries, complying with PM 10 (Particulate matter) limit value is equally problematic, an increase which is widely ascribed to the number of diesel vehicles without particulates filters.

In case of non-compliance, the Commission can take a member state to the European Court of Justice where they face the threat of GDP[1] related fines. In a country like the UK, Commission officials are cited as saying that the fine could be up to 100 000 euros per day. Although non-compliance is widespread and the Commission has routinely granted extensions, if the Commission judges that the member state is not taking sufficient action to address the problem, it can activate an infringement procedure. A recent example of this was in February 2014 when the Commission launched a proceeding against the UK for not complying with nitrogen dioxide levels and for not providing sufficient action plans. In November 2014, the European Court of Justice ruled that the UK is in breach of directive 2008/50/EC for not taking sufficient action to comply with Nitrogen Dioxide (NO_2) limits (Crawford, 2014). The UK government is now legally obliged to produce ambitious air quality plans to address these issues.

Under the directive 2008/50/EC individuals have the right to go to their national courts to get the law enforced if the country is in breach. This procedure has a precedent in the 'Janacek' case[2] in Germany where an individual took his government to the national court and then to the European Court and won the case. Commission officials report that the individual's right to demand that cities implement air quality plans comply with limit values has generated action at the local level.

6.4 Case study cities

6.4.1 Administrative structures

Toulouse

In Toulouse, air quality is measured by an observatory called O.R.A.M.I.P (Observatoire Régional de l'Air Midi Pyrénées). This observatory is the air quality monitoring association established by the national government to collect data at the regional level. It collaborates with local authorities in Toulouse to map local air quality levels.

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[1] Gross Domestic Product
[2] in reference to the European Court of Justice in Case C-237/07: Dieter Janacek v Freistaat Bayern

At the local level, air quality policies are managed by a unit within the Grand Toulouse[1] (Urban Community of Greater Toulouse) responsible for sustainable urban development. The sub-unit in charge of air quality, called 'sustainable development and urban ecology', has nine employees but none of them is solely responsible for air quality. Furthermore, there is very limited collaboration between the environmental unit in the Grand Toulouse and Tisseo, the entity in charge of transport policy in Toulouse. Local participants report that transport policy makers are only expected to make sure that the PDU (local transport plan) is compatible with air quality policies. The responsibilities of the Grand Toulouse and Tisseo regarding air quality often overlap, with the obvious consequence that it is sometimes unclear who is ultimately responsible for managing, implementing and creating policies on air quality.

Bordeaux

In Bordeaux, like Toulouse, air quality is measured by an observatory called AIRAQ (Association Agréée pour la Surveillance de la Qualité de l'Air en Aquitaine). This observatory is the air quality monitoring association established by the national government to collect data at the regional level. It collaborates with local authorities in Bordeaux to map local air quality levels.

In the CUB (Unitary authority of Bordeaux) one unit called 'sustainable development' is responsible for air quality. However, like in Grand Toulouse, no one is directly responsible for air quality. Air quality policies are integrated within environmental policies. Participants reported that collaboration between the unit in charge of sustainable mobility and the unit in charge of sustainable development is very limited.

Bristol

In Bristol city council, the 'Sustainable city' unit is responsible for monitoring air quality. A full-time and a part-time employee are in charge of air quality issues. In addition to monitoring, they are responsible for providing advice on policy measures to reduce air pollution; particularly in the field of transport and on the impact of planned transport policies and projects. In addition this team is responsible for assessing the impact transport related projects might have on air quality. On the other hand, the transport department is responsible for implementing transport and

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[1] Intercommunal structure including the city of Toulouse and neighbouring 'communes'

mobility policies to reduce air pollution and for implementing the measures agreed in the air quality action plan. Thus the transport unit has many responsibilities related to air quality. Air quality and transport policy makers meet on an ad hoc basis. Therefore, in Bristol, the need to address air pollution generated by traffic has encouraged cross-sectorial collaboration and integrated policies.

Cardiff

In Cardiff, the monitoring sites are managed by the City Council, but one monitoring station is still managed by the national government. Local air quality monitoring and policies are managed by the 'pollution control' unit responsible for air quality and noise pollution. Out of the eight officers who work in the unit, two people deal with air quality issues. However, participants report that most of the policies are related to noise pollution. Participants in charge of air quality and transport report that policy makers in both fields work in close collaboration. Thus transport and air quality policies are well integrated in Cardiff.

Limit value exceedance

This sub-section illustrates and discusses exceedance of limit-values in the four case study cities. It is important to note that differences in the way air quality is measured and monitored in the UK and in France are significant. The UK is divided into 43 zones for air quality measuring and monitoring, including 28 large urban areas and 15 'non-agglomeration zones'. In France, 27 regional observatories are in charge of measuring and monitoring air quality in each of the 27 regions. Table 6.2 illustrates the annual exceedances of the limit-value of various pollutants in the UK and France in the year 2013. In both countries the limit value targets are set by the EU directive 2008/50/EC. In the case of Nitrogen Dioxide – one of the most problematic pollutants – it is 40 μg/m3 annual mean[1]; this should have been met by the end of 2005. In France, annual reports also refer to achieving 'quality objectives' that are more ambitious than the limit values set by the EU directive, whereas in the UK the authorities only refer to limit-values set by the EU Directive.

Another difference between the two case study countries is that specific values related to exceedances are measured according to different criteria. In the UK, exceedance is recorded by zones (of air quality assessment) whereas in France it is

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[1] 40 micrograms per cubic metre

recorded by monitoring stations. In 2013 both countries exceeded the directive's limit values for N02, Ozone and Benzo[a] pyrene. In both countries the main source of pollutant for PM and N02 is transport (Commissariat general au developpement durable, 2014, p.17; DEFRA, 2014, p.7).

Pollutant	UK	France
Nitrogen dioxide NO2	- Exceeded In 31 zones for annual mean out of 43	- Exceeded In 9% of the 461 monitoring stations 13 regions out of 27
Particulate matter PM10	- Not exceeded	- Exceeded In less than 1% of the 395 monitoring stations 1 region out of 27
Ozone O3	- Exceeded Thirty-three zones exceeded the long-term objective out of 43	- Exceeded In 27% of the 380 monitoring stations
Nickel	- Exceeded Two zones	- Not Exceeded
Benzo[a]pyrene	- Exceeded Six zones	- Exceeded One monitoring station out of 59
Cadmium	- Not exceeded	- Exceeded One monitoring station out of 61

Table 6-2 Annual exceedances of the limit-value of various pollutants for the year 2013

Table 6.3 illustrates the main sources of air pollution, the exceedances of limit values since 2011, and details about monitoring stations in the four case study cities. In all four cases, air pollution predominantly emanates from road traffic. Levels of NO_2 are exceeded in the four cities and have been relatively stable since 2010. PM levels have not been exceeded since 2011 in the case study cities, however levels remain high, in particular in Toulouse and Bordeaux. For both pollutants, if measurements indicate that the level is above 40 μg/m3 annual mean then there is exceedance.

In the case of Bristol, in 2013 there was one Air Quality Management Area (AQMA) established to address exceedances of N02 and PM10, whereas in Cardiff, four AQMAs are established to address N02 only.

It is important to note that a detailed comparison regarding the level of exceedance is difficult given that measurements are reported differently in each case study country, and in some cases in each case study city. For instance, in the case of Cardiff, the hourly exceedances were not available, thus it cannot be compared with Bristol. In addition, the Air Quality Management Areas (AQMAs) in Bristol and Cardiff are not entirely comparable since Bristol's AQMA includes most of the city centre (see appendix 6.A) whereas Cardiff's four AQMAs (Cardiff City Centre, Ely Bridge, Stephenson Court, Llandaff) are localised around specific streets or 'hot spots' (see appendix 6.B). Another difference is that the number of non-automatic monitoring sites in the city of Toulouse and Bordeaux are not indicated in the annual reports, which makes it difficult to compare with Bristol and Cardiff. Therefore, the lack of harmonised and specific guidance concerning monitoring air quality at the EU level is noticeable.

The climatic situation varies in the four case study cities, however it is difficult to assess specific differences.

City	Main source of emissions	No2 Exceedance	PM 10 and 2.5 Exceedance	Monitoring sites
Bristol	Road-traffic	**2013**: Exceedance Three monitoring locations inside AQMA and three outside **2012**: Exceedance Four monitoring locations inside the AQMA and five outside **2011**: Exceedance Five monitoring locations inside AQMA and zero outside	**2013**: None **2012**: None **2011**: None	- **Seven** automatic monitoring sites measuring N02 and PM10 - Over a hundred non-automatic monitoring sites (103) for N02 inside and outside the AQMA
Cardiff	Road-traffic	**2013**: Exceedance Detail not provided **2012**: Exceedance Detail not provided **2011**: Exceedance Three monitoring locations exceeded near Westgate street	**2013**: None **2012**: None **2011**: None	- **Five** automatic monitoring sites measuring N02 and PM10 - Over sixty non-automatic monitoring sites (68) measuring N02
Toulouse	Road-traffic	**2013**: Exceedance Three locations **2012**: Exceedance Three locations **2011**: Exceedance Detail not provided	**2013**: None But above 'quality objective' **2012**: *ibid* **2011**: *ibid*	- **Nine** automatic monitoring sites measuring N02 and PM10 and 2.5 - Number of non-automatic monitoring sites not provided
Bordeaux	Road-traffic	**2013**: Exceedance Three locations **2012**: Exceedance Three locations **2011**: Exceedance Detail not provided	**2013**: None But above 'quality objective' **2012**: *ibid* **2011**: *ibid*	- **Nine** automatic monitoring sites measuring N02 and PM10 and 2.5 - Number of non-automatic monitoring sites not provided

Table 6-3 Limit value exceedance in four case study cities

6.4.2 Impact of air quality laws on local transport policies

Toulouse

History

The establishment of Toulouse's PDU (Plan de Déplacements Urbains), as a result of the 1996 LAURE Law (on air and rational use of energy), prompted Toulouse policy-makers to address urban transport issues in relation to pollution. As stated by a participant "this law has made things evolve considerably" as far as urbanisation is concerned (P55.2, Mob Toul). Following the LAURE, the Plan Regional de la Qualité de l'Air (PRQA) was adopted (as illustrated in table 6.1). To comply with the PRQA, Toulouse established measures to assess air quality. However, most of these policies were handled by regional authorities. Indeed, participants reported that in Toulouse air quality issues have started to be addressed by local authorities only very recently (P54, Eco Toul). Many participants reported that air pollution issues became more visible as a result of the application of the 2008 EU directive on air quality. Following the implementation of the directive a substantial number of urban areas were formally categorised as 'polluted', particularly around the 'peripherique'[1] (P55.2, Mob Toul). Participants noticed that the need to tackle air quality issues has become more pressing since the end of the 2000s, partly as a result of the 2008 directive.

Impact

When asked to assess the impact air quality laws have had on urban transport, most local stakeholders interviewed in Toulouse highlighted the fact that the various national policies and laws related to air quality have had an impact on urban transport, including the implementation of the directive 2008/50/EC (Listed in table 6.1).

According to participants, the most tangible impact has been the implementation of emergency measures that raised the alarm amongst the local population. These measures have given visibility to air quality problems by informing the population about the risks posed to citizens' health. Many participants highlighted the fact that

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[1] Orbital Motorway

the emergency measures along with other national policies have contributed to raise awareness amongst local actors. Consequently transport policy-makers in Toulouse are more "sensitive" towards environmental issues, and show a growing concern for air quality issues (P59, Mob Toul). Thus, air quality policies have, to some extent, influenced local policy-makers to implement sustainable transport policies. However, participants were not able to provide specific examples and many agreed that the impact air quality policies have had on transport policies remains limited.

Limitations

Various participants reported that despite the raising awareness amongst local authorities, politicians are still reluctant to take unpopular decisions to reduce the use of private motorized vehicles in the city. Furthermore, despite pressing air quality issues, local policy-makers reported that there is no policy exclusively dedicated to air quality in Toulouse. As highlighted in section 6.4, no dedicated administrative structures deal with air quality in Toulouse. Participants mentioned that this is explained by the fact that air quality issues have been addressed as part of a 'wider' urban policy. As highlighted by some, the main driver remains the 'urban project', in other words policies that address the desire citizens have to live in a pleasant, less polluted city. However there is insufficient objective data to support this anecdotal evidence.

Furthermore, the lack of cooperation between different policy areas has prevented air quality policies from having an impact on transport. Indeed, as highlighted by some participants, actors in charge of transport policies have limited contact with actors in charge of environmental policies in Toulouse. Therefore the administrative structure generates policy silos in Toulouse.

Reference to Air Quality in Toulouse's LTPs

Toulouse first Local Transport Plan (2001) already mentioned air quality issues and the need to tackle air pollution to comply with national laws, as illustrated in table 6.4. Proposals to estimate emissions are mentioned, however limited specific measures were actually proposed.

In Toulouse's second LTP (2012), the need to reduce pollution emanating from transport is also acknowledged. Moreover, the need to comply and ensure

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compatibility with national air quality laws is highlighted. It is mentioned that in order to comply with these laws Toulouse has established emergency measures in case of acute air pollution (i.e. free public transport and traffic reduction). In addition, the following specific measures were proposed:

- introducing less polluting vehicles, such as energy efficient buses
- reducing speed (also featured in the 'safety' category)
- possibility of experimenting with low emission zones and congestion charges

However, Toulouse's second LTP makes limited references to air quality issues and to the air quality directive or its national transposition. Therefore air quality did not feature prominently in Toulouse LTP 2 and does not appear to be one of the priorities for transport policies.

Toulouse's Transport Plans / **Number of times the following words appear**	**Air Quality/ Pollution/Particulate**	**Air Quality Directive**
Plan de deplacements urbains de la grande agglomeration toulousaine 2012	Air quality : 12 Air pollution : 3 Particulates : 2	0
Plan de deplacements urbains de l'agglomeration toulousaine 2001	Air quality: 12 Air pollution: 7 Particulates: 9	0

Table 6-4 Analysis LTPs Toulouse

Conclusion Toulouse

In Toulouse no substantial specific change has been generated by the air quality directive apart from compulsory short term emergency measures, despite the fact that Toulouse exceeds air pollution limit values. The various national laws established since 1996 have contributed to raise awareness amongst local actors, and since the 2008 directive, air quality issues have started to be addressed more seriously. Various elements explain the lack of impact air quality policies have had on local transport policies. First, the lack of political willingness to tackle these issues has

been highlighted; second, Toulouse's administrative structure limits the impact air quality policies have on transport policies.

Bordeaux

History

Participants reported that Bordeaux's local transport plans have been influenced by national air quality policies, in particular the 'plan de protection de l'atmosphère' and the 'plan particule', mainly established to comply with the EU directive on air quality (see table 6.1). Furthermore, participants highlighted that air quality is becoming increasingly important for local policy-making in Bordeaux, in particular since 2010. This recent change has mainly been generated by national policies and laws, primarily to comply with the 2008 EU air quality directive.

Impact

Most participants agreed that air quality issues have had an influence on urban transport in Bordeaux, particularly since 2010. On the one hand, some measures were established to comply with national laws and policies. As mentioned by a local policy-maker in Bordeaux: "we were almost forced" to implement measures to limit traffic in the city (P60, Ville BX). On the other hand, some participants explained that there has been a gradual change in mentality and 'awareness' about environmental issues amongst citizens and local actors in Bordeaux.

Air quality laws and policies have had various impacts on urban transport in Bordeaux. First, national air quality laws and policies, and indirectly EU air quality laws, have contributed to raise awareness amongst local actors. Second, since 2011 several specific measures have been adopted to improve air quality in the most problematic areas, particularly in Place Gambetta (as illustrated in picture 1 below). This popular roundabout located at the heart of Bordeaux concentrates high levels of traffic, especially bus traffic, and registers high levels of pollution. As a result, various measures were adopted to tackle pollution, in particular measures aimed at:

- Improving traffic flow
- Stopping buses' motor when stationed
- Changing bus fleet for Euro 5 and Hybrid buses

In addition, in 2011, Bordeaux volunteered to test the feasibility of ZAPA (Zones d'action prioritaire pour l'air), the equivalent to Low Emissions Zones. Eventually the project was abandoned by the government, but the fact that Bordeaux was one of the cities willing to implement a pilot project indicated a political willingness to tackle air pollution.

Picture 1 Aerial view of the Gambetta roundabout, Bordeaux. Photo taken by Jacques Rouaux

Limitations

Several limitations were pointed out by participants. First, air quality policies lack political visibility and are not a priority for transport policy-makers in Bordeaux. Second, the lack of integrated policies has been pointed out. Sectorial administration and the lack of coordination between different levels of governance were highlighted by some participants.

Reference to Air Quality in Bordeaux's LTPs

Bordeaux 2000 Local Transport Plan (LTP) clearly addresses air quality issues as requested by the 1996 national law LAURE, as illustrated in table 6.5. The plan illustrates the link between air pollution and transport and provides data about the level of pollutants in Bordeaux. A series of measures are proposed to comply with the national laws, and indirectly European laws, such as decreasing traffic and increasing public transport.

Two reports 'following' on from the first LTP were published in December 2008, eight months after the adoption of the EU Air Quality Directive and shortly after, in 2009. Even though these documents are not official LTPs they provide an indication regarding transport policy-making in relation to air quality in Bordeaux. The 2008 document mentioned that certain transport measures have been implemented to tackle air pollution including:

- Renewing the local bus fleet with energy efficient buses
- Acquiring clean vehicles for the local authority fleet

The need to address European "obligations" is mentioned but the documents do not make explicit references to the EU directive on air quality. Thus Bordeaux's first LTP indicates that air quality issues were already given importance in 2000, and the following documents highlight the fact that specific measures have been implemented, partly to comply with European laws.

Bordeaux's Transport Plans / Number of times the following words	Air Quality/ Pollution/Particulate	Air Quality Directives
Effet du plan des deplacements urbains – 2008 Observatoire du plan des deplacements urbains – 2008	Air quality : 22 Air pollution : 10 Particulates : 7	0
Plan des deplacements urbains CUB 2000-2005	Law on air quality : 48 Air pollution : 32 Particulates : 4	Directive européenne retranscrite dans le décret n°2002-213

Table 6-5 Analysis LTPs Bordeaux

Conclusion Bordeaux

To conclude, Bordeaux's transport policies have been increasingly influenced by air quality policies, in particular by national laws and indirectly by the EU directive on air quality. The EU directive on air quality has had an impact on urban transport policies in Bordeaux. It has contributed to raise awareness and to give importance to air quality issues; as a result, specific transport measures were implemented. Even though these measures were not solely attributed to air quality law, they were mainly influenced by it. Finally, some administrative limitations have affected the impact air quality law and policies have had on transport in Bordeaux. References to the EU directive are not explicit in Bordeaux transport policy plans but the results of the interviews suggest it has had an indirect influence on local transport policies.

Bristol

History

Local actors in Bristol reported that air quality policy was already a priority in the early 2000s. Indeed, Bristol's first Local Transport Plan already targeted air quality issues and the 2002 CIVITAS project again focused on air quality in Bristol. Thus Bristol's transport policy started to address air quality issues from the 2000s.

Impact

When asked what impact air quality policies have had in Bristol, participants mentioned that the impact has been twofold. On the one hand, air quality policies have contributed to a change in the local policy agenda, and on the other hand, the air quality directive has generated specific urban transport policies.

First, air quality policies have had an impact on Bristol's transport policy agenda. According to an official in charge of transport policies in Bristol, air quality policies have had an impact on "long-term planning objectives" (P34, Bristol Trans). As mentioned by another policy-maker: "It has pushed local authorities to give importance and prioritise air quality issues" (P37, Bristol Transport). Furthermore, participants reported that air quality issues have contributed to change the way transport is 'managed'. As stated by a participant in charge of transport policies:

> "The only way to really tackle air quality issues is to manage total traffic levels" (P35, Bristol Transport).

Indeed, air quality policies have pushed local authorities to manage the demand for private cars. Participants pointed out that improving air quality is one of Bristol's key objectives.

It was highlighted that the change in Bristol's policy agenda was generated and influenced by policies and laws emanating from the local, national and indirectly European level. In addition, participants pointed out that other factors, such as the need to address congestion, have changed transport policies in Bristol. Thus, air quality policies emanating from different levels, in combination with other factors, have contributed to change transport policies in Bristol.

Second, specific transport measures have been implemented to tackle air pollution generated by traffic in Bristol. Participants were asked to identify measures that have been implemented as a result of the latest air quality laws, indirectly resulting from the EU directive 2008/50/EC. Two key measures were identified by the participants:

- The systematic establishment of **air quality management areas** and monitoring of air quality in Bristol. As a result, policy-makers have had to focus their efforts on establishing solutions to reduce air pollution in designated air quality management areas, such as reducing parking spaces or discouraging the use of the car in those areas.
- Investment in **clean and efficient public transport vehicles**, in particular to replace or retrofit the bus fleet. This initiative was the continuity of the pilot projects run during the CIVITAS demonstration programme.

Therefore, the EU directive accelerated the implementation of measures that were already planned or initiated in Bristol. Finally, according to some participants, the air quality directive has given more visibility to air quality issues in Bristol, as well summarised by one participant:

> "The EU directive has added impetus to the air quality work but we were already working on air quality well before the directive has had national legislation. I think the failure of the UK to comply with directive limits has generated press, which has stimulated political activity and hence work in the council to tackle poor air quality." (P36, Environment Bristol)

Limitations

Several participants noticed that since the 2010s, less resources and efforts have been allocated to air quality policies and more to climate change. In addition, some participants highlighted that local authorities lack funding to tackle transport issues related to air quality. As stated by a local policy-maker:

> "There has never been any explicit money […] to deal with the air quality problems in towns or cities […] so it is not surprising there has been not much progress on air quality" (P36, Enviro Bristol).

Furthermore, local policy-makers highlighted the fact that it is difficult for the local authority to have an impact on public transport because most buses are run by private companies. Finally, some participants highlighted the lack of political bravery to reduce the number of vehicles on the road. As highlighted by a participant, there is a need for "a lot braver political decisions" to decrease traffic in Bristol (P34, Bristol Transport).

Reference to Air Quality in Bristol's LTPs

As reported by participants, Bristol's first Local Transport Plan (2001 to 2006) frequently mentioned air quality, mainly in relation to the 1995 environment act, as illustrated in table 6.6. The need to 'manage' and 'monitor' air quality in Bristol was highlighted in the first LTP; however no transport measures were proposed to tackle air quality issues. Bristol's 2006 joint LTP dedicated one entire section to air quality issues and clearly indicated that air quality is one of the top priorities for Bristol's transport policies. In Bristol's 2011 joint LTP, air quality is mentioned many times but is given less importance than in the 2006 joint LTP. The Joint Local Transport Plan 2011 refers to specific transport measures that are planned or have been taken in order to tackle air quality issues in Bristol, such as:

- The establishment of air quality management areas. These were already proposed in the joint LTP 2006 but were established post 2008.
- Investing in clean vehicles, also mentioned in the joint LTP 2006. As stated in the Joint LTP 2011:
  - "Trial project in Bristol has upgraded 16 buses from Euro 4 to Euro 5 standard"[1]

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[1] (West of England Partnership, 2011, p.92)

- "Bristol City Council's fleet now contains over 100 LPG and hybrid vehicles."[1]

It is important to note that most measures established post 2008 were already planned in the joint LTP 2006. None of Bristol transport plans made direct references to EU air quality directives but LTP 2 and 3 make some reference to 'European Union standards' and 'EU limit values'. For instance, the LTP 3 acknowledged that:

"Air quality in parts of Bristol, Bath and North East Somerset and South Gloucestershire does not meet European Union standards."(West of England Partnership, 2011, p.14)

Therefore, the EU directive is indirectly acknowledged, but no direct reference is made to it.

Bristol's Transport Plans / Number of times the following words appear	Air Quality/ Pollution/Particulate	Air Quality Directive
Joint Local Transport Plan 3 2011- 2026	Air quality : 58 Air pollution : 3 Particulates : 0	0
Joint Local Transport Plan 2006/2007 - 2010/2011	Air quality : 272 Air pollution : 9 Particulates : 2	0
Bristol Local Transport Plan 2001/2002 – 2005/2006	Air quality : 118 Air pollution : 35 Particulates : 4	0

Table 6-6 Analysis LTPs Bristol

Conclusion Bristol

Bristol's transport policy started to address air quality issues from the 2000s, before binding national laws were established. The 2006 joint local transport plan illustrates

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[1] *ibid.*

the importance given to air quality and its impact on transport policies. Air quality policies have contributed to a change in the local policy agenda and have generated specific urban transport policies. Participants mentioned that as an indirect result of the EU directive specific measures were implemented in Bristol, such as the establishment of air quality management areas or the investment in clean vehicles. However, it is important to note that most measures that were established post 2008 were already mentioned the joint LTP 2006. Thus the EU directive has not had a substantial impact on transport policies in Bristol but has rather accelerated the implementation of measures that were already planned or initiated.

Since 2010 climate change issues have become a priority for transport policies and as a result, air quality issues became less of a concern. This evolution is reflected in the local transport plans.

Cardiff

History

Participants reported that Cardiff's air quality issues were already acknowledged in the late 1990s, and that from the 2000s growing recommendations from the national authorities were formulated to address air pollution. However, it is only since the 2010s that local authorities have started to implement specific transport measures and to give priority to air quality policies.

Impact

Local actors reported that air quality policies, particularly since the 2008 EU directive, have had an impact on the city's transport policy agenda. Several participants stated that the decision to establish a 'sustainable travel city' initiative in 2011 - the equivalent to a local transport plan - was partly initiated to tackle air quality issues. In relation to the EU directive, a participant in charge of transport policies in Cardiff stated:

> "the big stick from the European Union […] has been a very welcome tool to push through an agenda, to take out car movement" (P30, Transport Cardiff).

Local policy makers highlighted that air quality policies have been a "a factor in influencing the way in which we moved forward the agenda to take traffic out of the

city, re-allocate that space for pedestrianisation…" (P30, Transport Cardiff). Therefore, air quality policies, in particular since the 2008/50/EC directive, have contributed to generate sustainable transport policies in Cardiff.

As a result, several specific changes have been implemented. Participants identified several policies that have been established mainly to comply with the 2010 air quality standards:

- First the establishment of **air quality management areas** (AQMAs) which pushed the local authorities to take specific measures to reduce people's exposure to the pollutants in these areas.
- Subsequently some key measures were taken, mainly the **pedestrianisation of one of the main streets**, High Street St Mary's street (as illustrated in figure 6.6). As highlighted by some participants, High Street St Mary's street used to be the most polluted road in Wales. The pedestrianisation of the High Street was mainly, but not exclusively, motivated by the need to comply with air quality standards. As explained by policy-makers, the decision to pedestrianize the road was motivated by several reasons, including making the city more 'liveable' and in particular addressing air pollution.

Figure 6-6 High Street St Mary's street in Cardiff converted into a pedestrian area. Source: DEFRA

- In addition, participants mentioned that in order to address air quality issues, **bus routes were decentralised** to reduce pollution 'hot spots' and decrease people's exposure to pollutants.

- Finally, some participants also mentioned that there has been an **investment is clean buses** to reduce the emission of particles.

Limitations

Some participants reported that as a result of the closure of the main high street the traffic has increased in nearby streets. For instance, participants reported that the adjacent street, Westgate Street, has become more congested than it used to be prior to the pedestrianisation of St Mary High Street. Thus, it was reported that the air quality standards have forced localised action to address people's exposure to pollutants but haven't necessarily encouraged sustainable policies on a large scale.

In addition, some participants highlighted the fact that despite the increasing importance of air quality it is not a priority for transport policies in Cardiff. One policy maker admitted: "I don't think air quality sits that highly on the agenda" (P28, Cardiff Air Quality). Some pointed out the fact that because local authorities are not legally responsible to achieve the EU targets, it diminishes the impact the air quality directive has at the local level. Finally participants also highlighted the fact that the impact policy makers can have on public transport is limited because the municipality does not own the bus companies

Reference to Air Quality in Cardiff LTPs

Cardiff's first LTP, adopted in 2000, makes numerous mentions of air quality, as illustrated in table 6.7. Air quality issues emanating from traffic is recognised, as well as their impact on health. However, few specific transport policy actions were proposed to address air quality problems and it did not appear to be a priority for transport policies in Cardiff.

In 2010, Cardiff joined several neighbouring cities and established a regional transport plan. In this regional strategy air quality issues do not appear to be a priority. The need to address these issues is mentioned, but no actions or policies are suggested to tackle transport pollution. However, Cardiff's latest transport policy document "A Sustainable Travel City: Future Strategy", adopted in 2011, recognised that some specific changes in the city's transport policies occurred as a result of air quality policies. It stated that traffic "was causing unacceptable levels of congestion in the city centre – with all buses converging in Cardiff Bus Station. There were also serious air quality concerns that needed to be addressed" (Cardiff Council, 2011, p.22). Thus the latest transport strategy document in Cardiff highlighted the fact that transport policies have started to address air quality issues.

It is significant that EU air quality laws are not mentioned in Cardiff transport plans.

Cardiff's Transport Plans / **Number of times the following words appear**	**Air Quality/ Pollution/Particulate**	**EU Air Quality Directives**
A Sustainable Travel City: Future Strategy (2011/12 - 2013/14) – Cardiff, 2011	1: air quality 1: pollution 0: particulates	0
South East Wales Transport Alliance **Regional Transport Plan - 2010**	8: air quality 5 : air pollution 0 : particulates	0
Local Transport Plan 2000-2016	47: air quality 4 : air pollution 2 : particulates	0

Table 6-7 Analysis LTPs Cardiff

Conclusion Cardiff

Cardiff transport policies started to seriously address air quality issues in 2010. The air quality directive has had an indirect influence through both UK national policies and the Welsh Assembly Government. The directive has contributed to change the city's policy agenda and as a result a series of specific measures were established to tackle air pollution. The most visible of all has been the pedestrianisation of the city's main high street. Even though air quality issues are not a key priority for transport policies, they have been given increasing importance, particularly since the adoption of the air quality directive.

6.5 Impact on other EU cities

In addition to the in-depth analysis in the four case study cities, a wide range of policy makers and stakeholders involved in air quality policies were asked whether the air quality directive has had an impact on urban transport (details in chapter 4, section 4.4). Almost all participants asked (20 participants across different levels) confirmed that the directive has had an impact on urban transport policies and in some cases (for example in London) they said it had had a 'strong' impact.

Participants said that the directive has both 'influenced' policy and decision-making by 'raising awareness' or generating 'debate' amongst stakeholders and had a more visible impact including making specific changes in urban transport policies. According to some participants, in some cities the air quality directive has fostered the establishment of Low Emission Zones (LEZ) and has influenced other measures such as improving bus standards, as illustrated in table 6.8. In the case of London, the influence the air quality directive has had was acknowledged by the "Mayor's air quality strategy" (Greater London Authority, 2010).

Some participants highlighted the fact that the air quality directive has forced authorities to establish short term emergency measures as well as, or in combination with, long-term strategic measures such as modifying local transport plans (political vision) or a change in transport infrastructure. A Commission official also said that legal action taken by individuals or associations had forced authorities to comply with the directive.

Example of measures mentioned by participants
• Low emission zones (e.g. in London or Stockholm)
• Modifying or establishing policy plans (e.g. Air quality plans or Local transport plans)
• Increase in parking charges (e.g. in Brighton and Hove)
• Low emission buses (e.g. in London)
• Using shore side electricity rather than burning fuel (e.g. in port cities)
• Consolidation or logistics centers for freight delivery (e.g. in Dutch cities)
• Pedestrianisation of streets (e.g. in Cardiff)

Table 6-8 Transport measures implemented to address air quality in different cities

Finally, some participants also mentioned that the policies adopted to address air quality issues varied according to the geographic, climatic and political context in each city. As explained by one participant: "a hilly city is less likely to focus on cycling" (P17, Eurocit). Another example given was the fact that in France and Spain congestion charges are not politically acceptable because they are perceived as an unfair discrimination for disadvantaged citizens who live in the outskirts of the city (e.g. in the 'Banlieues' in Paris for instance). Furthermore, according to one participant, the air quality directive has generated competition between cities and countries; because no city "want(s) to be the laggard in Europe" (P20, UITP). Therefore, most participants agreed that the air quality directive has had a substantial impact on local transport policy that varied depending on the city.

Many participants reported that cities often lack financial and human resources as well as expertise to measure and monitor air quality in their city and to implement necessary changes. According to a Commission official:

> "Cities just don't have the capacity both in terms of the expertise of the personnel but also just the sheer man power" ; "it is quite technical and you need a lot of expertise to understand how your air quality is going to change" (P8, DG ENV).

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Commission officials also argued that most cases cities do not receive sufficient support and assistance from their national government.

Some participants mentioned that one of the limitations of the directive is that it does not measure levels of emissions at the source, unlike CO_2 emissions, but is limited to measuring pollution exposure. As a result, if a city benefits from favourable climatic conditions (e.g. strong winds that blow particulates away), then it is unlikely that the local authority will adopt or establish measures to tackle air pollution. In addition, several participants complained about the inadequacy of the Euro Standards in relation to air quality targets. According to some participants, Euro Standards for diesel cars have not delivered the expected reductions in emissions because foreseen emissions do not reflect emissions in the real-world.

Furthermore, there are inconsistencies in the way cities measure their air quality. The directive attempts to propose guidelines and indicators to measure air quality however, for example, the location of measurement stations varies substantially from one city to another. Many cities have been accused of deliberately misallocating measuring stations in places less exposed to pollution emanating from traffic (20 minutos.es, 2010).

Policy makers and stakeholders involved in air quality policies at the supranational, national and subnational level (as illustrated in table 6.9) were asked the following question: would policies and measures have been taken at the local level without the air quality directive? Some participants admitted to not knowing. The majority of them stated that without the directive limited action would have been taken at the national and at the local level and air quality problems would not have been addressed to the same extent.

Level of Governance	Participants
Supranational	• DG Environment – EU Commission • DG Environment – EU Commission
National	• Department for Ecology - France • Department for Environment - UK
Sub-national	• City Council – Cardiff • City Council – Bristol • Greater London Authority – London • CETE Sud Ouest – Bordeaux • City Council – Bordeaux • Grand Toulouse – Toulouse • Tisseo – Toulouse

Table 6-9 Range of participants who responded to the question related to air quality

Expressions such as it has "forced" or "it has pushed" national or subnational authorities to take action are recurrent (used by 7 participants out of 11). According to Commission officials, there is no doubt that without the directive, most member states would have postponed action. This was confirmed by a French government official who stated that:

> "this Directive pushes the country to deliver results and policy-makers to act" (P62.1, gov eco).

A number of participants are strongly in favour of the air quality directive, as illustrated in box 6.1.

> "*We may not have assessed air quality in such a comprehensive way*"
> DEFRA, UK
>
> "*The Directive has brought a consistent framework for national monitoring and reporting on air quality.*"
> DEFRA, UK
>
> "*If anything we would like stronger rules, if we were to be more involved we would defend stronger legislations*"
> Greater London Authority
>
> "*It was prehistoric as far as air quality was concerned*" (before the EU laws on air quality)
> Tisseo, Toulouse

Box 6.1 Participants' quotes in reaction to the question: Would policies and measures have been taken at the local level without the air quality directive?

6.6 Survey results

In addition to the qualitative interviews a survey was sent to various local policy-makers in different capital cities in the EU (further detail in chapter 4, section 4.6). Policy-makers in the following capital cities responded to the survey:

1. Berlin
2. Copenhagen
3. London
4. Oslo
5. Paris
6. Rome
7. Stockholm
8. Vienna
9. Warsaw

Apart from Warsaw, all respondents stated that their city has a local transport plan or equivalent. Six respondents stated that their city's local transport plan makes reference to air quality. All participants, with the exception of Warsaw, stated that transport policies or measures have been introduced specifically to address air quality problems in their city. Respondents were asked to provide examples of measures that have been implemented to address air quality issues in their city. A range of

measures were listed, as illustrated in table 6.10. Low emission zones, investing in clean vehicles, and pedestrian streets were frequently quoted.

City	Example of measures that were introduced to tackle air quality problems
Stockholm	• Low emission zone for heavy vehicles
Copenhagen	• Low emission zone for heavy vehicles • Pedestrian streets • Cars owned by the city must be electric or run on hydrogen • Eco-driving for bus drivers
Oslo	• Air quality action plan with emission reductions goals • Emergency plans and warning systems for acute pollution
Rome	• Zones with limited traffic • Emergency measures • Pedestrianisation of streets
London	• Low emission zone • Purchase of clean buses • Emission limits on taxis
Paris	• Measures to encourage modal shift
Berlin	• Investing in low emission vehicles

Table 6-10 Measures introduced to address air quality in survey respondents' cities

To the question: 'Have air quality regulations made it easier to implement sustainable transport policies in your city?' most cities responded yes, as illustrated in figure 6.7, apart from Stockholm and Warsaw that stated no, and London 'unsure'.
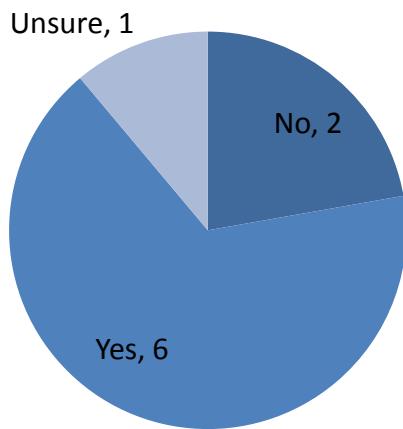
Figure 6-7 Responses to the question: have air quality regulations made it easier to implement sustainable transport policies in your city?

Even though this question did not directly mention the directive 2008/EC/50, the word 'regulation' refers to it and the introductory text sent to participants clearly mentioned that the aim of the survey was to better comprehend the impact the air quality directive has had. One participant commented that: "The mandatory targets in EU air quality directive have been one driver towards greater action on air quality by cities, though further support is also required at national and EU level." (PS6)

Most participants could not provide a clear answer to the question: 'Without Air Quality Regulations, would your city have addressed air quality issues to the extent that it has?' As illustrated in figure 6.8. Stockholm and Rome stated that without the air quality directive, their city would not have addressed air quality issues to the extent it has. Respondents from Vienna and Paris argued that the air quality directive has not changed their policies.
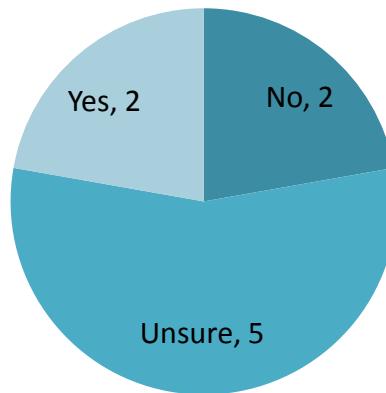
Figure 6-8 Responses to the question: Without Air Quality Regulations, would your city have addressed air quality issues to the extent that it has?

To the question: 'Are there barriers to implementing the Regulation in your city?' eight cities stated yes. The following four barriers were mentioned in order of importance:

- Lack of funding
- Lack of national support
- Lack of political willingness (mainly to reduce the use of private vehicles)
- Lack of EU support

The lack of funding was frequently mentioned as well as the lack of support mainly from national governments but also from the EU. As summarised by one respondent: "City has primary responsibility for delivering better air quality but has limited means to do so. There is a need for greater support in terms of policy and funding at national and EU level" (PS6).

When asked: 'How could Air Quality Regulations be improved?' Respondents formulated various recommendations. Most participants highlighted the need to 'modify the law' and to address its limitations. Many respondents mentioned that

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cities need more tools from the national government or from the Commission, such as:

- greater incentives for uptake of cleaner vehicles
- more effective euro standards and better test cycles to reflect urban driving conditions
- offering workshops

Respondents also suggested that the EU Commission should implement complementary regulations, such as regulations addressing pollution from tyre and brake wear or regulations encouraging less polluting vehicles (e.g. hybrid cars). Furthermore, some respondents stressed the need to further consult with local authorities, as stated by one respondent: "Cities were hardly involved in the negotiation which established the AQ directive. They need to be consulted much more closely" (PS6). The need for better cooperation between different levels of governance was also highlighted.

6.7 Comparison and conclusion

Interviews and data collection have enabled a deeper understanding of Directive 2008/50/EC. The majority of the stakeholders interviewed confirmed that the Directive on air quality is among the top three EU policies which have had the most impact on urban transport policy. The realisation that pollution transcends national boundaries has justified EU action in the field of air quality. Even though the 2008 EU directive on air quality does not directly target urban transport, it indirectly impacts transport policies at the local level by filtering down from the national level, and in some cases the regional level.

This Directive is highly controversial since most of the cities, and therefore most of the Member States, cannot comply with some of the levels required, in particular levels of NO_2 (Nitrogen Dioxide) and PM (Particulate Matter). Around 20 Member States are in non-compliance, including the UK and France. Cities claim that they do not have the capacity to implement the legislation and lack expertise. They also complain about the lack of help and communication coming from the Commission

regarding the implementation of this Directive. The Commission recognises this is problem and tries to offer support, such as organising workshops to help understand NO_2 levels or by providing guidance documents on implementation. NO_2 emissions, which are primarily generated by road transport, are particularly problematic and remain very high in many cities. If Member States are in non-compliance the European Court of Justice (ECJ) can impose a GDP related fine until Member States comply. However, the ECJ often increases the probation period. However, despite the difficulties in complying with the Directive, most stakeholders representing local authorities acknowledged that it was necessary. According to them, without the EU air quality directive no specific steps would have been taken rapidly to improve air quality in cities.

The Directive and its guidance documents highlight the role transport policy plays in improving air quality. It encourages national authorities to establish a set of measures which promote "a shift of transport towards less polluting modes" (Directive 2008/50/EC). The Commission also argues that national governments should play a more active role in providing sufficient financial and technical help to municipalities.

At the national level, the directive has been transposed with only minor differences in the UK and France. In both countries, the national government is solely responsible for compliance with the directive - although the idea of giving local authorities increased responsibility for its application has been considered, in particular in the UK. In France, the government delegates implementation and involves different levels of government. The system is more centralised in England but less in the devolved administrations and in the Greater London Authority. In both countries the national government remains the key 'manager' for the implementation of the directive. The only significant differences in transposition are related to the respective responses to short term measures and the measurement of air quality at the local level. In France, short term emergency plans include measures to reduce traffic or speed, whereas in the UK they are limited to informing the population about health risks. Differences in the way air quality is measured and monitored in the UK and in France are noticeable with the division of zones or 'administrative areas' varying in each country and a lack of common indicators to locate measuring stations in the four case study cities. In view of these shortcomings it is important to note that

it is difficult to assess whether air quality policies vary in the four case study cities depending on specific exceedance.

At the local level, the comparative analysis of the four case study cities (details in appendix 6.C) and the analysis of the survey results have highlighted several key points. First, with the exception of Bristol, which has been addressing air quality issues for more than a decade, there seems to be a growing concern for air quality issues in local transport policies across the EU. However, air quality is not yet a priority for the transport political agenda of cities such as Cardiff, Toulouse and Bordeaux. Second, the air quality directive 2008/50/EC, through its national transposition, has contributed to raise awareness and to give importance and visibility to air quality issues – to a lesser extent in Toulouse. Many local actors report that their city's transport policy agenda has been influenced by the directive, mainly indirectly through national policies. Third, as a result, specific transport measures have been adopted in many local authorities. In the case of Toulouse, the impact has been mainly limited to the establishment of short term emergency measures. It is unclear why air quality policies have had limited influence on urban transport policies in Toulouse. The lack of cooperation between environmental and transport policy-makers is likely to be one of the reasons. In the case of Bordeaux, Cardiff, and Bristol, the directive has contributed to the establishment of specific transport measures, such as the investment in cleaner buses. In capital cities, measures have ranged from the establishment of low emission zones, investing in clean vehicles or pedestrianisation of main streets. Overall, the directive 2008/50/EC has encouraged – mostly in an indirect way - sustainable mobility solutions in cities and has accelerated the implementation of measures already planned (e.g. in Bristol). However, participants highlighted that some of these changes have been generated by a combination of factors, in particular the need to address congestion.

Several barriers to the implementation of the directive have been pointed out. In the French case study cities the local administrative structure adversely affects the impact air quality policies have on transport. Unlike the UK case study cities, Toulouse and Bordeaux do not have dedicated air quality administrative units, and air quality and transport policies are not well integrated. On the other hand in the UK, by virtue of the private sector's involvement, the local government has less

control over public transport (i.e. buses in the case of Cardiff and Bristol) and finds it difficult to address air quality issues through public transport policies. Furthermore, policy makers in the UK case study cities, and respondents to the survey, highlighted the lack of funding and support (i.e. lack of expertise) from their national government and from the Commission. Local actors also highlighted the fact that political actors are still reluctant to take unpopular decisions to reduce motorized traffic in their city. One of the limitations of the directive is that it does not measure emissions at source. As a result, some cities have focused their efforts on localised solutions or 'hot spots' to avoid pollution exposure and it has not necessarily contributed to large scale efforts to reduce traffic in the city. However, some of these measures, such as investing in clean buses, have had a positive impact on a large scale.

Interviews with participants and the analysis of the Local Transport Plans (or equivalent) reveal that, references to, and awareness of the EU directive is very limited. Local changes generated by air quality policies tend to be attributed to national policies and reference to the EU directive is not explicit in city's transport policy plans, apart from in the case of Bristol where European laws are indirectly acknowledged.

Chapter 7   Covenant of Mayors: Encouraging CO_2 Emissions reduction

"[…] *the EU is intriguing because it represents a microcosm of the international climate change problematique. It is therefore a potentially rich source of lessons on how to govern when governance is multi-levelled and multi-actored.*"(Jordan, 2010, p.xvi)

7.1   Introduction

Climate change is likely to be the most crucial and defining issue for mankind in the 21st century. The transport sector is central to reducing CO_2 emissions, yet emissions generated by transport increase across the world, including in the European Union (Hickman & Banister, 2013). In the EU, it is estimated that urban traffic generates up to 40% of all CO_2 emissions of road transport (European Commission, 2014a), and is therefore one of the key sectors to decarbonise. Increased multi-level governance collaboration is needed to solve these issues (Marsden & Rye, 2010; Newig & Fritsch, 2009). In this context, understanding the actions and role of the EU, in particular the European Commission, is crucial.

As mentioned in section 2.4 (Chapter 2), climate change policies have become increasingly important in the EU. Since the late 1990s, CO_2 emissions emanating from transport have been the object of many EU policies and laws. The EU Commission recognises that CO_2 emissions reduction needs to be addressed at the local level since more than 70% of the EU population lives in urban areas and around 70% of emissions are generated in cities (European Union, 2011, p.5). This has prompted the EU Commission to address CO_2 emissions reduction generated by urban traffic. As further described in this chapter, through non-binding initiatives such as the Covenant of Mayors, the Commission intends to encourage local authorities to take action to reduce CO_2 emissions in their city. The Covenant of Mayors is an interesting non-binding multi-level governance case study, which, if successful, could have a significant impact on urban transport policies. However, the

impact the Covenant of Mayors has had is under-studied, particularly in the field of urban transport.

This chapter draws on the result of semi-structured interviews undertaken in the EU and in-depth analysis of four case study cities in France and the UK (See chapter 4, section 4.4 for further details). First it aims to identify whether EU policies on CO_2 emissions have had an impact at the local level, and assesses how these policies have filtered down in France and in the UK. Second it takes the Covenant of Mayors (CoM) as an example and assesses whether the CoM has had an impact on urban transport policy, in particular decision making and planning. Finally, it examines whether the CoM and the 20-20-20 targets have contributed to encourage sustainable mobility policies and measures in cities.

7.2 EU climate change policies' impact in France and the UK

This section looks at the two case study countries, France and the UK, and assesses whether supranational policies on CO_2 emissions have influenced national policies, and whether, as a result, sub-national policies have been impacted. It investigates multi-level governance mechanisms and policy transfer between different entities across levels.

7.2.1 Climate change policies in France

Figure 7.1 illustrates top-down mechanisms related to climate change policies in the case of France. It takes the example of climate change policies related to the Covenant of Mayors (as further described in section 7.3) and illustrates how it filters down from one level of governance to another. This section draws on the analysis of semi-structured interviews at the EU, national and sub-national level and on the review of key EU policy documents.
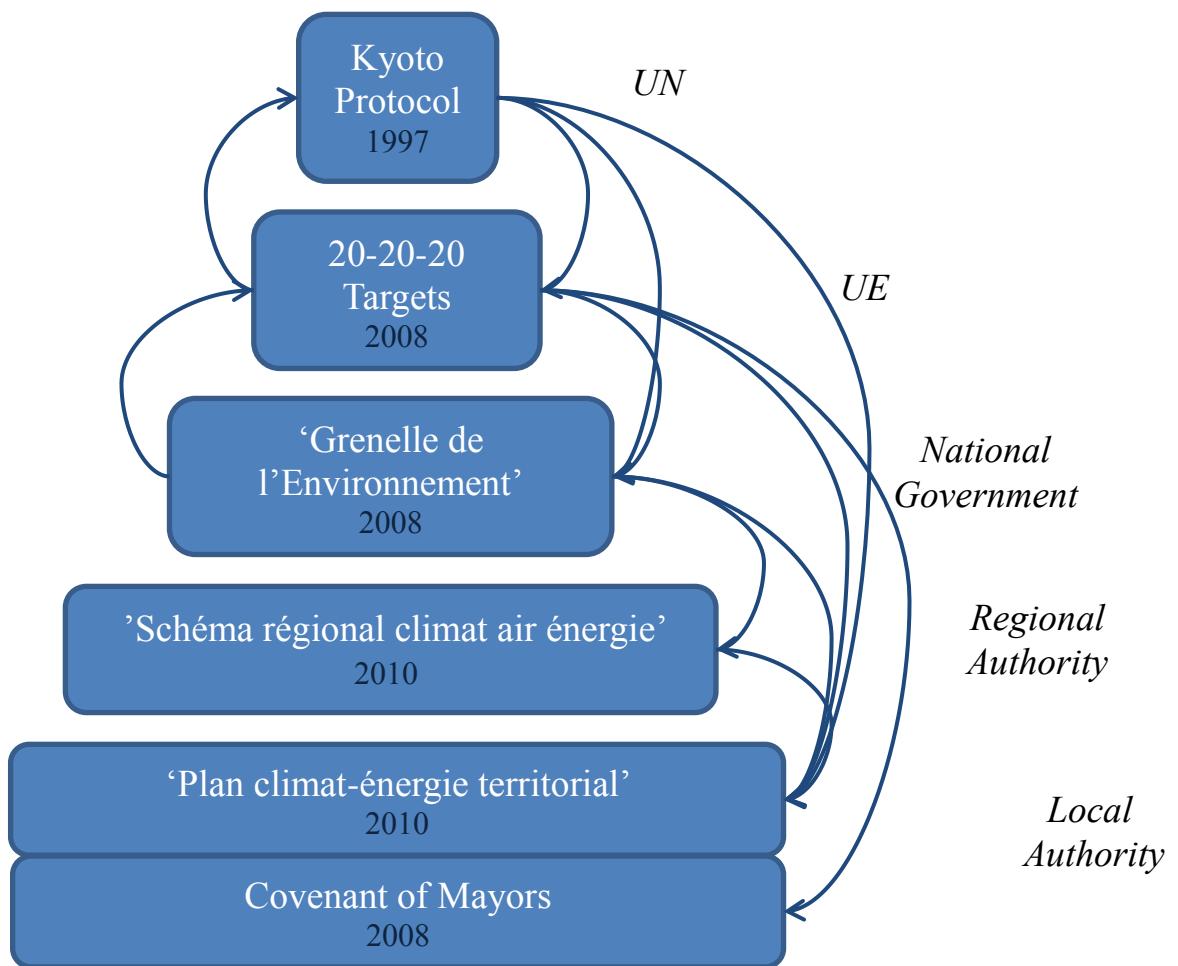
Figure 7-1 Climate change policies – top-down mechanisms in France

UN → EU

As described in chapter 2, section 4, decisions taken at the United Nations (UN) level often prompt policy action at the EU level and subsequently, or in parallel, at the national level. EU Commission officials highlighted that policies such as the 2020 climate and energy package (20-20-20 targets) are often prompted by decisions taken at the United Nations level. Indeed, the EU 20-20-20 targets were adopted as the result of the 1997 Kyoto Protocol (BBC, 2010). It is important to mention that this process is not exclusively top-down since the EU often initiates policies which are then proposed at the UN level (Damro, Hardie & MacKenzie, 2008).

EU → National Government France

In France, EU policies have a substantial impact on environmental policies. A French government official estimates that in the environmental field approximately 80% of national legislation emanates from the EU (P61.1[1], Gov clima). National policy-makers interviewed in France highlighted the fact that EU policies such as the 20-20-20 targets (adopted in 2008 by the EU parliament), have had a strong direct impact on French policy.

The EU 2020 energy and climate change package includes three key targets to be achieved by 2020:

- 20% decrease in EU greenhouse gas emissions (compared to 1990 levels)
- 20% growth in the use of renewable energy
- 20% increase in energy efficiency

Member states are expected to comply with the greenhouse gas emissions targets across all sectors including transport (except aviation). In addition, national CO_2 emissions levels should be reported to the EU Commission yearly. In France, these binding targets were transferred into national law through the Grenelle de l'Environnement (Grenelle I and II). Adopted in 2008, the Grenelle integrated the 20-20-20 targets, and led to the establishment of a 20% CO_2 emissions reduction target in the transport sector by 2020.

Interestingly, in some cases French policies have been directly influenced by actions at the UN level. For instance, the first Plan Climat in France was adopted in 2004 as a response to the Kyoto Protocol (Ministère de l'écologie du développement durable et de l'énergie, 2013). Furthermore, participants report that the agenda 21 (described in section 2.4.2) influenced the establishment of voluntary actions such as Plan Climat Energy Territorial and generated 'political engagement' at the local level regarding CO_2 emissions.

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[1] 'P' refers to Participant interviewed

National Government → Regional Authorities

In the context of climate change related policies in France, the Grenelle II prompted the establishment of compulsory climate plans at the regional level. Jointly elaborated by the national government and the regional authorities, the goal of the 'Schéma régional climat air énergie' is to define broad objectives at the regional scale in relation to CO_2 emissions reduction policies, energy consumption, development of renewable energies, air quality, and adaptation to climate change.

Regional Authorities → Local authorities

In the context of the Plan climat-énergie territorial (PCET), local authorities of more than 50 000 inhabitants were requested to establish a 'Plan climat' at the local level, addressing all sources of CO_2 emissions including transport. As a result, local authorities, in collaboration with the regional and national government, have to measure and monitor CO_2 emissions in their city. The plan made clear references to the 20-20-20 targets and the Grenelle (Centre de ressources, 2014). According to a French government official, many policies related to climate change at the local level are the result of "EU legislations mixed with national policies" (P62.1, gov ecology).

As further described in section 7.3 of this chapter, to achieve the 20-20-20 targets, the EU Commission has also established initiatives directly targeting local authorities, such as the Covenant of Mayors, the case study under investigation. In addition, the UN's Agenda 21 initiative has influenced a number of French cities since the early 2000s.

7.2.2 Climate change policies in the UK

In the UK, top-down mechanisms in the field of climate change policy have many similarities with the French system as illustrated in figure 7.2 in the context of this investigation. The main difference is that the regional level is less significant in the UK, but the devolved administrations play an important role.
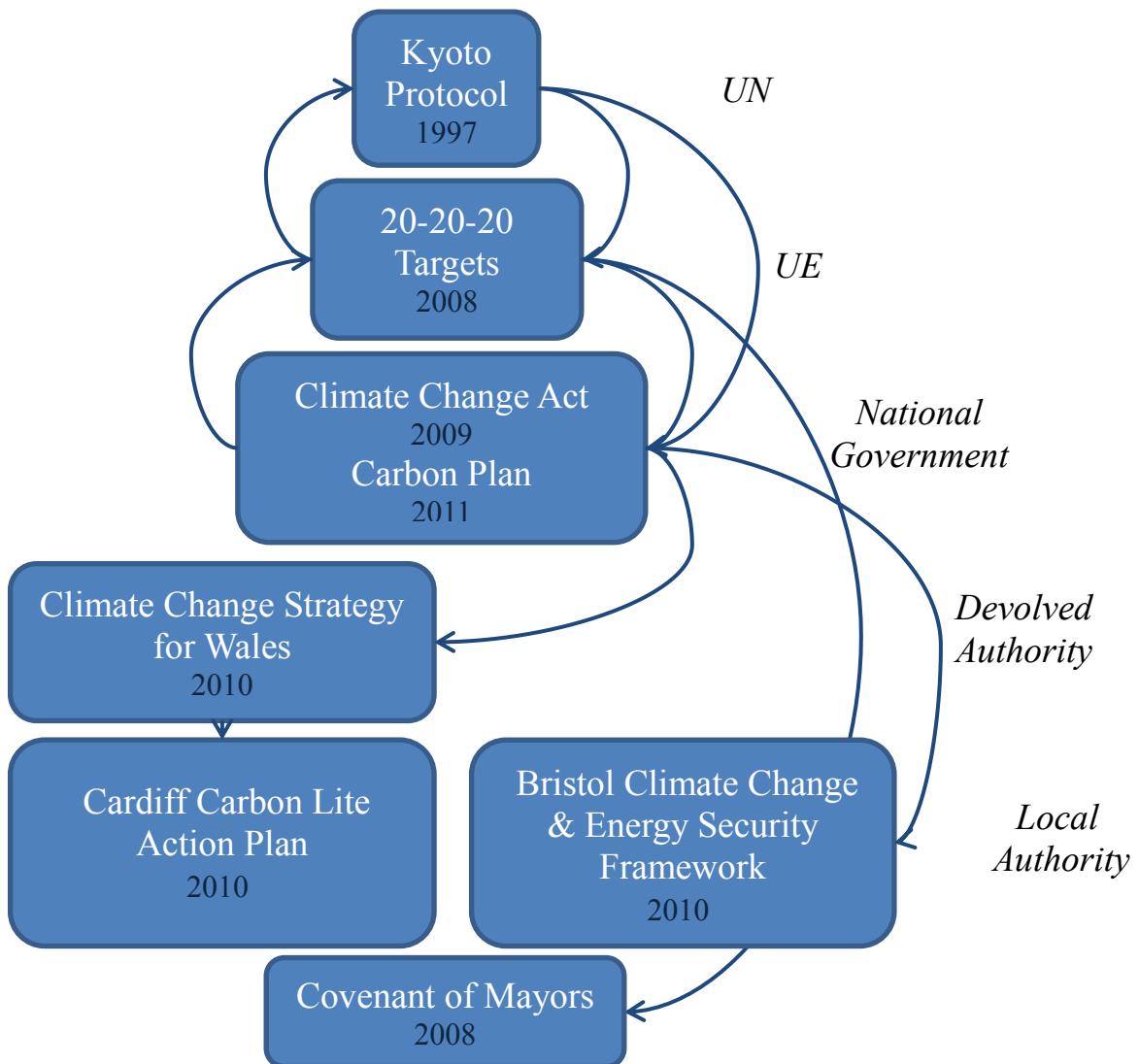
Figure 7-2 Climate change policies – top-down mechanisms in the UK

UN → EU

The comments made for the French case study (section UN>EU above) apply similarly in the case of the UK.

EU → National Government UK

Participants interviewed at the national level in the UK, pointed out that the number of EU environmental laws related to climate change has increased over the past ten years. UK Government officials interviewed stated that the EU 2020 climate and energy package (20-20-20 targets) has had a substantial impact on national policies, as confirmed by a 2008 House of Lords report (House of Lords, 2008), in particular

regarding fuel efficiency, renewable energy, tyre and vehicle labelling, and the emission trading system.

The 2008 Climate Change Act is the UK main law related to CO_2 emissions policies. It was drafted in parallel with the 20-20-20 EU climate change package and was strongly influenced by the Intergovernmental Panel on Climate Change (IPCC)'s results (Marsden & Rye, 2010, p.2). Even though the Climate Change Act does not officially refer to the EU climate and energy package, it mentions the need to comply with "the European (…) obligations of the United Kingdom" (UK government, 2008, p.5). Later amendments of the Climate Change Act included the EU 20-20-20 climate package objectives (UK government, 2014). The legally binding targets adopted by the 2008 Climate Change Act aim to reduce emissions by 80% by 2050 compared to 1990 levels. It addition, the Climate Change Act established carbon budgets. To meet the first legally binding carbon budget limits, a Carbon Plan was established in 2011. The Carbon Plan makes clear reference to EU policies, and clearly refers to the objectives of the EU climate change package, including complying with the EU emissions trading scheme (HM Government, 2011). The targets that the UK has set goes beyond the EU targets as it plans to achieve a reduction of minimum 26% by 2020 (on 1990 levels) across all fields.

Interestingly, national policies in the UK are also directly influenced by UN decisions. For instance, the UK signed the Kyoto Protocol in 1995 and references to the Kyoto protocol are mentioned in the Carbon Plan (HM Government, 2011, p.141).

National Government → Devolved administrations

The UK's devolved administrations are covered by the 2008 Climate Change Act but additional climate change policies have been established. In Scotland, a Climate Change Act was established in 2009 and aims to reduce greenhouse emissions by 42% by 2020. In Wales, the Welsh Government published a 'Climate change strategy for Wales' in 2010 with targets such as cutting CO_2 emissions by 3% every year, including in the transport sector (Welsh Assembly Government, 2010, p.4).

National Government/Devolved administrations → Local Authorities

In the UK there is no formal role for local authorities to manage CO_2 emissions, nor to comply with national CO_2 emissions targets. As stated by a participant in Bristol: "There is no duty to adapt to climate change and many councils have still not yet ever allocated resources around climate change" (P39, Bristol Sustainability). However, government officials interviewed reported that local authorities are encouraged to monitor their CO_2 emissions. Several guidance documents were established by the national government such as " Adapting to climate change: a guide for local councils" published by the Department for Environment, Food and Rural Affairs in 2010 explicitly encouraging local authorities to establish climate change plans (DEFRA, 2010). Furthermore, in 2012 a report commissioned by the Department of Energy and Climate Change recommended that: "the Government should seriously consider (…) introducing a statutory duty" (Committee on Climate Change, 2012, p.9) to encourage local authorities to develop carbon plans.

A number of local authorities in the UK have already established local plans to address CO_2 emissions and climate change in their city. As further described in this chapter, both the city of Cardiff and the city of Bristol have established local plans in 2010 to address climate change issues at the local level.

In the UK, as further described in this chapter, a number of local authorities have signed the Covenant of Mayors, an EU Commission initiative aimed at encouraging CO_2 emissions reduction policies at the local level. The city of Bristol and Cardiff are amongst the signatory cities. In addition, a number of British cities, such as Bristol, mentioned that Agenda 21 has contributed to influence local policies in the late 1990s and early 2000s.

Conclusion

Subsequent to the Kyoto Protocol, a mix of binding targets and regulations tackling CO_2 emissions reduction were initiated by the EU Commission and established at the EU level. The 'EU framework', mainly through its climate change and energy package, has had a substantial impact on national policies in France and in the UK and has contributed to the establishment of binding CO_2 targets and new CO_2 emissions reduction legislation in both countries. In the UK, the national government

has gone beyond the proposed EU targets of 20%. In both countries, interviewees highlighted that the Kyoto Protocol has also influenced national policies directly.

In France, responsibilities to implement climate change policies have been delegated to the regional and the local level; on the other hand, in the UK, the national government has assumed most responsibility for complying with targets and for implementing CO_2 emissions policies, with the exception of devolved authorities who have been in charge of implementing national policies. Unlike France, UK cities are not requested to establish plans to target climate change policies, however, medium and large size cities have been encouraged to do so and a number of UK cities, including Bristol and Cardiff have adopted dedicated CO_2 emissions policies. Thus, results suggest that in France EU policies on climate change have filtered down from the national through the regional and finally have had an impact at the local level, whereas in the UK the impact at the local level is harder to assess since local authorities have not been given legal responsibility.

Climate change policies in the UK and France are also characterised by bottom-up mechanisms. Indeed, many participants stated that the influence is often reciprocal between the EU and the national level or the UN level.

The Covenant of Mayors, as described in this chapter, is an initiative that involves direct collaboration between the EU Commission and local authorities. This chapter investigates whether the Covenant of Mayors has had an impact on policy-making in signatory cities.

7.3   History and Functioning of the Covenant of Mayors (CoM)

This section aims to provide a brief overview of the Covenant of Mayors (CoM)'s history and functioning. The Covenant of Mayors is an initiative established by the Directorate General for Energy (DG Energy) of the EU Commission. It was initiated following the climate and energy package proposal in 2007 with the aim of addressing CO_2 emissions generated by cities. The need to encourage and support local authorities to deliver CO_2 emissions reduction was recognised by the Commission as crucial in order to meet the 20-20-20 targets (P5 & 6, DG ENER).

Potential barriers to address CO_2 emissions at the local level were identified by the Commission, in particular the "lack of political consensus, the change of administration after local elections, and in general the lack of long-term vision" (I5, DG ENER). To address these issues, in 2007, the Covenant of Mayors programme was designed by the Commission to provide targeted support to local authorities. It was partly inspired by the 'United States Conference of Mayors Climate Protection Agreement', an initiative launched in 2005 by mayors in the USA in reaction to the federal government's decision not to sign the Kyoto Protocol. Since then, mayors in more than 1000 cities in the USA have committed to achieve the targets established by the Kyoto Protocol in their city - despite the lack of engagement at the federal level (US conference of mayors, 2008). This model was partly replicated through the Covenant of Mayors which was launched in 2008. Commission officials reported that the decision to establish a soft tool (rather than adopting binding policy) that could enable bottom-up policy making in this field aimed to comply with the subsidiarity principle.

The Covenant of Mayors' main objective is to incentivise local authorities to implement measures to reach the 20-20-20 targets and to establish a long-term vision related to CO_2 emissions reduction policies in their city. As stated by a Commission official the aim of the Covenant is to: "empower(ing) cities to take action, it is a long term approach" (P12, DG REGIO).

The Covenant of Mayors is a network of cities that have formally and officially signed a voluntary agreement pledging to achieve the 20-20-20 CO_2 emissions targets in their city (Covenant of Mayors, 2014a). In October 2014 a total of 5671 cities in 54 different countries had signed the Covenant of Mayors across the EU, including a number of former Soviet Union cities in countries such as Georgia or Belarus, and Southern Mediterranean cities in countries such as Turkey (Covenant of Mayors, 2014d). Interestingly, close to 80% of the signatory cities are located in two countries only: Italy with 2964 signatory cities and in Spain counting 1530 CoM cities. In these two countries, a large number of signatory cities have fewer than 1000 inhabitants. The popularity of the Covenant of Mayors in Italy and Spain is not well understood by Commission officials. In the UK, 33 cities have signed the Covenant of Mayors, including Bristol and Cardiff. In France 117 cities have signed the

Covenant, including Bordeaux and Toulouse. The majority of CoM cities has fewer than 50,000 inhabitants (Joint Research Centre, 2013, p.13). At the beginning of 2013, close to 32 % of the CoM cities had between 100 000 and 500 000 inhabitants and approximately 27 % has more than 1 million inhabitants (*ibid.*).

The Covenant of Mayors was designed to be a multi-level governance programme involving the EU Commission and local authorities across the EU, as illustrated in figure 7.3.
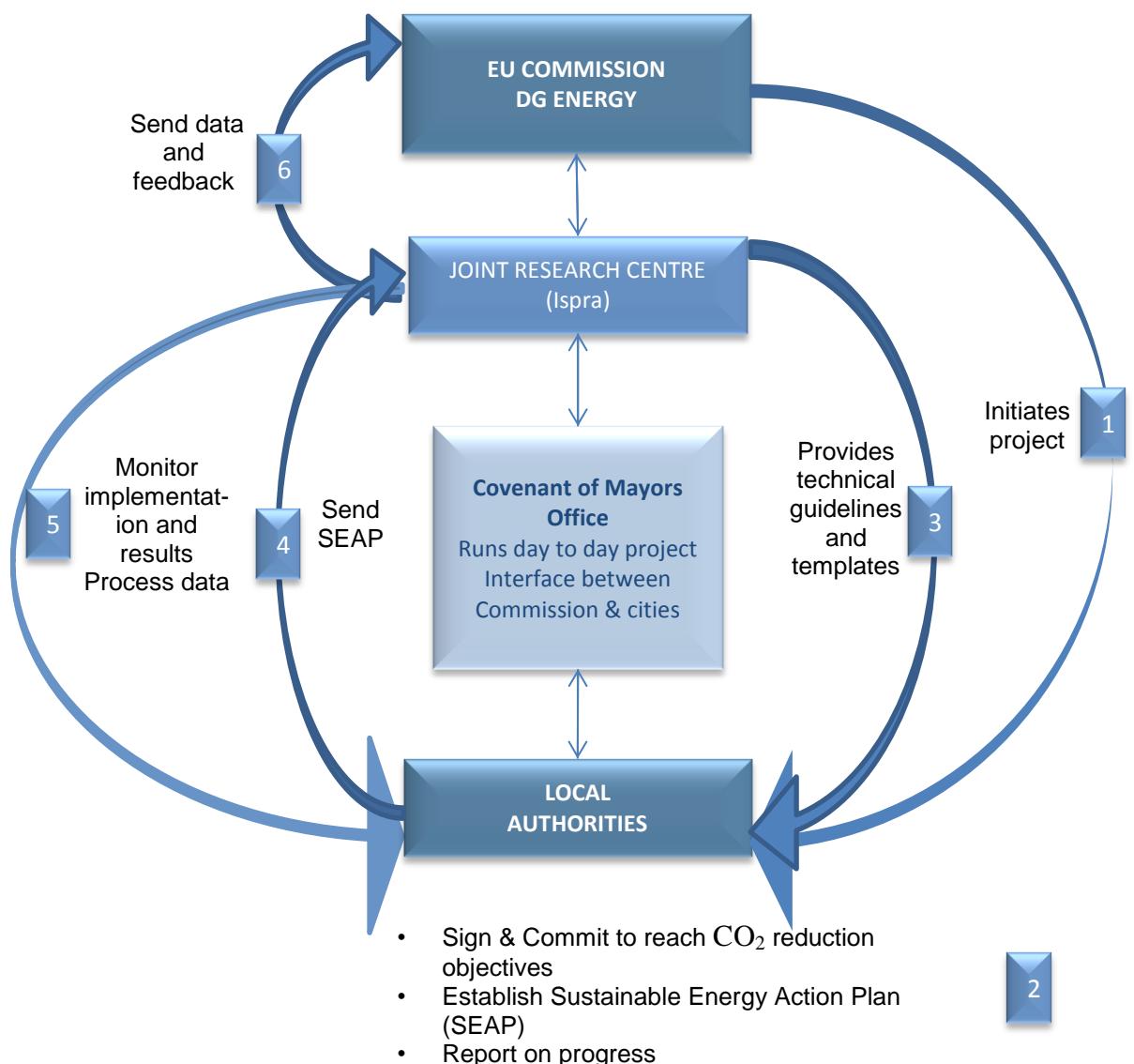
Figure 7-3 Covenant of Mayors Functioning

As previously highlighted, the DG Energy initiated the Covenant of Mayors (CoM) in 2008. Since then local authorities interested in joining the network and willing to commit to reaching the targets have been invited to join. By signing the Covenant, local authorities commit to:

➢ Reach the 20-20-20 targets in their city
➢ Submit a sustainable energy action plan to achieve CO2 emissions reduction targets
➢ Report on progress and policy commitments to achieve their target

The CoM has to be signed by the mayor of a city (or equivalent) and is meant to be a "highly political event" as highlighted by a Commission official (P5, DG ENER).

By signing the Covenant the local authority agrees to establish a sustainable energy action plan (SEAP) within 12 months of the signature. The Commission encourages signatory cities to get their SEAP approved by all political parties to ensure political continuity. The objective of the plan is to describe how the city will achieve the 20-20-20 CO_2 emissions reduction targets. Local authorities are free to design their action plan as they wish, and choose the measures and the energy sector they wish to target. A guideline (Covenant of Mayors, 2010) and a template designed by the Commission are offered to cities and signatories are encouraged to use it. The guideline states that:

> "The main target sectors are buildings, equipment/facilities and urban transport."(Covenant of Mayors, 2010, p.5).

Commission officials confirm that urban transport is one of the key sectors targeted by the Covenant of Mayors programme along with energy efficiency in buildings. The CoM guideline (Covenant of Mayors, 2014c) highlights the importance of addressing urban transport – one of the biggest sources of CO_2 emissions in Europe. The guideline highly recommends local authorities including transport measures in their SEAP. Specific recommendations are made regarding transport measures (Covenant of Mayors, 2010, pp.30–34), in particular:

➢ 'Reducing the need for transport'
➢ 'Increasing the attractiveness of 'alternative' transport modes', in particular public transport, cycling and walking

- ➢ 'Making travel by car less attractive'
- ➢ 'Better information and marketing'
- ➢ 'Reduce municipal and private vehicle fleet emissions'
- ➢ 'Smart transport'

Thus, great importance is attached to urban transport in the CoM's guidelines. Commission officials estimate that SEAPs include, on average, between 30 and 100 measures ranging across different policy sectors. The majority of SEAPs have targeted energy efficiency policies including transport, according to Commission officials.

Once a SEAP is approved by a local authority it is then sent to the Commission to be assessed. The entity in charge of assessing and monitoring the SEAPs is the Joint Research Centre of the Commission (JRC) based in Ispra, as highlighted in figure 7.3. In addition, the Commission provides funding to establish a CoM secretariat based in Brussels. The secretariat is jointly run by several associations such as Eurocities, Energy Cities and Climate Alliance. The secretariat is the first point of contact between cities and the Commission. The Commission's main role (DG Energy) is to provide an institutional framework and give broad orientations to the CoM programme.

CoM signatories are expected to measure their emissions at the start of their involvement with the CoM and are then asked to submit an 'action report' every second year after submitting a SEAP. A monitoring template is provided by the Commission (Covenant of Mayors, 2014b) and the JRC provides advice on how to improve SEAPs. The 'action report' aims to report on progress and indicate actions which have been implemented. This is complemented by a quantitative assessment, called the 'Monitor Emission Inventory' which should be submitted every four years (Joint Research Centre, 2013, p.5). If progress is not achieved as planned, or a SEAP is not submitted, the Commission has the right to exclude a signatory city from the CoM, but the Commission has not yet excluded a signatory city.

7.3.1 Multi-level governance and Subsidiarity considerations

The Covenant of Mayors has been portrayed by the EU Commission as "an exceptional model of multilevel-governance and subsidiarity in action" (Climate

Alliance, 2014). Indeed, the CoM fosters multi-level governance, principally through interactions between cities across the EU and with the EU Commission. The claim that the CoM is a model of subsidiarity is controversial. Indeed, semi-structured interviews undertaken with various stakeholders across the EU (Further details in section 4.4, chapter 4) indicate that some participants had conflicting views about the topic. According to some interviewees, since the CoM establishes direct relationships between the Commission and local authorities it overrules the subsidiarity principle. However, Commission officials in charge of the CoM are aware that the 'institutional loyalty' between local and national authorities cannot be 'bypassed' and have been reluctant to be too authoritative with cities. This suggests that unofficially the subsidiarity principle has drawn boundaries within the Covenant of Mayors functioning. Commission officials reported that national governments have tended to 'ignore' or be 'passive' in relation to the CoM and that regional authorities in decentralised countries (i.e. Spain) have been very supportive. Even though national governments have not provided active support they have not put barriers to the establishment of the CoM.

Conclusion

The CoM was established by DG Energy to encourage the uptake of the 20-20-20 targets in cities. Since its establishment in 2008 over 5,000 local authorities have voluntarily joined the initiative and have committed to reduce their CO_2 emissions by at least 20% by 2020. The Covenant is an initiative which leaves cities the flexibility to decide how to reduce their emissions and which sector to target. It also provides a European platform for networking and encourages benchmarking between cities. One of the requirements for signatory cities is to establish a sustainable energy action plan and to prove that actions are regularly taken to meet the CO_2 emissions reduction targets. Along with energy efficiency in building, CO_2 reduction in urban transport is one of the main sectors targeted by the Covenant. The Covenant of Mayors is an example of multi-level governance which involves direct relationships between the subnational and the supranational levels. The EU Commission portrays the Covenant as a bottom-up initiative and is vigilant in respecting the principle of subsidiarity.

7.4 Impact of the Covenant of Mayors: initial interviews

As urban transport is one of the key sectors targeted by the CoM programme, this investigation sets out to identify whether the CoM has had an impact on urban transport policy, decision-making and planning in signatory cities, and if so, what this impact has been.

As mentioned in the introduction, the impact which the Covenant of Mayors has had is under-studied. This could be explained by the fact that it is a relatively recent initiative. In 2013, the Joint Research Centre undertook a self- assessment of the CoM programme. In its report it is estimated that the Covenant of Mayors could contribute to saving up to 49 764 GWh[1] of energy by 2020 (Joint Research Centre, 2013, p.49). However, this estimate, and the report in general, lack thorough objective evaluation. Indeed, the report does not independently assess whether the commitments cities declare have been undertaken as a result of joining the CoM or not. A more thorough internal evaluation was commissioned by the Commission in 2013, but has not been published on the CoM's website. In the context of that evaluation, a survey was conducted aiming to assess the impact the CoM has had in cities; and in addition, the report states that 89 interviews were conducted with 'signatory cities'. This report concluded that the CoM has had a substantial impact, particularly in small to mid-size cities, as stated:

> "the evaluation demonstrates that the Covenant of Mayors led many (especially small to mid-size) signatories to address CO2-emissions reductions more systematically. The Covenant of Mayors has had an impact on the number of actions planned or implemented, but also on the speeding-up of the uptake of actions aimed at promoting energy efficiency and renewable energy production in Europe (Technopolis Group, Fondazione Eni Enrico Mattei & Hinicio and Ludwig-Bölkow-Systemtechnik, 2013, p.11).

'Raising awareness' about CO_2 emissions reduction and accelerating the uptake of policy was identified as the biggest impact the CoM has had. The report also suggests that transport has been a sector strongly targeted by cities to achieve

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[1] Gigawatt hours

emissions. However, the results of the survey used to produce the report have substantial limitations. Indeed, the survey is only representative of approximately 5% of the CoM signatories (only 245 cities participated out of 4,638 participants). Furthermore, the topics raised by the report remain very general and more importantly, the report did not assess whether urban transport or mobility policy has been influenced by the Covenant of Mayors. Thus, the impact of the CoM has not yet been properly investigated, particularly in the field of urban transport.

This section summarises and analyses the results of initial semi-structured interviews undertaken with various stakeholders across the EU (Further details in section 4.4, chapter 4). It aims to provide an overview of the impact the Covenant of Mayors has had as reported by various participants in the context of this study. The results are crossed-analysed with the mid-term evaluation report (Technopolis Group, Fondazione Eni Enrico Mattei & Hinicio and Ludwig-Bölkow-Systemtechnik, 2013) commissioned by the EU Commission.

7.4.1 What impact has the Covenant of Mayors had in cities?

EU officials and city representatives interviewed in Brussels were asked whether the Covenant of Mayors has had an impact on cities and if so what impact it has had. Three themes emerged from the analysis of the semi-structured interviews. First, several participants mentioned that the CoM has contributed to raise awareness regarding CO_2 emissions and climate change in local authorities. As stated by one participant:

> "The Covenant of Mayors is an elegant way to responsibilise and motivate local authorities to become aware of these issues and to set objectives" (P20, UITP)

This is also highlighted by the mid-term evaluation report of the Commission which states: "The Covenant of Mayors has also allowed raising awareness of the importance of climate change mitigation among local authorities, and especially local elected representatives" (Technopolis Group *et al.* 2013, p.9). Raising awareness amongst local policy-makers and politicians seems to have been the most substantial impact the CoM has had on local policy-making.

Second, most participants stated that the CoM has 'pushed' many cities to establish a long term strategy or 'vision' for their energy policy. Indeed, some cities established an energy/carbon action plan for the first time as a result of joining the CoM, such as South Tyneside in the UK (South Tyneside Council, 2014). A participant representing cities reports that the creation of a SEAP often generates a political debate in the city that influences the local political agenda and often results in the establishment of a "coherent holistic vision" for local energy policy (P16, Eurocit). This corroborates the results of the mid-term evaluation report, which highlights that the CoM has encouraged local authorities to address carbon and energy issues and to establish a "long-term strategy" (Technopolis Group, Fondazione Eni Enrico Mattei & Hinicio and Ludwig-Bölkow-Systemtechnik, 2013, p.71). Thus, participating in the CoM, and in particular establishing a SEAP, has contributed to the establishment of long term political strategy and commitment in many signatory cities.

Furthermore, some participants mentioned that this initiative has had a bottom-up impact on EU policies. Commission officials reported that the information collected through the CoM has served as evidence to inform policies at the EU level. As stated by a Commission official, the CoM is also "a bottom-up project" (P5, DG ENER). One of the barriers highlighted by the CoM signatories is the lack of funding to implement energy efficient policies. This, according to Commission officials, contributed to the creation of an EU financing instrument partly dedicated to supporting cities: the 'European Local ENergy Assistance' (ELENA). This financial instrument provides technical support to local authorities interested in investing in energy efficient projects such as an energy efficient bus fleet (European Investment Bank, 2013). Commission officials also stated that many innovations have been introduced in the structural funds as a result of the CoM, such as allocating more resources to energy efficiency programmes. Thus, the EU Commission has integrated some of the lessons learnt from the CoM programme into its policies.

7.4.2 What impact has the CoM had on urban transport?

Responses varied to the question: what impact has the Covenant of Mayors had on urban transport? According to DG Energy Commission officials, the CoM has had an impact on transport policy in many cities; it has pushed local authorities to better integrated CO_2 emissions and transport policies, and has brought "an additional focus

on sustainability in transport related policies" (P5, DG ENER). The Commission officials' views were shared by some Brussels-based city representatives involved in the CoM secretariat. However, the majority of the participants interviewed were unable to answer the question. Expressions such as "I am unaware", "I don't know" or "I would say" were commonly used which indicates that respondents were uncertain about the CoM's impact on transport. This suggests that Commission officials might have overestimated the impact the CoM has had on urban transport. Furthermore, DG Energy's officials' reluctance to facilitate access to data (as referred to in chapter 4, section 4.6) might indicate that Commission officials responsible for the CoM programme are unwilling to admit that it has a limited impact on transport.

Several participants stated that the CoM's focus is on energy efficiency in buildings more than on transport policies. This confirms the findings of the mid-term evaluation review which suggests that building efficiency is the most popular sector within SEAPs (Technopolis Group, Fondazione Eni Enrico Mattei & Hinicio and Ludwig-Bölkow-Systemtechnik, 2013, p.98). Commission officials also admitted that the focus of the programme tends to be on energy efficiency in buildings. As acknowledged by a Commission official "transport is in a separate category (…) and that is why the CIVITAS was launched" (P6, DG ENER). This could be explained by the fact that the DG responsible for managing the programme is dedicated to energy policies.

7.4.3   Barriers to the CoM impact on urban transport

Justifications were provided to clarify the lack of impact which the CoM has had on transport policies. Most participants who discussed barriers to the CoM's impact, stated that financial and economic restrictions in a city often prevent local authorities from tackling urban transport emissions. As stated by one participant:

> "Financing the transition towards sustainable mobility or carbon free transport is difficult for many cities." (P7, JRC)

Some participants mentioned the fact that in many countries, cities need agreement from their national government to invest in transport policies and this prevents them

from proposing transport policies in their SEAPs. The lack of economic resources, particularly in countries affected by austerity issues, was also highlighted.

In addition, some participants reported that it is difficult to measure the impact the CoM has had on urban transport policies and this discourages signatories from targeting transport. A Commission official explained that providing evidence about private transport is a very difficult exercise for cities: "Change is extremely difficult to measure in the context of the CoM" (P6, DG ENER). According to this participant, this prevents signatories from proposing measures related to private transport in their SEAP. This could explain why CoM cities have tended to focus their effort on energy efficiency in buildings, a sector in which emissions are easily estimated.

Conclusion

This section has found that studies about the impact the Covenant of Mayors has had remain limited and lack objectivity. The analysis of the initial semi-structured interviews suggest that the Covenant of Mayors has contributed to raising awareness about CO_2 emissions and climate change at the local level, and has encouraged many cities to establish long term strategies to address CO_2 emissions. However, participants' responses suggest that these impacts have been limited in the field of urban transport and that the Covenant of Mayors' focus is mainly on energy efficiency in buildings. The lack of impact the Covenant has had on urban transport was attributed to the lack of financial resources at the local level, and the difficulty to measure CO_2 emissions emanating from urban traffic; this might explain why many signatory cities have mainly targeted building policies.

7.5   Impact of CoM and CO_2 Emissions Policies in case study cities

Initial results suggest that the CoM might have had an impact on local policy-making by contributing to raise awareness regarding CO_2 emissions and climate change. However, it is not clear whether the CoM has had an impact on local transport policies. This section summarises the results of the semi-structured interviews and content analysis of local plans in the four case study cities. The aim is to assess

whether the Covenant of Mayors has had an impact on transport and mobility policy, decision making and planning. It starts by investigating whether CO_2 emissions policies – not related to the Covenant of Mayors – have had an impact on transport policies in each case study city; and if they have, what has this impact been and is it related to EU policies? Then it will assess whether the Covenant of Mayors has had an impact on urban transport and, if so, what has the impact been?

7.5.1 Toulouse

Have CO_2 emissions policies had an impact on transport policies in Toulouse?
Key stakeholders in Toulouse (see reference chapter 4, section 4.4) were asked the following question: Have CO_2 emissions policies had an impact on transport policies in Toulouse? If so, what has it been and is there a link with EU policies? Responses are illustrated in table 7.1. Out of the seven participants who responded to this question, six stated that the Plan Climat has had an impact on transport policies. Amongst them were five transport policy-makers. One of the transport policy-makers stated that thanks to the Plan Climat, Toulouse's local transport plan addresses energy efficiency and CO_2 emissions issues, as confirmed by the content analysis of Toulouse's transport plans (results in table 7.2). Local policy-makers responsible for environmental issues claim that the Plan Climat has contributed to the development of integrated policies across sectors. Some participants also highlighted that transport policies have become more environmentally aware because Toulouse's citizens have been demanding change. However, some transport policy-makers felt that the impact the Plan Climat has had on urban transport policies remains limited.

Two transport policy-makers stressed that the Grenelle has had an impact on local transport policies. On the one hand it has fostered sustainable mobility projects at the local level and on the other hand it has made it 'easier to justify' progressive urban transport policies such as investing in public transport infrastructures (Viennet, 2012). When asked whether any EU policies have had a direct or indirect impact some participants admitted not knowing or were not sure. Four participants out of seven mentioned that EU policies have contributed to raising awareness regarding CO_2 emissions in urban transport. It was acknowledged that the impact has been mostly indirect, through national policies and laws. References were made to the

'Strategic Environmental Assessment' EU directive which required public authorities to assess the impact of transport infrastructures.

Laws and policies Participants Toulouse	Subnational laws and policies	National laws and policies	EU laws and policies
P54, Ecology	Plan Climat - " represents a turning point" - "sustainable development is now included urban development policies"		
P57, Energy	Plan Climat - It has helped to justify unpopular measures, provide a holistic vision and has pushed policies to achieve more		- EU has helped to raise awareness on environmental issues
P58, Mobility	Plan Climat	Grenelle - It has given a 'boost' to sustainable mobility projects	- EU has contributed to raise awareness
P55.2, Mobility	Plan Climat - Encouraged PDU to address energetic issues - Substantial changes are limited		- EU regulations that have filtered through the regulatory framework - "Recent initiatives regarding public transport and active travel are a consequence of the Rio 92 and what followed at the EU level" Environmental assessment in public transport projects - It has raised awareness regarding transport emissions
P55.1, Mobility	Plan Climat		Environmental assessment in public transport projects
P59, Mobility	Plan Climat - Its impact on transport remains limited		- The EU has had an indirect impact through national policies
P63, Mobility		Grenelle - Marked a turning point for transport policies	

Table 7-1 CO$_2$ emission policies' impact on transport in Toulouse

The results of the interviews suggest that transport policy-makers are increasingly aware of CO_2 emission issues and that climate change policies are having a growing influence on transport policies. However, the majority of the transport policy-makers interviewed in Toulouse admitted that climate change issues are not a priority for urban transport policies and limited specific actions have been taken to address this issue.

Barriers in Toulouse

Even though some participants mentioned that Tisseo (local public transport operator) and the environmental policy units collaborate, others highlighted the lack of cooperation between environmental and transport policy-makers. The limited cross sectorial collaboration within Toulouse's local administration was pointed out by both mobility and environment policy-makers. For instance, one participant in charge of environmental policies in Toulouse claimed that environmental actors were not sufficiently consulted during the establishment of the 2012 local transport plan.

Furthermore, various participants highlighted that transport policies in Toulouse give priority to meeting transport demand with a focus on infrastructure supply. As a result environmental issues tend not be addressed by local transport policies.

Has the Covenant of Mayors had an impact on transport policies in Toulouse?

In the second part of the interviews, participants were asked whether the Covenant of Mayors has had an impact on transport policies in Toulouse. One transport policy-maker stated that the Covenant of Mayors has contributed to reinforce the city's ambitions related to CO_2 emissions reductions, partly through the Plan Climat, which briefly mentions the Covenant (Grand Toulouse, 2012, p.90). However, the majority of the participants interviewed, particularly transport policy-makers, were unable to respond or admitted that they were not familiar with the Covenant of Mayors or even were unaware of its existence. As stated by one policy maker in Toulouse: "The Covenant is not known amongst citizens and local stakeholders" (P55.1, Mob Toul).

According to one policy-maker, the Covenant is likely to have had an impact amongst politicians in Toulouse but that it has not permeated into the technical administration of the city. The lack of impact the Covenant has had on transport policies in Toulouse could be explained by the fact that the CoM was only signed in

December 2010, so relatively recently from a policy point of view. Furthermore, the entity responsible for the implementation of the Covenant is a unit responsible for European matters[1] which has limited contact and influence on transport policies in Toulouse.

Analysis of Toulouse's LTPs

Few mentions of CO_2 emissions appear in the Toulouse 2001 and 2012 Local Transport Plans (LTPs). In the LTP 2012, the need to address pollution and CO_2 emissions is briefly addressed under the section 'limit pollution, improve people's environment'[2] (Tisseo, 2012, p.74) whereas in the LTP 2001 no specific section is dedicated to CO_2 emissions. Toulouse's LTP 2012 clearly acknowledges that emissions emanating from transport need to be reduced and the need to estimate CO_2 emissions emanating from transport is highlighted. Toulouse's LTPs make references to national policies related to CO_2 emissions, for instance the LTP 2012 refers to the 20% reduction national target in the field of transport. However, no references are made of EU policies related to climate change, and the Covenant of Mayors is not mentioned, as illustrated in table 7.2.

Toulouse's Transport Plans/**Number of times a word appears**	**CO_2/carbon dioxide/ climate change**	**Covenant of Mayors**	**EU funding projects/ programmes or policies related to CO_2 emissions**
Plan de déplacements urbains de la grande agglomération toulousaine 2012	CO_2: 8 times Climate change: 0 Carbon: 3	0	0
Plan de déplacements urbains de l'agglomération toulousaine 2001	CO_2: 10 Climate change: 0 Carbon: 2	0	0

Table 7-2 Analysis of Toulouse's transport plans

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[1] Direction de l'Attractivité, de l'Europe et du Rayonnement International
[2] Limiter les nuisances et pollutions, améliorer le cadre de vie et la sécurité

Conclusion: Toulouse

Results of the semi-structured interviews suggest that the Plan Climat has had some influence on transport policies in Toulouse and that transport policy-makers in Toulouse have become increasingly aware of CO_2 emissions issues. However, the impact remains limited and climate change issues are not prioritised by transport policies in Toulouse. The lack of cross sectorial cooperation within the local authority was highlighted as a barrier to more integrated and sustainable transport policies in Toulouse.

The impact EU policies have had on urban transport policies in Toulouse seems to be mainly indirect through national policies such as the Grenelle. Finally, the result of the interviews and the analysis of the LTPs suggest that the Covenant of Mayors is not known amongst most transport policy-makers in Toulouse and has had very limited impact on transport policies. The fact that it is a recent initiative which does not involve transport policy makers might explain its lack of impact.

7.5.2   Bordeaux

Have CO_2 emissions policies had an impact on transport policies in Bordeaux?

Out of the seven participants who responded to the question "Have CO_2 emissions policies had an impact on transport policies in Bordeaux? If so, what are these policies" all mentioned that Bordeaux's Plan Climat has had some impact on local transport policies. Some participants highlighted that the Plan Climat has influenced transport policies to be more sustainable and to integrate environmental considerations, as illustrated in table 7.3. Responses suggest that the Plan Climat has contributed to raise awareness related to climate change amongst transport policy-makers in Bordeaux. In the context of the 'Grenelle des mobilités'[1], an initiative launched in 2012 by the municipality, environmental issues, including CO_2 emissions, are given increasing importance (CUB, 2012). However, two participants stated that the influence the Plan Climat has had on transport policies remains limited. CO_2 emission issues are not yet a priority for transport policy in Bordeaux, as admitted by several participants and as suggested by the analysis of the local transport plans (see table 7.3).

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[1] The initiative gathers all key transport stakeholders in Bordeaux to define future transport policies

The 'Grenelle de l'environnement' was also mentioned as having influenced local transport policies in Bordeaux. Some participants stressed that national policies related to the environment have a strong impact on local policies in Bordeaux. Furthermore, it was mentioned that the demand from local citizens and the local political willingness have also contributed to change transport policies towards more sustainability.

Interestingly, EU policies were not mentioned by participants, except by one policy-maker in charge of environmental policies in Bordeaux who referred to the climate change and energy package as having influenced Bordeaux's Plan Climat.

Laws and policies Participants Bordeaux	Subnational laws and policies	National laws and policies	EU laws and policies
P49, Climat BX	Plan Climat - Addresses urban transport - Limited direct impact on urban transport policies	Grenelle	Energy package - References appear in the Plan Climat
P50, Air quality	Plan Climat - 'Turning point' - 'Sustainability' more included in transport policies	Grenelle	
P48, Europe BX	Plan Climat - Raise awareness in transport policies - 'Push' transport policies to go further		-
P45, CETE	Plan Climat - 'Orientate' transport policies - Growing impact	Grenelle	
P60, Ville BX	Plan Climat - Ambitious objectives	Grenelle	
P47, CUB BX	Plan Climat - 'Forces' a change in modal share		
P53, CUB BX	Plan Climat - Limited impact		

Table 7-3 CO$_2$emission policies' impact on transport in Bordeaux

Barriers in Bordeaux

In theory, transport policies should integrate the Plan Climat's objectives and recommendations; however, some participants noted that transport policy-makers do not often consult their colleagues when key decisions are adopted. Thus, this suggests that the environmental and transport policy sectors tend to work in non-collaborative isolation.

Has the Covenant of Mayors had an impact on transport policies in Bordeaux?

The city of Bordeaux signed the Covenant of Mayors in February 2009. The policy-maker in charge of managing the Covenant in Bordeaux reports that local politicians signed the Covenant to improve the city's image in the EU arena. The Plan Climat Bordeaux makes two references to the Covenant of Mayors and mentions the 25% to 30% target adopted to reduce greenhouse gas emissions (CUB, 2011, p.9;17;77). However, the city does not have specific targets in the transport sector.

The results of the interviews suggest that most participants were not aware of the Covenant or if they were, did not think it had had an impact on transport policies. As stated by one participant "I have never heard about the Covenant in Bordeaux, I am not even sure that they have signed the Covenant" (P45, CETE). The policy-maker in charge of the Covenant of Mayors recognised that the Covenant has not been granted much importance or publicity in Bordeaux and is not well known within the local authority. Thus, it is very unlikely that the Covenant of Mayors has had a direct impact on transport policies in Bordeaux.

Analysis of Bordeaux's LTPs

Bordeaux's first LTP and follow-up documents made very few mentions of climate change, CO_2 as illustrated in table 7.4. The 2008 document refers to the Kyoto agreements but no references are made to EU laws. The Covenant of Mayors is not mentioned either. Thus, the LTP and follow-up documents suggest that CO_2 emissions policies have not had any substantial impact on Bordeaux's transport policies.

Bordeaux's Transport Plans/**Number of times a word appears**	**CO_2/carbon dioxide/ climate change**	**Covenant of Mayors**	**EU funding projects, programmes or policies related to CO_2 emissions**
Effet du plan des déplacements urbains - 2008	CO_2: 0 Climate change: 1 Carbon: 2	0	0
Observatoire du plan des déplacements urbains - 2008	CO_2: 0 Climate change: 2 Carbon: 0	0	0
Plan des déplacements urbains CUB 2000-2005	CO_2: 1 Climate change: 0 Carbon: 1	0	0

Table 7-4 Analysis of Bordeaux's transport plans

Conclusion: Bordeaux

The analysis of the semi-structured interviews suggests that the Plan Climat has had an influence on transport policies in Bordeaux. It has contributed to raising awareness and to better integrating environmental issues in transport policy. However, despite the growing importance given to CO_2 emissions, the impact of the Plan Climat on transport remains limited. National policies such as the Grenelle de l'environnement have also contributed to influencing transport policies, unlike EU policies which were not mentioned by participants. The lack of cooperation between environmental and transport policy-makers was mentioned as a potential barrier to the integration of climate change and transport policies in Bordeaux.

Results suggest that the Covenant of Mayors has had some influence on climate policies in Bordeaux since it was mentioned in the Plan Climat. Thus, indirectly the Covenant of Mayors might have contributed to raising awareness regarding CO_2 emissions in Bordeaux via the Plan Climat. However, most transport policy-makers

were unaware of the initiative, and the local transport plans do not refer to it either. This suggests that the Covenant's direct impact on transport is very limited.

7.5.3   Bristol

Have CO_2 emissions policies had an impact on transport policies in Bristol?

Bristol's local policy-makers reported that from the mid-2000s local policies have started to give priority to climate change issues over air quality (as referred to in chapter 5). Most participants mentioned that the impact climate change policies have had on transport has significantly increased over the years and that the adoption of the climate change and energy security framework in 2010 has fostered sustainable mobility policies (as illustrated in table 7.5). In addition, the unit responsible for sustainability policy in the city has close to 50 policy-makers and prioritises climate change issues. Interestingly, many participants highlighted that these changes have occurred primarily in response to increased pressure from local citizens.

It was reported that following the UK Climate Change Act, the city of Bristol established a 'self-imposed' ambitious target which aims to reduce Bristol's carbon emissions by 40% by 2020 from a 2005 baseline, including transport (Bristol City Council, 2010). According to a participant, the Climate Change Act has allowed the local authority to have access to funding to implement sustainable transport projects.

Four participants referred to the EU's impact on transport policies. References were made to the European Green Capital award, which the city of Bristol won in 2013. Participating in the Green Capital award scheme has 'pushed' local policies in Bristol and has encouraged transport policies to prioritise CO_2 emissions reduction. However, it was mentioned that the impact the EU has had is mainly indirect and difficult to measure.

Thus, a mix of top-down and mainly bottom-up influences have encouraged Bristol's local authority to target CO_2 emissions in transport. The content analysis of the transport plans corroborates these results and illustrates the importance allocated to CO_2 emissions in transport policies, as shown in table 7.6. However, some policy-makers mentioned that Bristol's CO_2 emissions reduction targets might be too ambitious and unrealistic in the field of transport.

Laws and policies	Subnational laws and policies	National laws and policies	EU laws and policies
Participants Bristol			
P39, Bristol Sustainability	Climate Change and energy security framework - Unclear how the targets will be achieved	Climate Change Act - 'Important driver of change'	EU impact - 'hard to assess'
P36, Air Quality Bristol			
P35, Bristol Transport	Climate Change and energy security framework - Ambitious	Climate Change Act	Green Capital award
P34, Bristol Transport	Climate Change and energy security framework - 'Push' transport policies		
P37, Bristol Transport	Climate Change and energy security framework - Might be too ambitious		EU - indirect influence through national policies
P38, Bristol Council			Green Capital award

Table 7-5 CO$_2$ emission policies' impact on transport in Bristol

Barriers in Bristol

Both policy-makers in charge of environmental issues and transport policies emphasised the on-going collaboration between the two units. Indeed, it was reported that the team in charge of sustainability regularly advises the transport department regarding climate change and encourages transport officers to undertake 'carbon assessment' of their major transport schemes, interventions or policies.

Has the Covenant of Mayors had an impact on transport policies in Bristol?

The city of Bristol signed the Covenant of Mayors in February 2009. When asked whether the CoM has had an impact on Bristol's policies, an official in charge of sustainable policies stated that it has strengthened the local authority's commitment to reduce CO$_2$ emissions and to establish ambitious targets. The same participants reported that the CoM has given a 'framework' and further 'rigour' to the climate

change and energy security framework. This participant highlighted that thanks to the city's involvement in the CoM, Bristol secured £2.5 million through the ELENA EU financial instrument. However, the ELENA did not cover any transport related projects but mainly energy efficiency in buildings.

The transport policy officers interviewed in Bristol were unaware of the CoM programme or were not able to say whether the CoM had had any impact on transport. As stated by a local policy maker "I have heard of the covenant but I am unaware of any directly attributable changes to transport policy arising from this." (P38, Bristol Council). The analysis of Bristol's transport plan corroborates the results of the interview, as illustrated in table 7.6 and suggests that the CoM has not had any direct impact on transport policies in Bristol.

Analysis of Bristol's LTPs

Bristol's first transport plan recognised the need to address CO_2 emissions in transport but no specific policies or targets were suggested; instead it is stated that "measures to reduce CO_2 emissions will be incorporated within the Air Quality Strategy" (West of England Partnership, 2011, p.127). This indicates that air quality issues were a priority at the start of the 2000s and that CO_2 emissions were treated as part of it. Bristol's second transport plan further emphasized the need to address CO_2 emissions and recognised that transport policies should contribute to the 'climate change strategy', but limited specific action is suggested. In the third transport plan reducing carbon emissions appears as the first priority before 'support economic growth' and one entire chapter (chapter 5) is dedicated to "reducing carbon emissions". None of the transport plans mentions the Covenant of Mayors, or European climate change policies.

Bristol's Transport Plans/**Number of times a word appears**	**CO_2/carbon dioxide/ climate change**	**Covenant of Mayors**	**EU funding projects, programmes or policies related to CO_2 emissions**
Joint Local Transport Plan 3 2011- 2026	CO_2: 30 Climate change: 34 Carbon: 108	0	0
Joint Local Transport Plan 2006/2007 - 2010/2011	CO_2: 62 Climate change: 13 Carbon dioxide: 3	0	0
Bristol Local Transport Plan 2001/2002 – 2005/2006	CO_2: 30 Climate change: 9 Carbon dioxide: 6	0	0

Table 7-6 Analysis of Bristol's transport plans

Conclusion: Bristol

From the mid-2000s reducing CO_2 emissions became one of the main priorities for Bristol's policies. The impact climate change policies have had on transport has increased significantly in Bristol and CO_2 emissions reduction is now one of the key priorities for local transport policies. This change seems to have been generated as a response to citizens' demands. Results suggest that the UK Climate Change Act has influenced Bristol's local authority to establish ambitious CO_2 emissions reduction targets. The EU policies have had a limited direct impact with the exception of the Green Capital Award.

The CoM does not appear to have had a direct impact on transport policies in Bristol. However, the CoM seems to have had a substantial impact on climate change policies in Bristol, thus indirectly it might have had an impact on transport policies.

7.5.4 Cardiff

Have CO$_2$ emissions policies had an impact on transport policies in Cardiff?

Some participants reported that addressing CO$_2$ emissions is becoming a priority for Cardiff's policies and is having a growing influence on transport policies. Several participants mentioned that the UK Climate Change Act (2008) has influenced Cardiff's policies directly and indirectly through Welsh policies. Indeed, interviewees mentioned that the Welsh Transport Strategy has been influenced by the UK government's policies and targets related to climate change. The increased pressure from the UK and Welsh authorities has encouraged Cardiff's local authority to give priority to climate change issues across policy areas. As a result, since 2010 several policies have been adopted including the 2010 Carbon Lite Cardiff Action Plan that highlights the need to address emissions emanating from transport (Cardiff Council, 2010, p.12). Furthermore, the city committed to following UK CO$_2$ emissions reduction targets (26% by 2020). However, none of the transport policy-makers interviewed referred to local policy documents related to climate change. The results of the interviews suggest that CO$_2$ emissions reduction policies have had a limited impact on transport policy in Cardiff.

EU climate change policies were not mentioned by participants, suggesting that it has not had any substantial direct impact on local policies. One participant in charge of sustainable policies in Cardiff reports that the impact EU policies have had is very limited and hard to identify, because Cardiff is a city within a devolved administration where the priority is given to complying with regional and national targets and where there is an additional layer of administration.

Laws and policies	Subnational laws and policies	National laws and policies	EU laws and policies
Participants Bristol			
P26, Cardiff Sustainability	Carbon Lite Cardiff Action Plan - Limited impact		EU - Limited direct impact
P31, Welsh Assembly		Climate Change Act - Has influenced the Welsh Transport Strategy	
P25, Cardiff City Council			
P27, Cardiff Europe			
P28, Cardiff Air Quality			
P29, Transport Cardiff		Climate Change Act Welsh Assembly policies - 'Have put pressure'	
P30, Transport Cardiff		Climate Change Act	

Table 7-7 CO$_2$ emission policies' impact on transport in Cardiff

Barriers in Cardiff

Two policy-makers highlighted that CO$_2$ emissions targets at the local level are not sufficiently ambitious. According to some participants, Cardiff should establish CO$_2$ emissions reduction targets in the transport sector and be accountable for it. A participant suggested that the Welsh Assembly should request or impose further reduction on Cardiff and should incentivise the city of Cardiff to achieve more.

Has the Covenant of Mayors had an impact on transport policies in Cardiff?

The city of Cardiff signed the Covenant of Mayors in April 2010. A local policy-maker stated that "We signed the Covenant of Mayors because it reflected our priorities" (P27, Cardiff Europe). When asked whether the Covenant of Mayors has had an impact in Cardiff, one policy maker in charge of sustainable policies mentioned that it has strengthened local policies related to climate change and

'solidified' reduction targets for CO_2 emissions. The CoM is mentioned in the 2010 Lite Action Plan (Cardiff Council, 2010, p.4) which suggests that it might have had an influence on climate change policy in Cardiff.

However, most of the participants interviewed, in particular transport policy-makers, were not aware of the CoM or unsure of the impact it has had. The two participants familiar with the CoM – one in charge of sustainability and one responsible for European policies – admitted that the CoM has not had any substantial direct impact on transport. This was confirmed by the content analysis of Cardiff's transport plans, as illustrated in table 7.8.

Analysis of Cardiff's LTPs

The analysis of Cardiff's transport plans indicates that Cardiff's first LTP (2000) makes very few mentions of climate change related issues - which are categorised, as "other transport problems" (Cardiff County Council, 2000, p.20), as illustrated in table 7.8. Cardiff's 2010 regional transport plan makes some references to climate change issues and acknowledges the pressing need to tackle CO_2 emissions emanating from transport; however, no specific action, policy or measure are proposed. In Cardiff's 2011 policy document entitled 'A sustainable travel city: future strategy', very few mentions of climate change related issues are made (Cardiff Council, 2011). None of Cardiff's transport policy documents mentioned the Covenant of Mayors. References to EU policies do not appear, as shown in table 7.8.

Cardiff's Transport Plans/**Number of times a word appears**	**CO_2/carbon dioxide/ climate change/global warming**	**Covenant of Mayors**	**EU funding projects, programmes or policies related to CO_2 emissions**
South East Wales Transport Alliance **Regional Transport Plan - 2010**	CO_2: 8 Climate change/global warming: 3 Carbon: 7	0	0
Local Transport Plan 2000-2016	CO_2: 0 Climate change/global warming: 3 Carbon: 2	0	0

Table 7-8 Analysis of Cardiff's transport plans

Conclusion: Cardiff

Results suggest that reducing CO_2 emissions is becoming a priority for Cardiff's policies following an increased pressure from the national government and the Welsh Assembly. However, the impact climate change policies have had on transport policy in Cardiff has been limited. Several local policy-makers highlighted the need for stricter laws or targets at the local level.

EU climate change policies appear to have had very limited direct impact on transport policy, as did the Covenant of Mayors. Indeed, even though the Covenant has contributed to strengthen Cardiff's climate change policies, it does not seem to have had a direct impact on transport policy.

7.6   Comparison and Conclusion

This section of the thesis has mainly focused on studying the Covenant of Mayors and its impact on urban transport. However, as the research progressed it became obvious that though the Covenant of Mayors' impact on transport has been limited the 20-20-20 targets have started to have an indirect impact on urban transport.

Impact climate change policies on urban policies

Results suggest that the EU climate change and energy package has had a substantial impact on national policies in France and in the UK and has contributed to the establishment of national binding CO_2 emissions targets and new legislation. The EU climate change and energy package was strongly influenced by UN agreements, in particular the Kyoto Protocol.

In the case of France, top-down processes are strongly marked since the national government has established policies at the regional and local level, delegating legal responsibilities to the sub-national levels to achieve a 20% reduction in CO_2 emissions by 2020. In France, the EU climate change and energy package has filtered down from the national level through the regional and finally the local level, and thus has had an indirect impact on local policies. In the UK, the national government and the devolved administrations are the only authorities legally responsible for achieving the 26% CO_2 emissions reduction targets. Unlike local authorities in France, UK cities are not obliged to establish climate change plans; however, medium and large size cities have been encouraged to do so and a number of UK cities, including Bristol and Cardiff, have adopted dedicated CO_2 emissions reduction policies. In the UK, the impact EU policies have had at the local level is more difficult to measure since authorities are not legally responsible for reaching the CO_2 emissions reduction targets. However, local policy-makers in both countries have reported that in some cases EU policies, as well as UN initiatives, have had a direct influence on local policies.

The comparative analysis of the four case studies (see appendix 7.A) indicates that there has been a growing awareness amongst local transport-policy makers about CO_2 emissions reduction. However, local transport policy-makers in Toulouse and Bordeaux admitted that it is not a priority for transport policy-making. Whilst in

Cardiff it is becoming a priority, in Bristol, addressing CO_2 emissions reduction has been a priority for transport policies since the 2000s. In Cardiff, Bordeaux and Toulouse the influence local carbon plans (or equivalent) have had on transport policies and planning has been limited whereas in Bristol, policy-makers reported that the local climate change and energy security framework has contributed to foster sustainable urban mobility policies.

Participants in the four cities reported that national policies related to CO_2 emissions targets have had an influence on local policies. In Bristol, the UK Climate Change Act has pushed the adoption of ambitious targets at the local level. In the case of Cardiff, the UK government's policies have filtered down through the devolved administration. Both the UK government and the Welsh Assembly have put an increased pressure on Cardiff to address CO_2 emissions reduction policies. In Toulouse and Bordeaux, participants have pointed out that the lack of cross-sectorial collaboration between environmental and transport policies explains why CO_2 emissions reduction policies have not yet been prioritised by transport policy-makers, whereas in Bristol the cross departmental cooperation was mentioned as a strength. Some local policy-makers in Cardiff highlighted the need for stricter CO_2 emissions targets at the local level, including specific targets in the field of transport.

It is also important to note that several participants highlighted that the growing importance allocated to climate change policies is also related to citizens' demand for change. Indeed, in many cities pressure from local citizens seems to have played a significant role in putting climate change issues on top of the agenda.

Impact of Covenant of Mayors on local policy-making

Results indicate that in the four case studies, the city's involvement in the Covenant of Mayors has influenced environmental policies to strengthen CO_2 emissions reduction commitment. It has pushed local authorities to establish and commit to ambitious CO_2 emissions reduction targets. This corroborates the results of the initial interviews and of the mid-term evaluation commissioned by the Commission which also highlights the fact that the CoM has contributed to raise awareness about CO_2 emissions. Thus, indirectly the Covenant of Mayors might have had an impact on transport policies.

On the other hand, results indicate that the CoM is still little known amongst local policy-makers in charge of transport policies. This indicates that the Covenant of Mayors has not had any direct impact on transport policy-making in the case studies under examination. A potential explanation for the lack of impact is the fact that the initiative is still very recent - it was only established in 2008. Some participants mentioned that the lack of cross sectorial collaboration in some cities – particularly between environmental and transport policy-makers – might explain why the initiative has had a limited impact on transport. Furthermore, several participants highlighted the fact the Covenant of Mayors has been focused on energy efficiency issues in buildings rather than on transport. Therefore, despite the fact that urban transport is one of the key sectors targeted by the Covenant, it does not appear to have had any direct impact on transport policy-making and planning in the four case study cities.

Chapter 8   CIVITAS: Fostering innovative sustainable mobility in cities

"*CIVITAS brought in money, it brought profile to the city, and it meant you were able to deliver your projects quicker*" (P38, Bristol Council)

8.1   Introduction

A substantial number of EU soft laws address urban transport, directly or indirectly, but the impact these policies have had on local transport policies is under-studied, as illustrated in chapter 5. This chapter examines the impact the EU funding programme CIVITAS has had on urban transport policies in cities, with a focus on cities that have participated in a CIVITAS demonstration programme. However, this chapter does not evaluate the success of individual measures established during the CIVITAS demonstration programmes. It looks at whether measures were sustained after the end of the CIVITAS programme and more generally whether the involvement in a CIVITAS demonstration programme has influenced local policy-making, with a particular focus on awareness, decision-making, and policy planning. The underlying question is: has CIVITAS contributed to foster sustainable mobility policies in cities, in the short and long-term? If so, what changes has it generated at the local level?

A number of participants at different levels were questioned through semi-structured interviews to discuss CIVITAS and its impact. In addition, two case study cities were examined in more detail: Bristol, in the UK and Toulouse in France, alongside two cities which have not participated in a CIVITAS demonstration programme. Finally, a survey was sent to all CIVITAS demonstration cities across the EU. The result of this survey was then cross-analysed with the result of the interviews and the case study cities. The concluding section discusses the successes and failure of the CIVITAS programme in the EU.

8.2 History

The CIVITAS[1] initiative is an EU funded programme that was initiated in 2002 by the EU Commission through the framework programmes for research and technological development (FPs). As officially stated, the aim of CIVITAS is:

> "to support cities to introduce ambitious transport measures and policies towards sustainable urban mobility. […] to achieve a significant shift in the modal split towards sustainable transport, an objective reached through encouraging both innovative technology and policy-based strategies."(EU Commission, 2014)

In addition to using CIVITAS to contribute to research policy, Commission officials in charge of transport policies in the EU were looking to foster integrated and sustainable mobility in cities across the EU and beyond. The programme funds innovative and experimental pilot projects to test sustainable mobility solutions, whether it is technological, sociological or political. In the words of a Commission official, the objective is "to test new technologies, new concepts, new approaches or the combination of those" (P4, DG MOVE).

Through CIVITAS the Commission intends to inform policy-making by generating and disseminating knowledge about sustainable urban mobility. A Commission official summarised this goal when he said CIVITAS:

> "generates basically a pool of knowledge that all cities can benefit from, from which cities can pick choices that they feel fit their particular conditions" (P4, DG MOVE)

The knowledge generated is then also used to inform policy-making at the Commission level.

Since 2002 the programme's aims have remained the same. However, participants noticed that gradually the programme has given more emphasis on climate change and energy issues and air pollution. In addition, the Commission has put increased emphasis on the need for cities to have a Sustainable Urban Mobility Plan (see definition in glossary) to be able to benefit from EU funding.

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[1] CIVITAS stands for City VITAlity Sustainability

The CIVITAS programme has had four phases that have involved a total of 69 cities, as shown in figure 8.1.

| CIVITAS I		CIVITAS II		CIVITAS Plus		CIVITAS Plus II
2002-2006	→	2005-2009	→	2008-2012	→	2012-2016
19 cities		17 cities		25 cities		8 cities
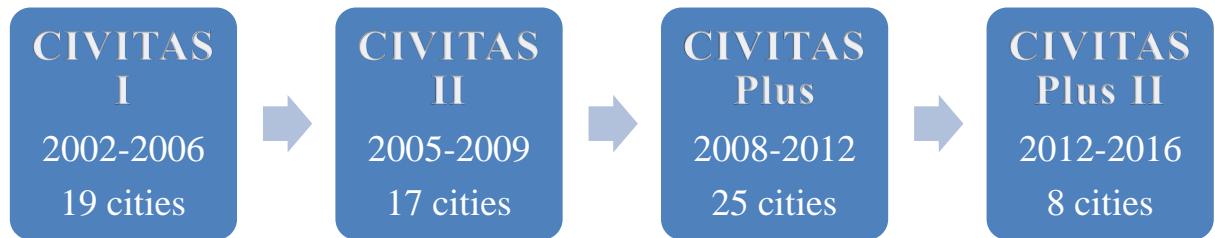
Figure 8-1 Four CIVITAS programmes

This investigation has focused on examining the first three CIVITAS demonstration programmes. The cities that have received funding to participate in CIVITAS represent a range of city sizes, from small (e.g. Norwich in the UK) to large capital cities (e.g. Berlin in Germany) across most member states in the EU; but the CIVITAS programme mostly targets medium size cities (between 100.000 inhabitants and 500.000). Since CIVITAS Plus II, some non EU cities, such as Tel Aviv-Yafo, have joined the demonstration programme, as illustrated in the map below (Figure 8.2).

Figure 8-2 Map all CIVITAS demonstration cities. Source: http://www.civitas.eu/content

In the UK, seven cities have participated in the programme, including Bristol which was involved in the first CIVITAS programme starting in 2002. In France, four cities got involved, amongst them Toulouse which was actively involved in the CIVITAS II programme launched in 2005.

In total up to 2012, the Commission has dedicated close to 200 million euros (Kallas, 2012, p.2) to support the CIVITAS programme. The funding allocated to each CIVITAS programme has varied since 2002, as illustrated in figure 8.3 below:

Million of euros
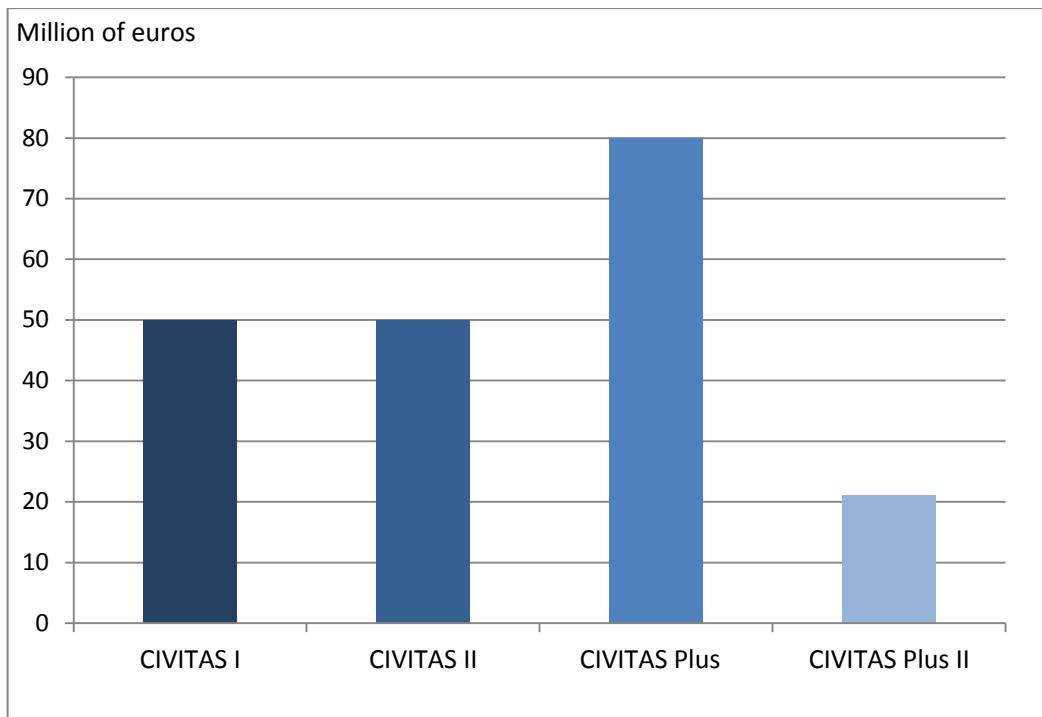
Figure 8-3 Funding allocated to the four CIVITAS phases

The budget of the latest CIVITAS programme has been substantially reduced. Participants reported that it is linked to the economic crisis in the EU as well as the emergence of new funding programmes such as the Smart Cities programme. It is important to note that the programmes are **co-funded by cities**. Indeed, cities are required to contribute to at least half of the total cost of the proposed project.

8.3   Functioning

CIVITAS is essentially a scheme where cities compete to obtain EU funding. For each CIVITAS phase a 'call' for proposal is launched by the Commission, as illustrated in figure 8.4 below. The call specifies the general objectives participants are expected to achieve. Cities who wish to participate have to gather with other cities and partners (e.g. Universities, consultants, etc.) to form a 'Consortium', and then design a joint project. Each consortium is expected to involve 'leading' cities (cities which have a proven track record of progressive transport policies) and 'learning' cities (less advanced cities) from across Europe. Consortia involve a range of stakeholders across sectors and levels of governance from private companies to

non-governmental organisations or associations representing cities based in Brussels, transport operators or research institutes.

The call is explicitly addressed to cities which are committed to making their transport system or transport policies more sustainable. Project proposals are expected to offer innovative measures, mainly infrastructural or policy, and should address various sustainable mobility themes mentioned in the call, such as: clean fuels and vehicles, urban freight logistics and more recently implementing Sustainable Urban Mobility Plans.

Even though local authorities and their consortium can choose which measures to propose, the EU Commission provides a thematic framework and applicants are expected to propose measures that address most of the themes within the CIVITAS programme. In their proposal cities have to propose measures that address the following eight themes:

1. Clean Vehicles
2. Collective passenger transport
3. New forms of vehicle use and ownership
4. Access restrictions and integrated pricing
5. Telematics and traffic management
6. Goods distribution
7. Mobility management
8. "Soft" measures

Once the most promising projects have been selected, each consortium is then in charge of initiating its proposed measures. For instance, the city of Toulouse became a demonstration city in 2005 and implemented a series of measures, including a car-pooling project. In addition to demonstrating innovative transport policies or projects, consortia are expected to evaluate and disseminate their results. Research centres or universities involved in consortia are often in charge of the evaluation. Commission officials are then responsible for monitoring the demonstration programmes, with the help of independent experts.
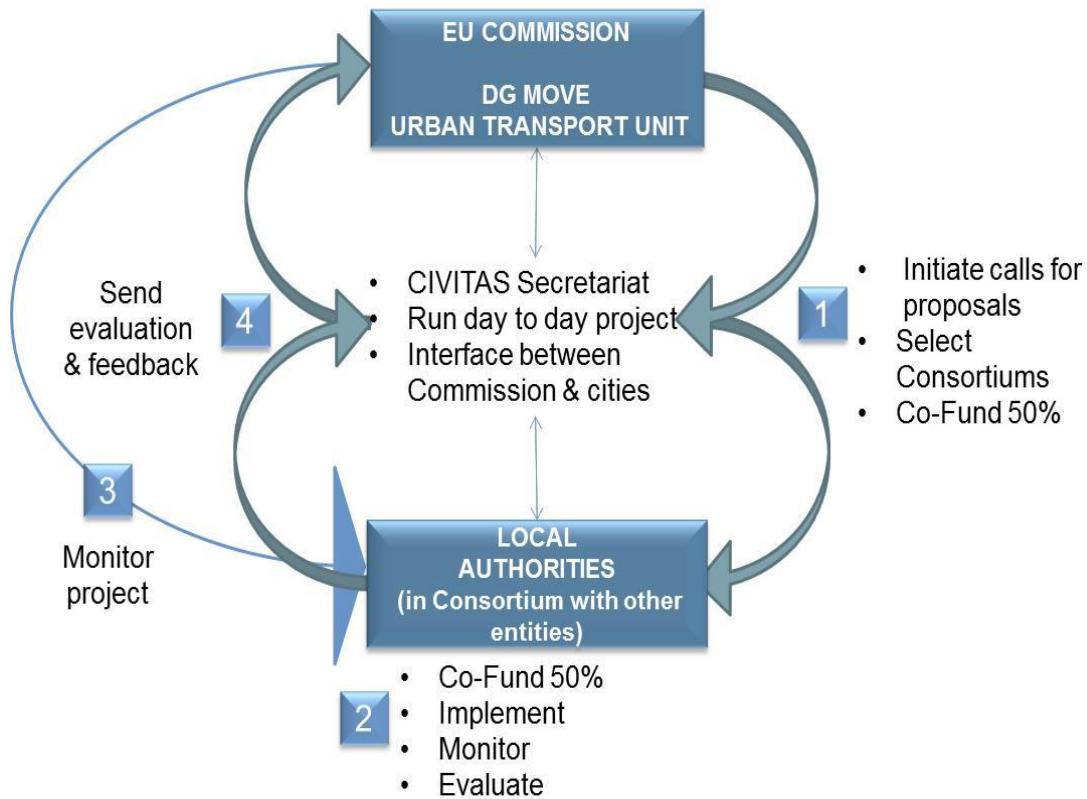
Figure 8-4 CIVITAS functioning

In the mid-2000s the Commission established a **secretariat** in charge of coordinating all consortia, organising joint events and promoting the CIVITAS 'brand'. This secretariat is exclusively financed by the Commission, whereas demonstration projects are co-funded by cities themselves. Indeed in most cases, cities involved in demonstration projects contribute to funding 50% of the project.

Since the aim of CIVITAS is to influence policy-making, a policy advisory committee was established to involve local politicians. The **Political Advisory Committee** (PAC) involves committed mayors and Commission officials who often meet to discuss CIVITAS. It also acts as a bottom-up platform where local politicians can communicate with the Commission regarding urban transport policies.

In addition, CIVITAS established a wider network of cities called the **CIVITAS Forum**. The CIVITAS Forum network gathers approximately 230 cities across the EU (including demonstration cities) and some non EU cities. The Forum is used as a

platform to disseminate good practice, successful policies, discuss barriers and communicate funding opportunities. Forum members are expected to attend the annual CIVITAS Forum conference. In addition, national forums, called **CIVINET**, have been established in several EU countries to provide an opportunity for cities from the same country to gather and communicate using a common language. In France, the CIVINET network numbers 12 cities including Toulouse, which participated in CIVITAS II, and Bordeaux that has never been a demonstration city. In the UK, the CIVINET UK and Ireland involves 14 cities, including Bristol, which was involved in CIVITAS I.

8.4   Previous assessments: Gaps

Several academic and non-academic studies related to CIVITAS have informed this research. The impact CIVITAS has had on cities has been evaluated internally by each CIVITAS project and various reports have been produced by consortium partners, often consultancy companies, research centers or universities. The results of this investigation corroborate many of the findings of the various CIVITAS evaluations (CIVITAS, 2006; McDonald & Hall, 2010; McDonald, Hall & Beecroft, 2010; McDonald, Hall & Felstead, 2010; McDonald, Hall & Gilliard, 2010; McDonald, Hall & Hickford, 2010; McDonald, Hall & Hilferink, 2010; McDonald, Hall, Schreffler, *et al.*, 2010; McDonald, Hall & Zheng, 2010). However, these evaluation reports have several limitations, as illustrated in table 8.1. On the one hand, the evaluations have been conducted internally, and even though academics were often involved, they were partners in the project which might have hindered the objectivity of the results. In addition, the evaluations were run shortly after the establishment of the measures in each demonstration city. As a result, the long-term impact of the measures has not been evaluated. Furthermore, the evaluations focused on measuring specific indicators or outputs, such as NOx levels, but limited research has looked at what impact the CIVITAS initiative has had on policy-making and planning. Finally, each CIVITAS project has used its own evaluation criteria and methods. Consequently, the results are not easily comparable.

CIVITAS Literature: Gaps and limitation
➤ Lack of independent research – most studies were evaluations undertaken by CIVITAS consortium partners
➤ Lack of studies on comprehensive impact - impact on policy-making, planning and decision-making has not been extensively studied
➤ Lack of holistic view - the literature has not compared results between cities across Europe

Table 8-1 CIVITAS: gaps and limitations in the literature

Most CIVITAS evaluation reports pointed out that assessing the outputs of CIVITAS measures in an objective, reliable and thorough way was very difficult (Dziekan, 2012). The lack of data available before and after the implementation of a measure is often highlighted, as well as the reluctance of local policy-makers to admit when a measure has failed (*ibid.*).

Although various scholars (Dziekan, 2012; Klementschitz, Hössinger & Roider, 2012; Rodríguez, Ureba & Miguel, 2009; Wall, 2011) have analysed the impact CIVITAS has had, most studies have focused on assessing specific measures' outputs and outcomes. Klementschitz et al. (2012) looked at the successes and failures of the 208 measures which were implemented by CIVITAS II. The authors took into account multiple variables and established a mechanism to rate the success of each measure. However, the focus of Klementschitz et al. (2012)'s study is on the implementation processes rather than on the output or outcome of the implementation. Klementschitz et al. (*ibid.*) conclude that the success of CIVITAS measures depends on several variables, including the city's characteristics, the measure being implemented, or the actors in charge; they point out that involving all stakeholders at an early stage of the process often guarantee a more successful implementation.

Rodríguez et al. (2009) summarise the measures which have been taken in the context of CIVITAS in Spain, but do not offer an in-depth analysis regarding the

impact that the programme has had on the Spanish demonstration cities. Furthermore, their study does not offer any substantial proof that CIVITAS has had any major results. Their research is limited to summarising the CIVITAS measures that have been implemented.

Pflieger (2012, 2011) is one of the few authors that has discussed CIVITAS in a comprehensive and independent way. Pflieger (2012) investigates the impact the CIVITAS programmes have had on local transport policies in four case study cities in France, through the lens of Europeanisation. She attempts to illustrate how French cities have been "Europeanised" as a result of their participation in the CIVITAS programme. In her investigation, Pflieger (*ibid.*) points out that CIVITAS was mainly used to implement existing political agenda. This statement will be tested in the context of this investigation. One of the limitations of Pflieger's study is that it concentrates on French case studies, which limits its capacity to draw generalised conclusions. This investigation intends to address this gap.

Overall, this study has found that the impact CIVITAS has had on decision and policy making in cities remains largely unexplored in the literature. This is especially true for the impact CIVITAS has had in the long-term.

8.5 Case Study Cities

To gain an in-depth understanding of the impact that CIVITAS has had, two case study cities in two different countries were analysed (see chapter 4, section 4.3 explains the choice of city and section 4.4 describes the methods). The city of Bristol, in the UK, participated in the CIVITAS I programme in 2002, and the city of Toulouse in France, became a demonstration city within CIVITAS II in 2005. Semi-structured interviews and analysis of local transport plans (or equivalent) were undertaken in both cities to establish what impact CIVITAS has had on decision and policy making and planning in the short and long term. Participants were asked why their city got involved in CIVITAS, what impact CIVITAS has had in their city and what problems they encountered in implementing CIVITAS measures (see questionnaire template in appendix 4.Q). In addition, semi-structured interviews

were conducted in Bordeaux (France) and Cardiff (UK), two cities that are members of the CIVITAS Forum network but that have not participated in any demonstration projects. The result of the analysis is described in this section.

One of the difficulties encountered during the semi-structured interviews was that many participants could not recall details regarding the CIVITAS programme and the specific measures. This was particularly true of Bristol whose programme started in 2002, more than 10 years prior to the interviews.

8.5.1 Bristol

In 2002, Bristol and its consortium partners were successful in the CIVITAS I call and received funding to participate in the first CIVITAS programme. The consortium's project was named CIVITAS VIVALDI and it was one of the four demonstration projects funded under the first CIVITAS initiative (2002-2006). Five different cities formed part of VIVALDI: Aalborg in Northern Denmark, Bremen in Northern Germany, Kaunas in Lithuania, Nantes in Eastern France, and Bristol. The project also had a number of other partners, including the University of the West of England and Sustran in the UK.

In Bristol, a total of 30 measures were implemented in the context of the VIVALDI project (CIVITAS, 2006), as illustrated in table 8.2. The measures addressed most CIVITAS themes (see section 8.3), ranging from developing a car club project to establishing a travel information centre and investing in clean vehicles. Bristol council was the entity responsible for implementing the measures in collaboration with other project partners, such as First City Line, the main bus provider in Bristol.

Type of measure	Measures
New forms of vehicle use	– Car club development
Collective modes	– Clear zone orbital bus services
	– New forms of PT contracts
	– Improving interchange
	– Promoting Park and Ride
	– Promoting walk/cycle
	– Taxi sharing
	– Demand responsive transport routes and technology
Integrated pricing	– Integrated pricing
Information services	– Travel information centre
	– Information kiosks/advice
	– City navigators (Info Bus)
	– Trip planner
	– Bus priority and RTPI
	– Multi-modal scheduling system
Goods distribution	– City logistics scheme
	– Freight loading and signing
	– Home shopping
Clean vehicles	– Clean and efficient buses
	– Clean fleet vehicles
	– Fuel supply infrastructure and local network
	– Renewable energy supply
Mobility management	– Travel plans
	– Community travel workers
	– Walking and cycling
	– Travel awareness/marketing
Access management	– Development of a clear zone
	– Access management
	– Home zones

Table 8-2 List of measures implemented in Bristol for CIVITAS VIVALDI. Based on the Vivaldi evaluation report (CIVITAS, 2006, p.40)

Why did Bristol participate in a CIVITAS demonstration project?

Interviewees mentioned that one of the reasons why the city of Bristol got involved in CIVITAS is because politicians in Bristol wanted the city to become a "European Leader" (P38, Bristol Council). In other words, local politicians aimed to give visibility to their city through their involvement in CIVITAS. Policy-makers reported that Bristol had been influenced by, and involved in, European projects and policies since the late 1990s. Many participants explained that Bristol was already considered a 'front runner' city - meaning progressive or 'advanced'- in the field of urban mobility. Therefore, the involvement of Bristol in an EU funded project was partly

explained by Bristol's existing links to the EU and willingness to enhance its visibility on the EU stage.

Furthermore, participants reported that Bristol lacked funding to implement innovative urban transport policies, in particular investing in cleaner buses. By joining CIVITAS, policy-makers in Bristol were hoping to obtain additional funding to implement existing sustainable mobility projects. According to interviewees in Bristol, most measures implemented in the context of CIVITAS were measures the city had planned to implement. One exception is the freight consolidation centre, which, according to local policy-makers, was conceived thanks to the city's involvement in CIVITAS.

What has the added value of CIVITAS been in Bristol?

Interviewees mentioned that participating in CIVITAS has brought several benefits to the city of Bristol. The key points were summarised by one participant who stated:

> "CIVITAS brought in money, it brought profile to the city, and it meant you were able to deliver your projects quicker" (P38, Bristol Council).

First, thanks to their involvement in CIVITAS, policy-makers in Bristol were able to accelerate the uptake/implementation of their policies. As stated by a local policy-maker, participating in a CIVITAS demonstration programme enabled Bristol to:

> "deliver our strategy sooner because we were getting all this money from Europe" (P38, Bristol Council).

In addition, interviewees reported that their involvement in CIVITAS facilitated the uptake of progressive policies in the field of urban transport. A policy officer in Bristol noted that implementing measures "through a European project was really a clever way of moving the whole agenda" (P37, Bristol Transport). Thus, CIVITAS provided a framework for local policy-makers to speed up the uptake and implementation of sustainable mobility policies.

Second, many interviewees reported that participating in CIVITAS allowed the city of Bristol to test and implement innovative projects and policies. According to local policy-makers, CIVITAS has allowed Bristol to implement innovative projects that they might not have been able to implement because of "pressure on budgets" (P37,

Bristol Transport). One participant described CIVITAS as providing policy-makers with:

> "the capacity to do that innovative work, to make some mistakes and to take risks with money the local politicians don't have to justify" (P39, Bristol Sustainability).

According to most interviewees, CIVITAS provided the means to overcome barriers - mainly lack of resources and support - to test innovative policies, and run pilot projects, such as car clubs or real time information.

Furthermore, participants highlighted the importance of being part of a supportive network of European cities facing similar challenges. Local policy-makers in Bristol valued the exchange of best practice and information and the opportunities the CIVITAS network offered to learn from other cities. Many reported that these elements were a very important part of their experience within CIVITAS.

Some participants noted that getting involved in CIVITAS strengthened cross sectorial collaboration in Bristol. On the one hand, it reinforced links and cooperation between different policy departments in Bristol Council. For instance, in the context of CIVITAS the sustainability and transport units were encouraged to collaborate. On the other hand, it contributed to establish links between the local authorities and other actors involved in urban transport, such as academics or representatives of the third sector.

Which CIVITAS measures have lasted?

Participants were asked to list the CIVITAS measures that have survived the end of the VIVALDI project in 2006. It is important to note that many interviewees mentioned that they could not remember exactly which measures had been initiated at the start of CIVITAS I in 2002. The results of the interviews are then cross-analysed with the analysis of the Local Transport Plans in Bristol.

Of the lasting measures participants clearly associate with the VIVALDI project are:

- ➢ **cycling culture in the city**
- ➢ **car clubs**
- ➢ **freight consolidation centre**

- ➢ **Personalised Travel Planning**
- ➢ **training of local technicians**

Even though 'cycling culture' is not a tangible measure, participants mentioned that the involvement in CIVITAS improved and contributed to generate a cycling culture.

The freight consolidation centre was established in 2004 as part of the VIVALDI project and was further devolved in 2008 in the context of the RENAISSANCE project, another CIVITAS demonstration project involving the city of Bath. As part of the RENAISSANCE project a joint freight consolidation centre was established between Bath and Bristol.

Last but not least, local policy-makers highlighted the fact that Bristol's involvement in CIVITAS was an opportunity for technicians and policy-makers to learn about sustainable mobility by being exposed to best practise examples throughout Europe. Most of these technicians are still working on transport policies in Bristol more than 10 years after the start of the VIVALDI project. Therefore, results suggest that local policy-makers' involvement in CIVITAS has had a long-term impact on their conception of urban transport policies.

Obstacles

Participants were not able to recall which measures were successful or not and CIVITAS' evaluation report (CIVITAS, 2006) does not assess how successful the measures have been - unlike the evaluation done for the CIVITAS II project. Therefore, it is hard to assess whether there were obstacles encountered during the implementation of measures.

Some interviewees in Bristol mentioned that two barriers prevented some CIVITAS measures from lasting. First, the change of local government post CIVITAS lessened the city's involvement in EU projects and networks. According to some participants, certain measures that had been established during CIVITAS I in Bristol lacked political support in the long term. Secondly, participants highlighted the difficulty they had in finding funding to maintain certain high-cost projects, such as the freight consolidation centre, once the VIVALDI project was over.

Participants also reported that evaluating measures proved very challenging. The case of the freight consolidation centre was quoted as being a measure whose impact on air quality and traffic is extremely difficult to measure.

LTPs analysis in Bristol

Bristol's three Local Transport Plans (LTPs), or equivalent, were analysed to establish the extent to which CIVITAS is referenced. Bristol's first LTP, dating from 2000, mentioned European projects (as shown in table 8.3) which confirmed the interviews' evidence suggesting that Bristol was familiar with European projects prior to its involvement in the CIVITAS programme.

In Bristol's first Joint Local Transport Plan (JLTP), lasting from 2006 until 2011, several references were made to the VIVALDI project. In addition, the majority of the measures and policies implemented during VIVALDI were mentioned, as illustrated in table 8.3. This suggests that when the joint LTP was drafted, in 2006 (coextensive with the end of the VIVALDI project), a number of measures implemented during CIVITAS were scheduled to continue.

In Bristol's second Joint Local Transport Plan, published in 2011, a number of VIVALDI measures appear, as listed in table 8.3. Analysis suggests that approximately 30% of the measures implemented during VIVALDI have continued despite the end of the CIVITAS project. These results corroborate the results of the interviews.

Bristol's Transport Plans/**Number of times a word appears**	**CIVITAS/ VIVALDI**	**Specific CIVITAS initiatives**	**Europe/European/ demonstration**
Joint Local Transport Plan 3 2011- 2026	CIVITAS renaissance: 7 times CIVITAS Vivaldi: 0	- Car Club - Improving interchange - Park and Ride - Promoting walk/cycle - Bus priority - Freight consolidation - Clean vehicles for local fleet - Personalised travel - Dial-a-ride	Europ*: 17 times Demonstration project: 0
Joint Local Transport Plan 2006/2007 - 2010/2011	CIVITAS: 0 VIVALDI: 10	- Car Club - Improving interchange - Park and Ride - Promoting walk/cycle - Taxi Sharing Scheme - Information kiosks - Trip planner - Bus priority - Freight consolidation - Home shopping - Clean vehicles for local fleet (e.g. hybrid bus) - Personalised travel - Dial-a-ride - Travel Smart Project - Home zones - Cross Harbour Ferry - Clear zones pilot project	Europ*: 17 Demonstration project: 2
Bristol Local Transport Plan 2001/2002 – 2005/2006	CIVITAS: 0 VIVALDI: 0	0	Europ*:52 Demonstration project: 5

Table 8-3 Analysis of Bristol's transport plans

Conclusion Bristol

Policy-makers in Bristol applied to become a demonstration city with two broad objectives. Firstly, to gain visibility and improve their skills as a leading and progressive EU city in the field of urban transport. Secondly, to obtain funding to implement planned mobility policies. In fact, apart from the freight consolidation

centre, most measures implemented during the VIVALDI programme had been conceived before the city's involvement in CIVITAS.

Bristol's participation in CIVITAS has had several benefits, many of which may not have been anticipated by policy makers at the application stage. It substantially accelerated policy uptake, it encouraged the testing and implementation of innovative policies, it informed policy by the exchange of best practice and information between EU cities, and it enhanced cross-departmental and sectorial collaboration in Bristol.

The results of the interviews and the analysis of the transport plans suggest that approximately 30% of the measures implemented during CIVITAS still exist in Bristol (at the time of the interviews), such as the freight consolidation centre and the car club initiative. In addition, some intangible measures were inherited from participating in CIVITAS such as a contribution towards the establishment of a cycling culture and the training of local technicians in sustainable urban mobility.

However, participants reported that objectively assessing the outcomes of certain CIVITAS measures has been very difficult. In addition, participants mentioned that ensuring long-term political support and financial viability of measures is challenging, but key to guaranteeing the success of CIVITAS.

8.5.2   Toulouse

In 2005 Toulouse formed a consortium with four other cities, Debrecen in eastern Hungary, Ljubljana in Slovenia, Venice in Northern Italy and Odense, Denmark, to apply to the CIVITAS II call. Their project was selected and their consortium was named MOBILIS, an abbreviated version of 'Mobility Initiatives for Local Sustainability'. The entity in charge of implementing most CIVITAS measures in Toulouse, and of leading the MOBILIS project was Tisseo, a public body responsible for public transport in Toulouse.

Approximately 23 measures were implemented during MOBILIS, ranging from establishing new alternative mobility modes, improving public transport or investing in clean vehicles (as illustrated in table 8.4), similar to the range of measures implemented in Bristol.

Type of measure	Measures
Alternative mobility	– Promotion of car-pooling and integration with Public Transport (PT) services
	– Car sharing service
Collective modes	– Integrated multimodal traveller information system
	– Innovative multimodal Public Transport (PT) contracts, services and electronic ticketing
	– Improving the accessibility of PT services
	– Development of proximity services at important passenger transport hubs
	– Improving quality and structure of PT services
	– Integration of the demand responsive transport as a complementary service to PT
Traffic Management and Control	– High-quality bus corridors and development of PT segregated and secured lanes in the city centre
	– Implementation of bus priority scheme
	– Demonstration of EGNOS/ Galileo services use for the PT control and information system
Cycling and Walking	– Public space redesign to integrate cycling and walking
	– Promotion of bicycle use and integration with PT services
	– Re-organisation of trafficked streets in central area with opening of new metro line
	– New cycle rental scheme established in Toulouse
Logistics and Goods distribution	– Clean urban logistics and goods distribution platform
Clean vehicles	– Solutions for alternative fuels and complementary measures to achieve a 100% clean fleet
	– Large scale operation of clean bus fleets and preparation of sustainable supply structures for alternative fuels
Mobility management	– Commuter and school mobility plans
	– Implementation of the urban mobility plan in the Blagnac area
	– Awareness raising campaign for changing mobility behaviour
	– New mobility house from partnership of municipal association, PT operator and carpool group
Access management	– Reduce parking by 20% and shift priority to residents' and short-stay parking

Table 8-4 List of CIVITAS measures in Toulouse

Why did Toulouse participate in a CIVITAS demonstration project?

Toulouse's participation in CIVITAS was mainly motivated by its politicians' will to involve Toulouse in the "European urban mobility scene" and give visibility to their city (CIVITAS, 2010, p.4). In addition, participants reported that the city wanted to provide impetus for progressive urban transport policies. In Toulouse, like in Bristol, most CIVITAS measures proposed were ideas that local policy-makers had already had - with one exception: the car sharing project, which was developed as a result of joining CIVITAS.

What has the added value of CIVITAS been in Toulouse?

Interviewees reported that CIVITAS has brought a range of benefits to the city of Toulouse. First, it has contributed to prioritising and raising awareness about sustainable urban mobility policies. Participants stated that the city's involvement in CIVITAS has helped to 'politicise' and put urban mobility issues on top of the political agenda and has encouraged local transport policies to be more sustainable. This is also reported by Pflieger (2012) who explains that Toulouse's involvement in CIVITAS was used to justify the implementation of sustainable mobility policies and constituted a "policy shift" (Pflieger, 2012, p.11). In Pflieger's words, "CIVITAS represented a catalyst for changes underway in local transport policy, breaking with past policies" (Pflieger, 2012, p.9). In addition, according to several interviewees in Toulouse, CIVITAS has promoted awareness of multimodality and soft modes. Local policy-makers in Toulouse reported that the city's involvement in the CIVITAS programme has contributed to raising awareness of integrated and non-motorised transport, especially cycling. In the words of one local policy-maker "Before CIVITAS there was a will to have more bicycle policies already but without CIVITAS we would not have gone as far and we would not have been inspired by other initiatives" (P59, Mob Toul).

Second, CIVITAS has allowed the city of Toulouse to have access to financial resources. According to interviewees, these funds would have been difficult to source without the support of CIVITAS. Therefore, even though the local authority applied to implement planned measures, these measures might not have been implemented without the financial help provided by CIVITAS.

Third, the city's involvement in CIVITAS has fostered the establishment of innovative projects. Participants mentioned that without the CIVITAS framework certain measures might not have been implemented as they were considered too risky, such as the establishment of a car sharing service.

Fourth, several local policy-makers said that the involvement in CIVITAS has generated knowledge and expertise on certain topics related to urban transport. Local policy-makers in Toulouse, most of whom still work for the local authority, learnt about sustainable mobility policies and measures through their involvement in CIVITAS.

Fifth, interviewees mentioned that CIVITAS has fostered cross-sectorial collaboration in Toulouse. According to several participants in Toulouse, thanks to the city's involvement in the CIVITAS programme, synergies between different actors and across sectors were created, within the local authority as well as with external partners, including private partners. For instance, Tisseo, Toulouse's entity in charge of transport policies and operations, partnered with a non for profit organisation to establish a car-sharing system called MOBILIB.

Finally, according to some interviewees, the involvement in a CIVITAS project has encouraged local actors in Toulouse to give importance to and improve policy evaluation. The city's involvement in a CIVITAS demonstration project has encouraged local policy-makers to be more rigorous in the way they manage and evaluate projects, as reported by some participants.

Which CIVITAS measures have lasted?

Participants reported that several measures implemented during CIVITAS II are still in place (as at the date the interviews were conducted). Amongst all the measures that have lasted, interviewees highlighted the following two:

➢ the **monthly payment system**, called Activeo, established in collaboration with private companies in the context of the travel plans
➢ the **bus lines** established during the MOBILIS project

The analysis of Toulouse's transport plans corroborates these results (as illustrated later in this section).

In addition to the implementation of specific measures, participants mentioned that CIVITAS has encouraged local actors, including politicians, to conceive transport policies differently, in a more sustainable way. Participants reported that transport policies that postdated the CIVITAS project marked a radical change towards less car driven policies; the city's involvement in the CIVITAS project is likely to have contributed to this change.

It is important to mention that in the context of CIVITAS a 'European Unit' was established within Tisseo (the transport operator in Toulouse). This new administrative structure has survived the conclusion of the CIVITAS programme. Pflieger (2012) suggests that the likely impact of CIVITAS has been to 'Europeanise' the city of Toulouse.

Obstacles

The MOBILIS project was evaluated by project partners (mainly university researchers). Of all the measures implemented, four were rated as moderately successful, including: implementation of the urban mobility plan, the car sharing service, improving the accessibility of public transport services, and the 'clean urban logistics and goods distribution platform' (McDonald, Hall & Hickford, 2010). However, the evaluation report provides limited detail explaining the lack of success. Participants of this research confirmed that the logistics platform failed to be properly implemented and reported that the use of Galileo services for public transport was also a failure. Furthermore, policy-makers in charge of implementing CIVITAS measures in Toulouse mentioned that monitoring the measures was difficult and complying with the standards and administrative obligations imposed by the Commission was a burden for the authorities. Finally, the lack of visibility of the MOBILIS project in Toulouse was noted by some interviewees. Participants stressed that the project did not receive sufficient public attention or media coverage.

Analysis of Toulouse LTPs

Toulouse's first local transport plan (LTP), published in 2001, makes very few references to European funding programmes and Europe in general, as illustrated in table 8.5. The second LTP highlights the importance of EU subventions and makes one explicit reference to the project MOBILIS.

Toulouse's second LTP, published in 2012, indicates that seven measures were still on-going in 2012 and confirms the results of the interviews. Therefore, approximately 30% of all the measures implemented during CIVITAS still existed in Toulouse in 2012.

Toulouse's Transport Plans/**Number of times a word appears**	**CIVITAS/ Mobilis**	**Specific CIVITAS initiative**	**EU funding demonstration programme/ project**
Plan de deplacements urbains de la grande agglomeration toulousaine 2012	CIVITAS: 0 times Mobilis: 1	- Promotion of car-pooling - Improving the accessibility of PT services - Segregated and secured bus lanes in the city centre - Promotion of bicycle use and integration with PT services - Cycle rental scheme - Clean bus fleets - Travel plan	Europ*: 9 European project: 1
Plan de deplacements urbains de l'agglomeration toulousaine 2001	N/A	N/A	Europ* : 4 European project : 4

Table 8-5 Analysis of Toulouse's transport plans

Conclusion Toulouse

In Toulouse, the city's involvement in CIVITAS was principally motivated by a search for visibility. In addition, CIVITAS was perceived as an opportunity to implement progressive measures, most of which had already been planned by local policy-makers.

The results of the analysis suggest that CIVITAS contributed to prioritise sustainable mobility policies in Toulouse and encouraged multimodality and soft mobility, in

particular cycling. It also generated knowledge and brought financial resources to implement innovative policies. In addition, it was reported that CIVITAS fostered collaboration across different sectors and entities and improved evaluation policies. Last but not least, CIVITAS has contributed to 'Europeanise' the city of Toulouse which has established a 'European Unit' as a result of its involvement in CIVITAS.

The analysis of the local transport plans finds that approximately 30% of the measures implemented during MOBILIS still existed in 2012. Participants emphasised that in addition to tangible measures, the city's involvement in CIVITAS fostered a change of culture/mentality amongst local actors towards more sustainable mobility.

Amongst the main issues encountered during CIVITAS in Toulouse, participants highlighted the lack of visibility of the programme and complained about the administrative burden that the city's involvement in CIVITAS generated.

8.5.3 CIVITAS Forum cities: Bordeaux and Cardiff

The city of Cardiff (UK) and the city of Bordeaux (France) are members of the CIVITAS Forum network. Participants in both cities were asked to describe why they joined the Forum and whether being a member of the CIVITAS Forum has had an impact on their urban transport policies.

The city of **Bordeaux** joined the CIVITAS Forum in 2007 and is a member of CIVINET France. The decision to join was motivated by the willingness to engage with other cities and to learn about alternative mobility solutions. However, local policy-makers admitted that the city's involvement in the CIVITAS forum is limited. Bordeaux's local authority considered becoming a demonstration city but lacked human resources and political willingness to establish a proposal and to implement a demonstration project. The lack of interest in CIVITAS could be explained by the fact that the city of Bordeaux's involvement in EU projects has always been relatively limited, as mentioned by several participants.

The city of **Cardiff** became a member of the CIVITAS Forum with a view to becoming a demonstration city. In 2011, the city presented a project within the CIVITAS Plus call, but failed to win the bid. Local policy-makers were asked why

they decided to apply and whether Cardiff has benefited from drafting the CIVITAS proposal. Participants reported that getting involved in CIVITAS was seen as an opportunity to lever and diversify their source of funding for planned urban transport. Furthermore, local politicians perceived CIVITAS as an opportunity for their city to gain visibility on the European scene.

Participants in Cardiff emphasised that the process of elaborating a proposal has given transport policy makers an opportunity to learn from other European cities and has contributed to accelerate the implementation of new policies. During the elaboration of the CIVITAS proposal two local policy-makers in Cardiff had the opportunity to visit Graz, an Austrian city which formed part of their consortium. Their visit informed, inspired them, and generated new policy ideas. Despite failing to become a demonstration city, the local authority decided to carry on implementing one of the measures proposed in the CIVITAS bid. The measure is related to urban freight logistics and is implemented in collaboration with the logistics company DHL. According to participants, the collaboration with DHL would have probably happened without the CIVITAS bid but not as soon as it did. Therefore, in the case of Cardiff, the preparation of the CIVITAS bid alone has had an impact on local transport policies.

8.6   Impact CIVITAS has had: interviews and survey results

This section summarises the results of some of the semi-structured interviews (for further detail see chapter 4, section 4.4) and the results of the survey (further details in chapter 4, section 4.6). As mentioned in chapter 4, section 4.6, the survey was sent to all CIVITAS demonstration cities and all CIVITAS Forum cities in 2012 (excluding CIVITAS Plus II cities). In total, 57 transport policy-makers completed the survey with an overall response rate of 27%. Forty four demonstration cities - involved in CIVITAS I, II or   Plus - responded to the survey out of 57; this represents a 77% response rate. Overall, the survey respondents' cities are representative of the geography and population of all CIVITAS demonstration cities across the EU (map and further detail in section 4.6).

The views of interviewees and survey respondents were collected regarding the following topical questions addressed to CIVITAS demonstration cities (See sample interview questions in appendix 4.F and CIVITAS survey questionnaire in appendix 4.Q): why did cities become a demonstration city? What benefit did CIVITAS bring to the city? What has the impact of CIVITAS been on the city? And what barriers has the city encountered?

The semi-structured interviews and the results of the survey clearly indicate that the CIVITAS programme has had an impact on decision and policy making, as well as planning, in demonstration cities. Overall, participants were very positive about the impact the CIVITAS programme has had. The themes that emerged and issues that were highlighted are set out below.

8.6.1   Why did cities join CIVITAS?

The semi-structured interviews suggested that local actors applied to become a CIVITAS demonstration city for several reasons, in particular to:

➢ Obtain funding to develop new or existing measures
➢ Engage and learn from other cities
➢ Increase city visibility

The results of the survey confirm these points. Question 10 of the survey (see appendix 4.Q) asked participants why their city became a demonstration city. Respondents were asked to rate 6 different options on a scale of one (not at all) to 5 (very much). Figure 8.5 illustrates the differences between respondents representing CIVITAS I, II and Plus programmes. On average, all options were rated above 3.
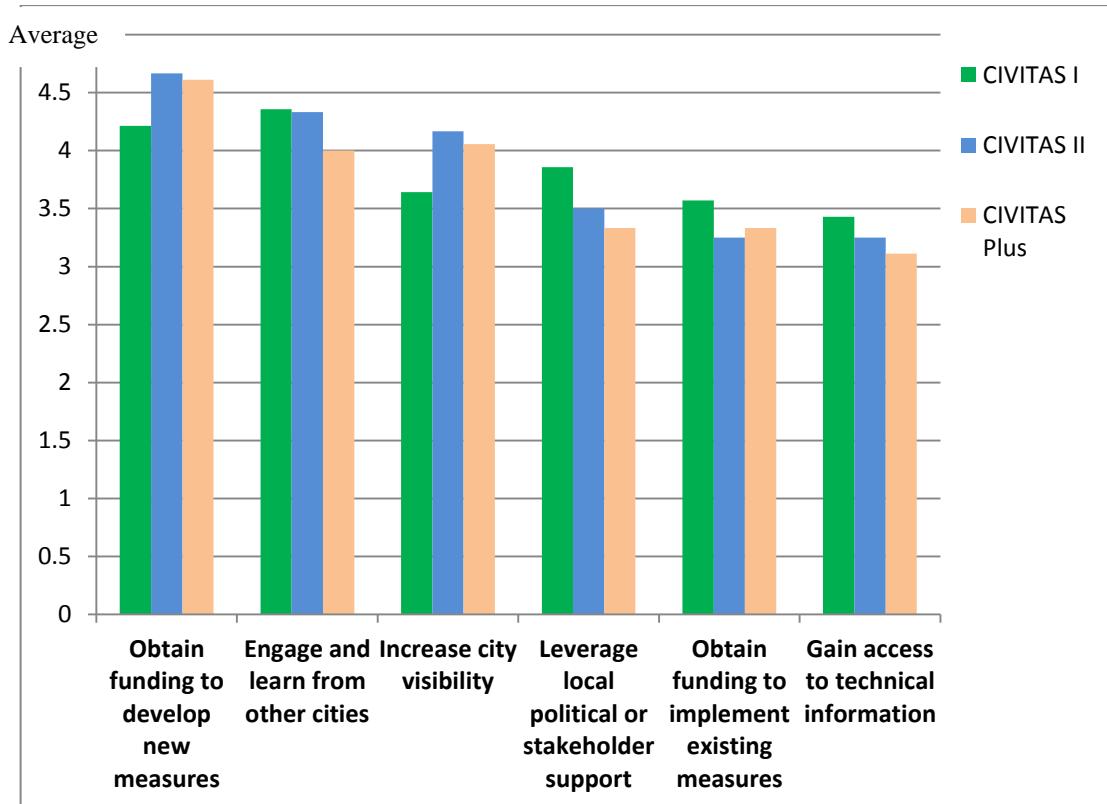
Figure 8-5: Responses to the question 'Why did your city become a demonstration city in a CIVITAS project?'

The results illustrate that responses vary little between the three CIVITAS programmes over the years. A high number of respondents indicate that their cities became demonstration cities to obtain funding to implement new measures or ideas, rather than to implement "existing measures". By using the terminology "new" the survey refers to measures and ideas which cities had not planned or thought about previously and which emerged only because of their involvement in CIVITAS. Survey participants in the UK commented that cities' financial dependency on national funds explains the interest local authorities have in receiving EU funds.

Most respondents that gave a 4 or a 5 to the option "to implement existing ideas", are cities from Western Europe[1], many of which are "forerunner cities" (e.g. Bristol). By using the terminology "existing" the survey refers to measures and ideas which cities had planned or thought about prior to their involvement in CIVITAS. These results

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[1] This study considers the following countries as Western European countries: Finland, Sweden, Spain, Portugal, Austria, Denmark, Germany, France, Belgium, the Netherland, the United Kingdom, Ireland, Italy, and Switzerland.

suggest that CIVITAS is more like to generate new ideas amongst cities with less advanced transport policies.

The survey results suggest the desire "to engage and learn from other cities" is one of the main motives to become a demonstration city. As highlighted by Pflieger (2011), joining the CIVITAS 'family', as it is often branded, is an opportunity for cities to become members of a selective group of progressive cities and learn about successful policies and how to implement them. Respondents also mentioned that gaining access to technical information was one of the reasons why their city applied to join a demonstration programme.

Increasing the city's visibility has emerged as a central theme for participation in CIVITAS. Survey results illustrate that CIVITAS improves a city's image on the EU stage and local actors view CIVITAS as a platform to 'showcase' innovative work undertaken in their city. Pflieger (2012) finds similar results in Nantes, France, and mentions that the city's involvement in CIVITAS was motivated by the "Europe-wide visibility" and the desire to gain " EU recognition" (2012, p.7).

Furthermore, many cities applied to become a demonstration city to leverage local political or stakeholder support. The CIVITAS framework is viewed as an opportunity to give momentum and strength to progressive and innovative political ideas. Receiving the support of the EU institutions, in particular the Commission, offers confidence to local politicians and policy-makers to implement policies that might be risky or unpopular. Additionally, the EU framework offers convincing arguments to involve key stakeholders.

8.6.2   Added Value of CIVITAS

Interviewees and survey respondents were asked various questions to assess the impact CIVITAS demonstration programme has had in cities. The benefits of CIVITAS were highlighted and several themes emerged from the analysis and confirmed the results of the in-depth case studies (section 8.5) as illustrated in table 8.6. Many of the benefits CIVITAS has brought to cities corresponded with their reasons for applying to become a demonstration city. This association suggests that in most cases CIVITAS has been successful in delivering on expectations.

Benefit/Impact of CIVITAS
- Accelerate and legitimise the uptake and implementation of progressive urban transport policies
- Provide financial support to cities to implement innovative mobility policies
- Provide a platform for the exchange of information and benchmarking between cities
- Allow cities to test and implement unpopular or risky policies/projects

Table 8-6 Benefit and impact of CIVITAS

One of the points frequently mentioned by participants is that the involvement in CIVITAS demonstration programme contributes to 'accelerating' the uptake of policies and gives 'impetus' to the implementation of sustainable mobility policies in cities (as highlighted in the analysis of the case study cities). A Commission official described CIVITAS as a "catalyst to action at the local level" (P4, DG MOVE). In her study of the cities of Nantes and Lille, Pflieger (2012) also highlighted that CIVITAS worked as an "accelerator" and allowed cities to implement measures much faster than if they had not taken part in the programme.

Interviews at the local level indicate that CIVITAS has been used as a way to legitimise sustainable mobility measures. In the case of Toulouse, Pflieger (2012) noticed that CIVITAS was used "(…) as an additional way of legitimizing the change that the new council was attempting to inspire" (Pflieger, 2012, p.9). Participating in CIVITAS provides local-policy makers an opportunity to test and introduce innovative measures which are likely to be unpopular or risky. CIVITAS provides a framework – mainly through financial, technical and political support- that allows local actors to overcome political barriers or other internal barriers in cities and to leverage the necessary political support. As stated by a survey respondent, CIVITAS "Provides insight and spurs problem solving attitudes where

local and national blockades get in the way" (Q3 survey). The results of the survey (see figure 8.7) indicate that the majority of respondents stated that the CIVITAS initiative has helped their city to leverage local political support to implement measures (in average 3.2 out of 5). More than half of all the respondents indicated that it has helped "very much" (5 out of 5) or "much" (4 out of 5).

Another impact frequently mentioned is the fact that CIVITAS provided cities with economic resources to finance mobility projects. Participants mentioned that in many cases local authorities would not have found – or would have been granted the resources to implement their project or policy without CIVITAS.

The exchange of experience and information is also a key theme according to participants. Local policy-makers mention that it 'opened horizons' for their city and allowed them to "discuss measures and to get inside information from all around Europe" (Q1 survey) and to "learn about the ways how other cities cope with similar problems" (Q5 survey). The results of the survey indicate that learning and sharing information about sustainable mobility policies has been highly beneficial, as illustrated in the figure 8.7. Indeed, through the CIVITAS Forum and the demonstration programmes, cities are encouraged to exchange information, 'best practice' and discuss issues encountered at the local level. CIVITAS represents a platform and a network where local actors can meet 'like-minded politicians' (Q2 survey). Pflieger (2012) noticed that CIVITAS also generates benchmarking between cities and encourages local actors to be more progressive. The survey results indicate that the involvement in CIVITAS gives visibility and pride to cities and allow them to brand themselves a 'pioneer' city on a 'European scale' in the field of sustainable mobility.

As highlighted in the in-depth case studies (in the case of Toulouse and Bristol) CIVITAS is an opportunity for local authorities to develop new mobility measures and policies in the field of sustainable mobility. Many participants mentioned that their involvement in CIVITAS contributed to 'put sustainable mobility onto the agenda' and to 'go further' in implementing cutting-edge measures. As stated by a survey respondent, CIVITAS is "an opportunity to go further into innovation and experimentation" (Q4 survey). This point is also highlighted by Pflieger (2012) who

states that CIVITAS "(…) strengthen(s) local politicians' strategic vision for mobility and transport (…)" (Pflieger, 2012, p.8) .
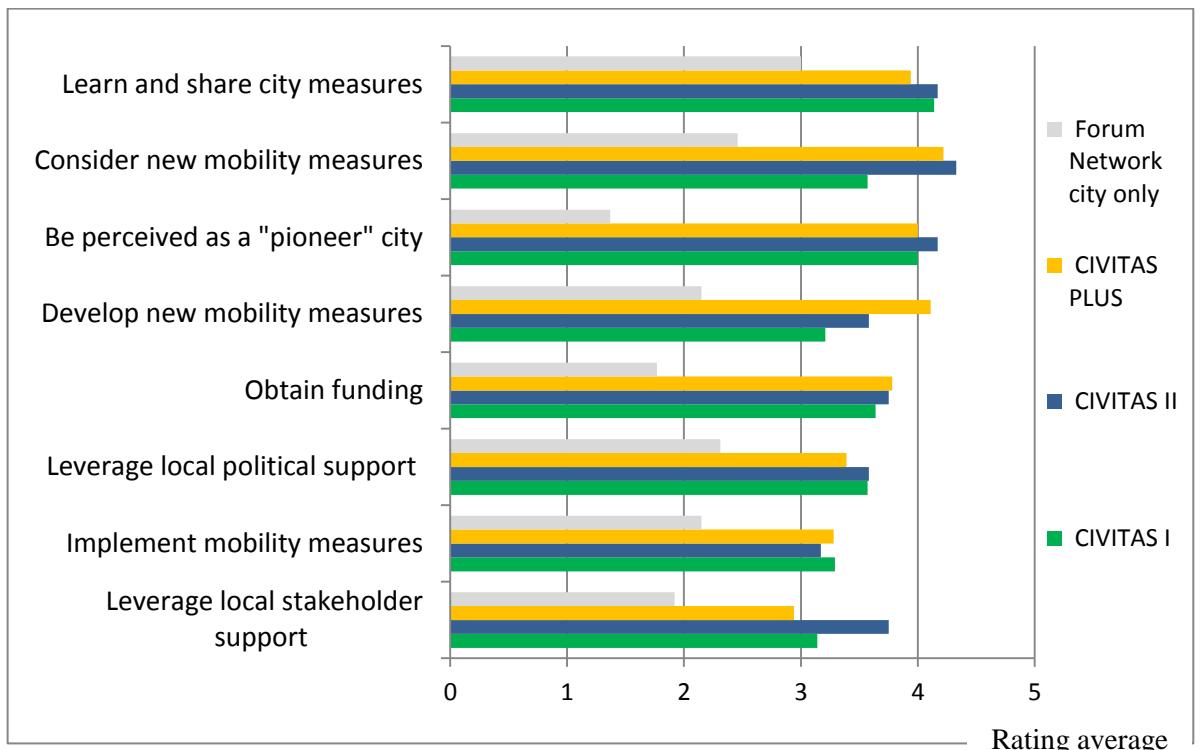
Figure 8-6 Responses to the question: Indicate how much the CIVITAS initiative has improved your city's ability to...

Figure 8.6 (above) illustrates the results of the question number 14 of the survey (see appendix 4.Q) which aimed to find out whether CIVITAS has added value to cities' transport/mobility policies, and if so, in what way. All CIVITAS cities were surveyed, including non-demonstration Forum cities. Participants were asked to rate, on a scale of 1 (not at all) to 5 (very much), whether the CIVITAS initiative has improved your city´s ability to undertake certain actions. The average scores given by the participants do not differ much between options. The options "Learn and share your city´s measures throughout Europe" and "Consider new mobility measures" have been slightly better rated than the other options. No significant differences are noticeable between different demonstration programmes. However, on average, the ranking given by Forum network cities is lower compared to demonstration cities

8.6.3 "Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative?"

To assess the impact CIVITAS has had on cities which were involved in demonstration projects, several questions were asked to survey participants. One key question was: "Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative?". The participants could choose "Yes" or "No". Figure 8.7 indicates that more than 60% of the city respondents confirmed that without their involvement in CIVITAS, they would not have implemented the proposed measures.
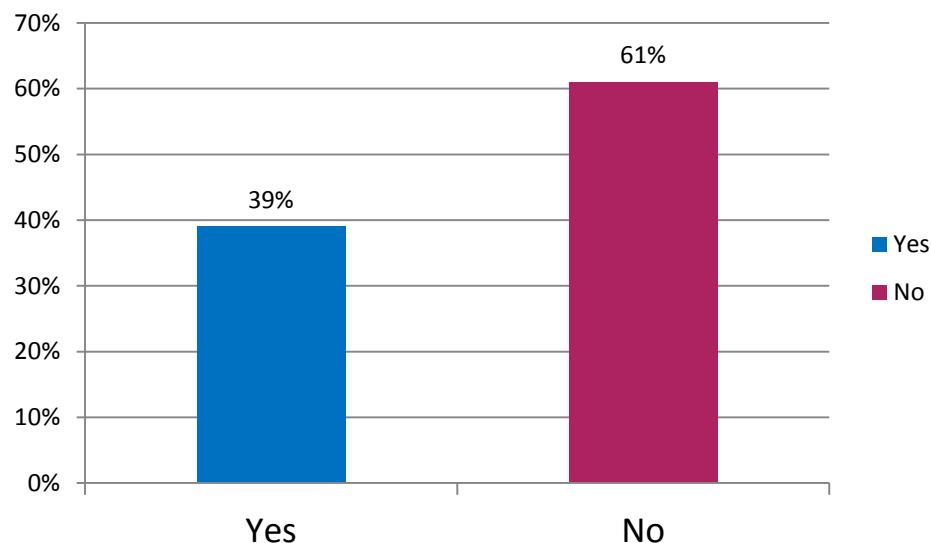
Figure 8-7: Question 11 of the survey: "Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative?"
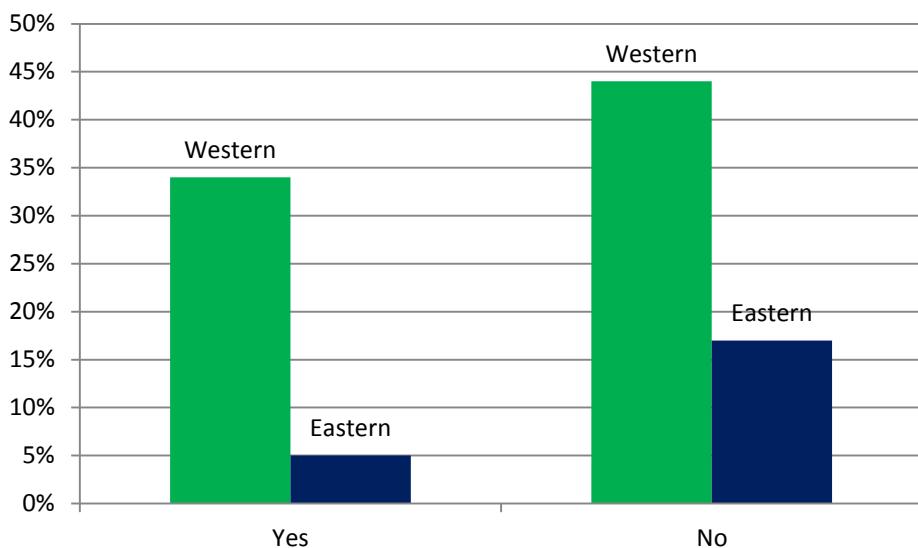
Figure 8-8 Question 11 of the survey: Western and Eastern cities respondents

Of the 16 cities that responded 'YES' (they would have implemented the measures without CIVITAS), 14 are Western European cities, as illustrated in figure 8.8. Most of these cities are considered to be "Forerunner" cities (e.g. Bristol, Lille, Stockholm and Vitoria-Gasteiz), and have a population of more than 200,000 inhabitants. On the other hand, respondents who answered "NO" are evenly distributed throughout the total sample of respondents. These results might suggest that CIVITAS has had more impact on cities with less advanced transport policies.

In order to better understand the results of this question, data has been divided into three categories to illustrate the potential differences between CIVITAS I, II and Plus cities. The following figure (8.9) shows the number of respondents from each demonstration programme that answered "Yes" or "No" to the question "Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative?".
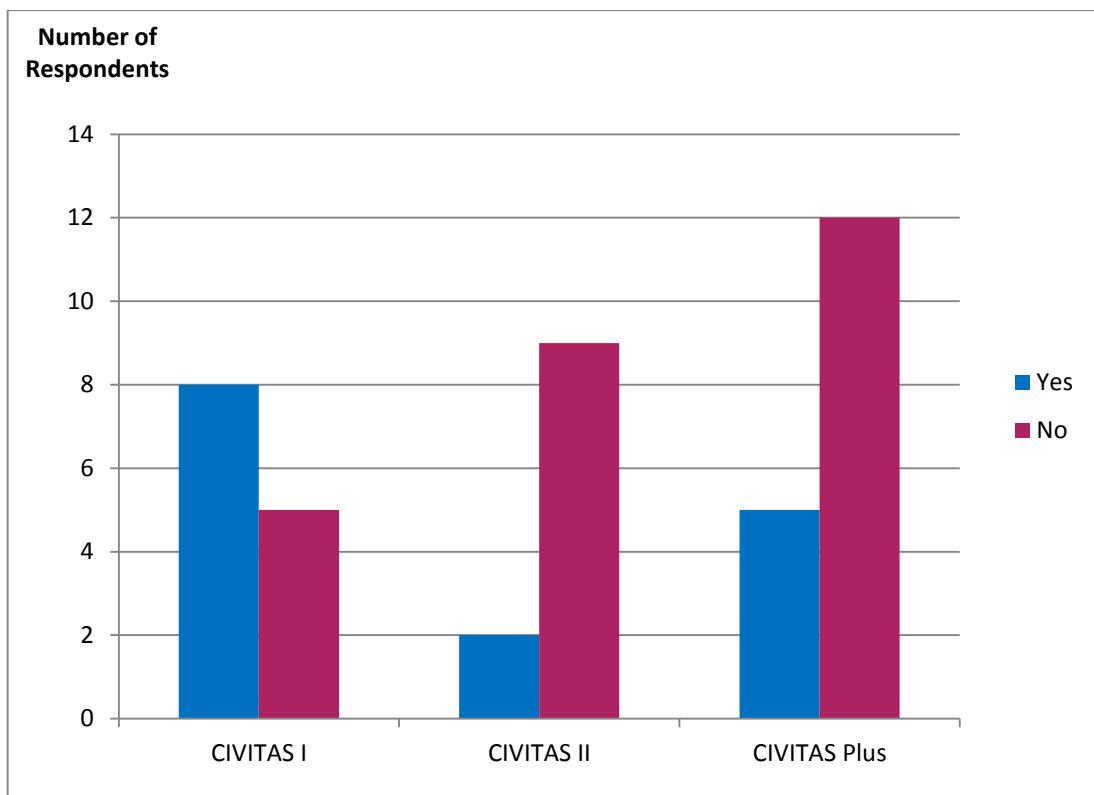
Figure 8-9: Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative/ per demonstration programme

Statistical tests applied to these results produce a Chi-square of 5.11 with 1 degree of freedom (CIVITAS I responses are compared with CIVITAS II and Plus responses combined). Since the P-value (0.024) is less than the significance level (0.05), the null hypothesis cannot be accepted. Therefore, there is a relationship between programmes and responses. Only 7 of 28 CIVITAS II and Plus cities state that they would have implemented the measures without CIVITAS, thus a high number of CIVITAS II and CIVITAS Plus cities seem to have been influenced by CIVITAS. Therefore, results shown in Figure 8.9 suggest that relative to each other CIVITAS I cities were more likely to have implemented their mobility measures with or without CIVITAS, compared to CIVITAS II or Plus. This might be explained by the fact that many CIVITAS I cities are considered to be advanced cities. For instance, in the case of the VIVALDI project, Aalborg, Bremen, Nantes and Bristol are all cities whose transport policies are considered progressive. These cities might have been more likely to implement their policies with or without the CIVITAS support.

To complete this question, respondents were given the opportunity to add comments to better explain their choice. The respondents who answered "Yes" to the question explained that the measures would have been implemented but on a smaller scale and later. The respondents who answered "No" to the question commented that without CIVITAS the city would have lacked funding, popular and political support and 'impetus' to implement the measures. In the words of one survey respondent:

> "Without CIVITAS the city development would have remained at the "level" it used to be, namely, only the real and valuable infrastructural development can make the city more liveable. This point of view was changed during CIVITAS and it was proved that some innovative, low cost solutions can also help to make city liveable and can help to form the citizens' transportation habits." (Q6, survey)

8.6.4 Impact on local transport plans

Part of the survey was dedicated to establish whether CIVITAS has had any impact on cities' transport/mobility plans. Question 20 (see appendix 4.Q) asked all respondents (including non-demonstration cities) whether their city has created or updated its local transport/mobility plan based on its experience within CIVITAS. In part this question was designed to establish whether CIVITAS has had an impact on policy planning in the long-term. Results are illustrated in figure 8.10 below.
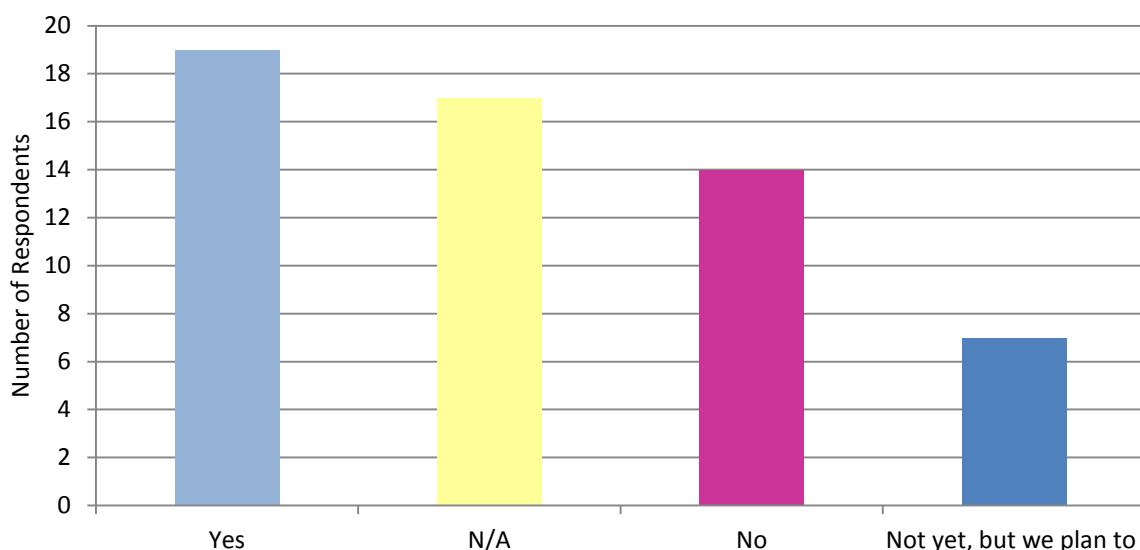
Figure 8-10 Has your city created and/or updated this plan based on the experiences and exchange within the CIVITAS Initiative?

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In total, 47 respondents answered this question. Twenty six of 47 answered "Yes" or "Not yet, but we plan to". Statistical analysis was applied to these results and reveals that the respondents which stated that CIVITAS has influenced their local transport plan are demonstration cities only and mostly from Western Europe. Therefore, results indicate that 43% of the demonstration cities have modified their local transport plan (or equivalent) based on their experiences and exchange within CIVITAS. This suggests CIVITAS has had an influence on transport policy planning in the long-term in many demonstration cities. The majority of these cities are from Western Europe which is likely to be explained by the fact that in many Eastern European countries local authorities do not have local transport plans (or their equivalent). These results also indicate CIVITAS has had a limited impact on policy-making in non-demonstration cities, as further explained below.

8.6.5 Barriers to implementation and impact

Interviewees and survey respondents were asked to describe obstacles or barriers that have prevented CIVITAS from having a greater impact on their city. Several issues were highlighted as illustrated in table 8.7 and summarised below.

Main obstacles to CIVITAS success
- Limited impact of the Forum network
- Limited impact of the Political Advisory Committee
- Difficulties in evaluating projects

Table 8-7 Obstacles to CIVITAS success

Interviewees and survey respondents highlighted the lack of impact of the **CIVITAS Forum**. In theory, the CIVITAS Forum should be a platform to engage with other cities, exchange knowledge and promote awareness of funding opportunities. However, the Forum seems to have had a limited impact, in particular amongst non-demonstration cities. Only 13 out of the 153 non-demonstration cities involved in the CIVITAS Forum participated in the survey, which is an indicator itself of Forum

cities' lack of involvement in CIVITAS. One EU official acknowledged that the Forum is "an untapped resource" which needs to be more exploited (P1, DG MOVE).

Similarly, the **Political Advisory Committee** (PAC) was cited as one of the CIVITAS resources which could be better exploited. Interviewees and survey respondents suggested that the PAC needs to be given more importance to become a real lobbying tool and would benefit from including stakeholders from the private or the third sector. As stated by one participant: "it needs to become more institutional with an official position in relation to the EU, and national governments" (Q7, survey).

Many participants reported that **evaluating** the impact CIVITAS measures have had in a systematic and robust way has proved very challenging. In a Commission official's view: "You would like to measure the cost benefits of introducing measures, but the process is far from being perfect" (P4, DG MOVE). Cities often lack the expertise and resource to conduct a robust evaluation. Yet it is crucial part of the CIVITAS programme and Commission officials have stressed the importance of evaluation "that allows us (the Commission) to publish best practice based on our experience and based on obviously measured results" (P1, DG MOVE). A frequent issue highlighted by participants is the fact that cities are often reluctant to admit when a measure has not been successfully implemented and do not discuss obstacles or issues.

8.6.6   CIVITAS: Beyond local

The semi-structured interviews and the results of the survey highlight two points worth mentioning in the context of this investigation. On the one hand, CIVITAS is used as an instrument for multi-level governance in the EU and on the other hand, CIVITAS is both a top-down and a bottom up tool for urban transport policies.

The CIVITAS programme has involved a number of actors across sectors and levels. It represents what Hamedinger et al. call "Multi-level decision-making bodies" (Hamedinger, Bartik & Wolffhardt, 2008, p.2677) and has become an example of **multi-level governance**. The multi-level partnerships that have been established involve, first and foremost, direct and indirect links and interactions between the

Commission and cities or city representatives based in Brussels. Commission officials in charge of CIVITAS within DG MOVE have had many opportunities to liaise with cities, or their representatives, through conferences, workshops or less formal meetings. As stated by a Commission official, CIVITAS was an opportunity to "interact very directly with the various people involved" (P4, DG MOVE). Furthermore, a wide range of third sector (e.g. Non-Governmental Organisations, consultancy companies, urban transport associations, etc.) and private sector entities have been involved in CIVITAS consortia and have direct and indirect contacts with local authorities and the EU Commission.

Even though in most cases national authorities were not involved in the CIVITAS programme, interviewees report that, overall, it has been welcomed by national governments and members of the European parliament. In the case of the UK and the devolved administrations, some participants reported that the Welsh Government was supportive of the CIVITAS bid and provided 'moral support'.

The multi-level governance mechanisms within CIVITAS have provided a framework for **top-down and bottom-up** policies. Even though CIVITAS is a project initiated by the EU Commission and partly run by the Commission, it aims to generate bottom-up policies. By setting a series of requirements, such as addressing certain policy themes (e.g. clean vehicles) and by asking cities who apply to have established a local transport plan (or equivalent), the Commission uses top-down power. However, the cities and their partners are then free to design and propose the measures they think are most appropriate for their local context. From the Commission's point of view, CIVITAS is "an effort to support local initiative" (P4, DG MOVE) and an instrument to generate bottom-up policies. CIVITAS is an opportunity for the Commission to learn about initiatives at the local level and use it to inform some of its policies. As explained by one policy officer:

> "CIVITAS has been trying to strengthen a knowledge base for decision-making" (P4, DG MOVE).

Another Commission official said "We get first-hand knowledge of what challenges cities face, how they tackle them and what their experience is of putting into place different types of measures" (P1, DG MOVE). For instance, Commission officials report that the action plan on urban mobility has been clearly influenced by

CIVITAS; they explain: "You can almost map each of the twenty actions on to activities that have built up a knowledge base coming from CIVITAS" (P4, DG MOVE). According to participants, projects such as CIVITAS contribute to better inform policy makers at the EU level and therefore have a bottom-up impact. Pflieger (2012) argues that CIVITAS has been used as an instrument to lobby EU policies; however, this study found that the capacity to lobby by the CIVITAS network is limited, mainly because of the PAC's limitations.

8.7   Comparison and Conclusion

Key conclusions

The chapter's central question was whether or not the CIVITAS programme has fostered sustainable mobility in cities. Results of the study suggest that CIVITAS has been successful in having an impact on local policies and policy-making in the demonstration cities and has contributed to encourage sustainable mobility policies and measures in cities. The CIVITAS funding programme has generated change within local authorities by emphasising the importance of sustainable urban mobility, by generating innovation and knowledge, by accelerating the uptake of sustainable mobility policies in cities, by encouraging multi-level and cross sectorial collaboration, and by initiating a change of culture within the local authority towards increased sustainability. However, the success of CIVITAS seems to be limited to cities involved in a demonstration programme (57 cities from 2002 until 2012), as CIVITAS has had limited impact on CIVITAS Forum cities (approximately 220 cities including demonstration cities).

Whether or not CIVITAS has had an impact in the long-term is difficult to judge. On the one hand, the results of the case study cities suggest that less than half of the measures implemented during CIVITAS have lasted; and the results of the survey indicate that CIVITAS has had a visible impact on local transport plans in less than 50% of the demonstration cities surveyed. The fact that many measures have not lasted beyond the end of the CIVITAS could be explained by the nature of the CIVITAS demonstration programme. Since CIVITAS demonstration programmes serve to 'test' new policies and projects it might be expected that a number of these

measures will not be successful. On the other hand, CIVITAS has generated qualitative changes in the long-term in many cities and, as Pflieger (2012) also argued, has contributed to 'Europeanise' local policy-making, although these changes are more difficult to assess.

CIVITAS demonstration cities: Bristol and Toulouse

The VIVALDI project in Bristol and the MOBILIS project in Toulouse are comparable, with both cities implementing a similar number of measures with similar themes. In both cities, the political will to join an EU project and gain visibility was central to becoming a demonstration city; this confirms the results of the survey. The two case study cities viewed CIVITAS as an opportunity to implement innovative mobility policies that were already being planned. CIVITAS in turn has encouraged the implementation of sustainable mobility policies for both cities, as well as improving cross-sectorial collaboration and mobility policy understanding.

Results suggest that in the two case study cities approximately 30% of the measures implemented during CIVITAS have lasted despite the end of the CIVITAS project funding. Participants in both local authorities highlighted the fact that their cities' involvement in CIVITAS also had a non-tangible impact, particularly the change in local 'culture' towards more sustainable mobility policies.

Local policy makers in Bristol highlighted how difficult evaluating the programme was and that the change in local leader had limited the long-term success of certain CIVITAS measures. Toulouse's local actors emphasised the lack of visibility the programme had and complained about the administrative burden CIVITAS generated.

CIVITAS Forum cities: Cardiff and Bordeaux

Participants in Cardiff and Bordeaux reported that the desire to learn from other cities and the potential funding opportunities motivated their involvement in the CIVITAS Forum. However, interviewees said that the lack of human resources and capacity prevented cities from applying to become a demonstration city.

Results of the research have highlighted that the cities which became demonstration cities seem to be more likely to have an existing 'European culture'. For instance,

prior to their involvement in the CIVITAS programme, the cities of Toulouse and Bristol had already been involved in some EU funding programmes and local actors in both cities described their city as being a 'European city'. On the other hand, the cities of Cardiff and Bordeaux have had fewer connections with European policies and projects. This might indicate that local authorities which have an established 'European culture' and a team of motivated local policy-makers wishing to participate in a demonstration programme are more likely to benefit and to be influenced by CIVITAS.

The semi-structured interviews reveal that, in the case of Cardiff, the process of applying to become a demonstration city has had an impact on local policy-making. Further research is necessary to investigate whether other cities have had a similar experience.

Interviews and survey results

Semi-structured interviews and results of the survey corroborate the conclusions of the case study cities. The survey conducted in 2012 was highly representative of the views of CIVITAS demonstration cities throughout Europe.

Results suggest that most cities applied to become a demonstration city to obtain funding to develop new or planned/existing measures, to engage and learn from other cities and to increase their city's 'visibility' on the EU stage, as confirmed by Pflieger (2012, 2011). These three themes were also listed as key benefits. Many advanced cities in Western Europe used CIVITAS to implement existing ideas, whereas less advanced cities, often from new Member States engaged in CIVITAS to generate new ideas and were inspired by other cities. The exchange of information and knowledge is at the core of the CIVITAS project and is one of the key reasons for cities to join the project and one of the significant benefits of being part of CIVITAS. Interestingly, local policy makers and particularly politicians are often keen to join CIVITAS to raise their city's profile and image in Europe and listed visibility as part of the added value of being a demonstration city.

The CIVITAS programme has accelerated the uptake and implementation of new urban transport policies in most demonstration cities. It has been used by some local actors to leverage political and popular support and financial means to test innovative

sustainable mobility solutions. Those interviewed and approximately 60% of survey respondents reported that, without CIVITAS, most measures would not have been implemented. Results suggest that 'advanced' cities were more likely to implement proposed measures irrespective of their involvement with CIVITAS though most participants agreed that without CIVITAS, measures would not have been implemented so rapidly on the same scale. In many cities CIVITAS seems to have contributed to the prioritisation of sustainable urban mobility.

Several barriers encountered during cities' involvement in CIVITAS were highlighted. Many participants stressed the lack of activity within the CIVITAS Forum and the lack of visibility allocated to the Political Advisory Committee. Also, survey respondents confirmed the findings of the in-depth case studies by highlighting the difficulties encountered by cities when evaluating the outputs and outcomes which the CIVITAS measures have had.

The interviews and surveys illustrated that the CIVITAS demonstration programme has fostered multi-level collaboration across levels and sectors, and encouraged cities to design solutions adapted to their local context. Though it is a top-down initiative it generates bottom-up policies (a process that could be further enabled by the improvement of the PAC) thereby informing policy-makers at the Commission.

Chapter 9   Discussion and comparative analysis

Common problems throughout the EU: "require a holistic and strategic approach that integrates different policy domains and levels of government, one that places subsidiarity and proportionality at its heart and which gives a central role to sub-national government and citizens in the policy process" (Atkinson, 2002, p.782)

9.1   Introduction

This chapter discusses and compares the key findings that have emerged from this investigation. It starts by examining whether EU policies have fostered sustainable urban mobility and highlights comparable themes between the three case study instruments. It then highlights the key points related to the impact EU environmental policies have had on urban transport. The recurrent barriers to the implementation and success of EU policies are then underlined. The second part of this chapter discusses research findings through the conceptual framings highlighted in chapter 3, in particular: policy instruments, subsidiarity, and multi-level governance. It compares the most insightful research findings and highlights recurrent themes. Finally, this chapter discusses the role the EU should play in the field of urban transport as recommended by a number of participants. Conclusions synthesising this chapter and resulting recommendations are reported in chapter 10.

9.2   Have EU policies had an impact on urban transport?

This section aims to establish, by comparing research results, whether EU policies have had an impact, directly or indirectly on urban transport, and if so, whether these policies have contributed to encouraging sustainable mobility policies in cities. First, it highlights the key themes that have emerged from the analysis of the three case study instruments. Second, it discusses the impact EU environmental policies, in particular related to air quality and climate change, have had on urban transport.

9.2.1 Has the EU fostered sustainable mobility in cities?

This investigation's central question aims to establish whether EU policies initiated by the Commission have fostered sustainable mobility policies in cities. The comparative analysis of the three case studies - the air quality directive, the Covenant of Mayors and the CIVITAS programme – highlights common findings related to this main question. This research has found evidence that EU policies have:

- ➢ **aimed at fostering sustainable mobility[1] in cities**
- ➢ **contributed to raising awareness amongst local policy-makers**
- ➢ **contributed to giving political importance to sustainable urban mobility**
- ➢ **made it politically easier to adopt sustainable urban mobility policies**
- ➢ **contributed to change policy planning**
- ➢ **accelerated/pushed the uptake of sustainable mobility policies at the national and local level**
- ➢ **contributed to the implementation of specific urban sustainable mobility measures**

Finally, this section also highlights the limitations of the impact of EU policies, particularly in relation to the Covenant of Mayors.

1- The first statement is that in the context of the three case studies, EU policies aim to foster sustainable urban mobility[2], directly or indirectly. The first part of this thesis indicates that EU policies have increasingly addressed and targeted sustainable mobility in cities, in particular since the 2000s (chapter 2 and 4). The air quality directive, the Covenant of Mayors and CIVITAS are examples of EU actions that attempt to foster sustainable urban mobility. Through each of these policy instruments, the Commission addresses various aspects of 'sustainable mobility'. The air quality directive indirectly targets air pollution (particulates) generated by urban traffic that threatens human health (chapter 6.3). The Covenant of Mayors focuses on reducing CO_2 emissions emanating from urban transport to address climate change issues (section 7.3). In the case of CIVITAS, the programme targets all aspects of sustainable mobility, including social, environmental, and economic (section 8.2). Therefore, the air quality directive and the Covenant of Mayors indirectly target urban transport to achieve specific EU objectives related to environmental sustainability, whereas CIVITAS directly aims to address sustainable mobility in a

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[1] Definition in section 1.3, chapter 1
[2] Definition in section 1.3, chapter 1

more comprehensive way. The study of the evolution of EU urban transport policy (chapter 5) also confirms that since the 2000s the Commission has given increasing importance to sustainable urban mobility. This is further discussed in relation to subsidiarity in section 9.5.

2- Second, participants and survey respondents frequently mentioned that EU policies have contributed to raising awareness amongst local policy-makers about sustainable mobility. In the case of the air quality directive for instance, participants in the four case study cities mentioned that air quality laws have contributed to raise awareness and to 'change mentalities' about issues related to air pollution amongst local policy-makers (section 6.4). In the context of CIVITAS, participants in the city of Bristol highlighted that one of the impacts CIVITAS VIVALDI has had was to train and inform local policy makers about sustainable mobility (section 8.5). In the case of the Covenant of Mayors, several participants mentioned that the CoM has contributed to raising awareness regarding CO_2 emissions and climate change in local authorities and that is likely to have had an indirect influence on transport policies (section 4.4). Thus, EU initiatives, alongside other factors have contributed to raise awareness at the local level.

3- Third, certain EU policies have contributed to giving political importance to sustainable urban mobility. In the case of the air quality directive, often indirectly through national interventions, air quality issues related to transport have been prioritised on the political agenda of many cities, for instance, in Cardiff or Bordeaux (section 6.4). One of the aims of the CIVITAS project is to influence local politicians, partly through the political advisory committee (PAC). Even though the PAC seems to have had a moderate impact, it indicates that one of the Commission's objectives is to encourage local politicians to prioritise sustainable mobility (section 8.3). In the case of the Covenant of Mayors, even though it does not seem to have had a direct political impact on local transport policies, some local policy-makers in Toulouse and Bristol mentioned that the CoM has reinforced the city's ambitions to reduce CO_2 emissions in general (section 7.5). Thus, it might have contributed, indirectly, to prioritising CO_2 emissions reduction in transport.

4- Furthermore, examples in many cities suggest that EU policies have made it politically easier to adopt sustainable urban mobility policies. Various participants

mentioned that the EU is often 'used' as an 'excuse' to implement professionally desirable but politically unpopular policies related to urban transport (section 5.4). For instance, in Cardiff, some local policy-makers recognise that the air quality law (emanating from the air quality directive) offers a convenient reason to adopt unpopular measures to discourage the use of the car (section 6.4). Results of the CIVITAS survey suggest that one of the key reasons why local authorities applied to become a demonstration city, and one of the main benefits of becoming a demonstration city is to leverage political or stakeholder support (section 8.6). In addition, one of the main benefits of joining CIVITAS (according to survey respondents) has been to legitimise the introduction of sustainable mobility policies. Indeed, EU programmes such as CIVITAS seem to provide an effective framework to justify sustainable mobility policies at the local level. From this investigation, there is no evidence to suggest that the Covenant of Mayors has yet had an impact on transport politics.

5- Results of the analysis indicate that in many cities EU policies have contributed to modifying policy planning in relation to sustainable mobility. In Bristol for instance, participants reported that air quality laws (which are the result of the indirect implementation of the air quality directive) have brought a change in the local policy agenda and have had an impact on "long-term planning objectives" (P34, Bristol Trans). In the case of CIVITAS, results of the survey suggest that for the majority of the respondents, local transport plans (or equivalent) have been modified - or are going to be updated - based on the experiences and exchanges as a CIVITAS demonstration city (section 8.6). In relation to the Covenant of Mayors, several participants highlighted the fact that their involvement in the CoM has 'pushed' their local authority to establish a long term strategy or 'vision' through the development of an energy and climate change plan. However, the analysis of the local transport plans (or equivalent), in the case study cities, suggests that the Covenant of Mayors does not seem to have had any major impact on transport policy planning.

6- This research highlights that in many cases EU policies have, directly or indirectly, contributed to accelerate/push the uptake of sustainable mobility policies at the national and local level. In the UK and in France, the air quality directive has led to the establishment of national laws that have prompted local authorities to

address air quality issues (section 6.5). For instance, transport policy-makers in Bordeaux report that they were 'almost forced' to limit traffic in the city as a result of air quality laws (section 6.4). A similar process has been highlighted in the case of the 20-20-20 EU targets. These legislations have started to have an indirect impact on local transport policies in relation to CO_2 emissions in France and in the UK, primarily through national laws (section 7.5). Thus, indirectly the air quality directive and the 20-20-20 targets have contributed to accelerating policy action linked to sustainable mobility at the local level. Similarly, in the case of CIVITAS, survey respondents mention that one of the main benefits of CIVITAS has been to 'accelerate the uptake and implementation of progressive urban transport policies' (section 8.6). However, in contrast the Covenant of Mayors has had a limited impact on local transport policies, as mentioned in chapter 7. This is further discussed in section 9.3 in relation to 'EU policy instruments'.

7- Certain EU policies, have, directly or indirectly, contributed to the implementation of specific sustainable mobility measures in cities. In the case of the air quality directive, specific measures have been implemented in many medium and large size cities to address air pollution, such as investing in clean vehicles. In many cases, the implementation of these measures has been indirectly attributed to the air quality directive. For instance, in Cardiff, the air quality directive has indirectly contributed to the pedestrianisation of the main high streets and the re-routing of the bus routes (section 6.4). In relation to CIVITAS, the impact has been direct in the case of demonstration cities. Cities' involvement in demonstration programmes has generated the implementation of planned or new sustainable mobility measures. For instance, the city of Bristol has established a freight consolidation centre thanks to its involvement in CIVITAS (section 8.5). However, in the Covenant of Mayors, no 'visible' output[1] has been identified yet.

In addition to the themes mentioned above, it is important to point out that results of the study suggest that the EU is a contributing factor but often not the exclusive reason/cause for change. Indeed, even though certain EU policies have had an impact on local transport policy, direct or indirect, participants highlighted that change is

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[1] For definition of output see section 1.3, chapter 3

often attributable to various contextual factors, such as citizens' pressure for change or local political initiatives.

Finally, even though the EU 20-20-20 targets seem to have had an indirect impact on local transport policies, evidence suggests that the Covenant of Mayors has had a limited impact on urban transport (section 7.6). It is perhaps too early to assess the impact of this initiative. Furthermore, climate change issues have only started to affect local authorities' transport policies (section 7.5), which might explain why the Covenant of Mayors has had a limited impact. In addition, the Covenant of Mayors might have had an impact on politics, given that the initiative aims to have an impact on politicians, however this area of influence falls outside the remit of this study.

9.2.2 Impact of EU environmental and climate change policies

The comparative analysis highlights several key themes related to the impact which EU environmental policies have had on urban transport. The results of the analysis and the literature review suggest that **EU environmental policies are likely to have had an increasing impact on urban transport**. First, the evolution of EU environmental and transport policies indicates that there is a growing importance assigned to environmental issues generated by urban transport (section 2.4 and 5.2). Second, results suggest that the increasing impact EU environmental policies have had on urban transport is mainly indirect, mostly through national legislation. EU binding air quality and climate change policies have had a substantial impact on national policies in the case of the UK and France (section 6.3 and 7.2). In many cases, this has had an indirect impact on local policies. In the case of climate change policies for instance, local participants in French cities mentioned that the 'Grenelle de l'Environnement', which integrated the 20-20-20 EU targets, has had a significant impact on local policy-making (section 7.5). This confirms Bache and Marshall (2004)'s theory that indirect Europeanisation has had an impact on urban transport. A potential explanation for the increased impact EU environmental policies have had on urban transport is discussed in section 9.5.

Second, **EU air quality and climate change policies seem to have had a different type of impact on urban transport policies.** Interestingly, air quality policies tend to have generated 'localised' action whereas CO_2 emissions policies are more likely

to foster comprehensive change on a larger scale. Due to the nature of the air quality directive, local authorities have had to focus their action on specific local areas to address people's exposure to pollutants (section 6.3). For instance, in Bordeaux most efforts to address air quality issues have targeted Place Gambetta, the roundabout at the heart of the city (section 6.4). On the other hand, to address CO_2 emissions from urban traffic, local authorities have to tackle emissions generated by traffic across the entire city (section 7.5). Thus, it is likely that EU climate change policies contribute to generating urban transport policies that are more comprehensive than air quality policies. However, the impact of climate change policies on urban transport remains limited (section 7.5). Furthermore, the air quality directive has fostered the establishment of short term 'emergency' measures. In France, in particular, local authorities have focused on implementing emergency measures (section 6.4). On the other hand, policies related to climate change are more likely to focus on long-term changes.

Finally, research results indicate that **there has been an increased importance assigned to environmental and sustainable issues at the local level,** perhaps partly due to EU policies. Indeed, in the four case study cities, results highlight the growing importance allocated to environmental and sustainability issues, and more recently to CO_2 emissions policies. In Bordeaux, for instance, local policy-makers highlighted that environmental issues, principally air quality and more recently climate change policies are encouraging transport policy-makers to implement sustainable mobility policies (section 6.4 and 7.5). In Bristol, since the 2010s, the priority has been given to CO_2 emissions issues to the detriment of air quality issues (section 6.4 and 7.5). Thus, transport policies at the local level seem to be assigning increasing importance to environmental issues, and more recently in particular to CO_2 emissions generated by urban transport. There is likely to be a correlation or parallel between the evolution of EU policies and local policies, but it is difficult to identify this potential link.

9.3   Barriers to implementation at the local level

This section highlights the barriers to implementation of EU policies at the local level that frequently emerged from the research results. The findings of this thesis emphasize seven key barriers to the implementation or success of EU policies at the local level, as illustrated in figure 9.1.
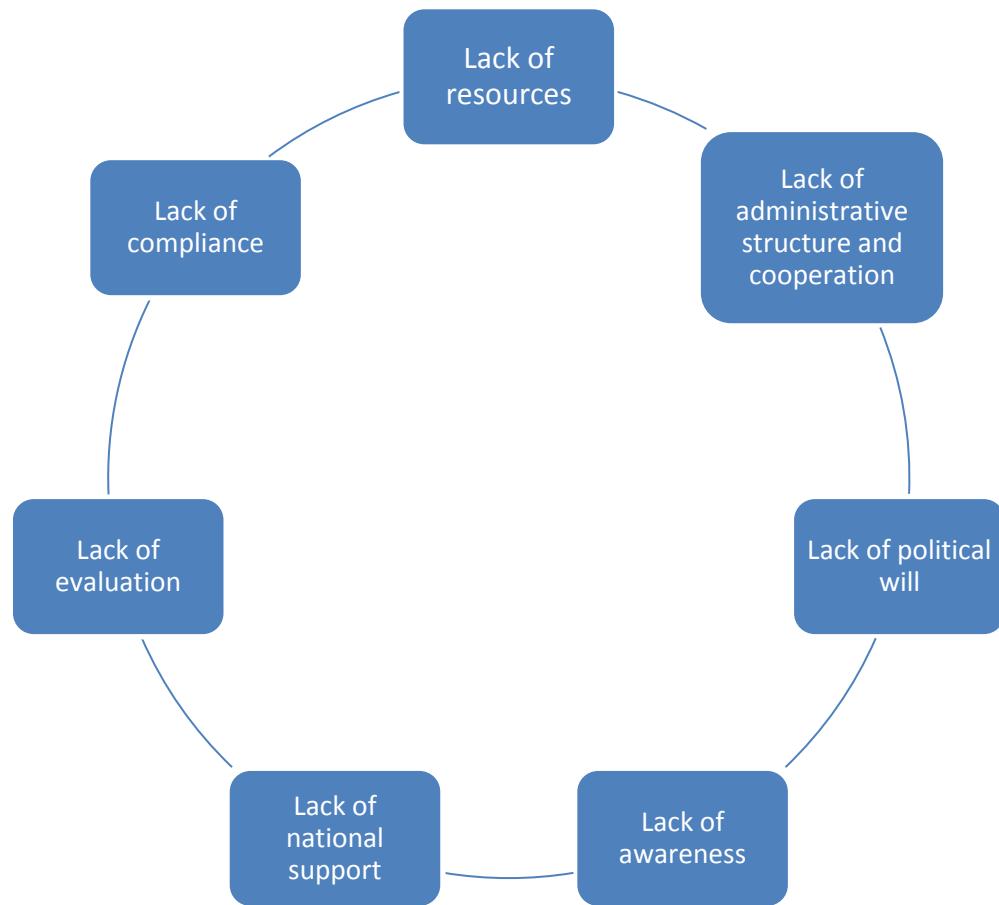
Figure 9-1 Barriers to implementation at the local level

One of the barriers most frequently mentioned by local actors is the **lack of resources**, primarily financial and human. As reported by Bennett (1992), the lack of financial capacity at the local level often hinders policy transfer in relation to EU policies. In the context of the air quality directive, local policy-makers stressed the need for additional financial and human resources to measure and monitor air quality in their city and to implement the necessary changes (section 6.5). The lack of funding was also mentioned in the case of CIVITAS. In Bristol for instance, local

policy-makers highlighted that certain CIVITAS demonstration measures had difficulty in being maintained in the long-term post-CIVITAS, due to insufficient funds (section 8.5). In relation to the CoM, signatory cities' participants also reported that financial and economic restrictions often prevent their city from initiating and implementing necessary changes related to urban transport emissions (section 7.4).

Second, **administrative issues,** primarily the lack of dedicated administrative structure and the lack of cooperation between local policy-makers, were often highlighted as one of the main barriers to effective policy implementation or impact of EU policies. This was particularly visible in the case of the French case study cities. First, it was pointed out that Toulouse and Bordeaux lack policy-makers exclusively in charge of air quality policies, unlike Cardiff and Bristol (section 6.4 and 7.5). Second, in French cities, the lack of collaboration between environmental and transport policy-makers was often highlighted in relation to climate change and air quality policies (section 6.4 and 7.5). On the other hand, in Bristol for instance, the well-established collaboration between the unit in charge of air quality and climate change policies and the transport unit was often highlighted as a facilitator of impact (section 6.4 and 7.5). Thus, administrative limitations tend to lessen EU policies' impact at the local level.

Third, the **lack of political will** to implement sustainable mobility policies was often identified as an obstacle to the successful implementation of EU policies. Several participants at the local level emphasized that, despite impetus for change, politicians remain reluctant to take unpopular decisions to reduce motorized traffic; this was particularly visible in relation to air quality policies (section 6.4). In the context of CIVITAS, certain local authorities, such as Bristol, mentioned that the change of local government political control post CIVITAS reduced the long-term impact of the CIVITAS project (section 8.5). On the other hand, the Covenant of Mayors focuses on the importance of having all local political parties on board at the signing of the project in order to ensure political continuity (section 7.3).

The **lack of awareness and understanding about EU policies** at the local level was visible in the context of this research, in particular in relation to EU binding laws. As mentioned in section 5.4, local actors are usually unaware of EU policies and influence. As illustrated in the case of the air quality directive or EU climate change

policies (section 6.4 and 7.5), there is a real lack of understanding about what emanates from the EU level and how it filters down. This thesis argues that the lack of understanding about EU policy-making at the local level constitutes an obstacle to the promotion of the EU at the local level and the successful implementation of EU policies.

The **lack of political, technical and financial support from national governments** was frequently highlighted by participants. This was clearly pointed out in the case of the air quality directive (section 6.6). Indeed, several participants mentioned that most local authorities in the EU do not receive sufficient support from their national government to address air quality issues at the local level (section 6.4). Many participants highlighted that local authorities cannot face up to the problem of air pollution without an increased collaboration and support at the national level (section 6.6). Thus, in the context of EU laws, the success of the implementation of the law at the local level often relies on support from national governments.

Non-compliance issues in relation to EU environmental policies are without doubt a key issue that inhibits the successful implementation of EU laws. As pointed out in section 6.3, cases of non-compliance are very common in the context of the air quality directive 2008/50/EC. In this specific case, the difficulty of complying is often attributed to the mass arrival of diesel vehicles which has contributed to an excess of particulate matter and nitrogen oxides (NOx) in urban areas. The fact that local authorities are not legally responsible for complying with the directive might also explain the difficulty in giving priority to comply with the directive. This confirms Lee's statement (2005) that the 'implementation deficit' remains a major issue at the EU level.

Finally, the **difficulty in evaluating EU programmes** was highlighted, in particular in the context of the CIVITAS programme and the Covenant of Mayors. Indeed, participants involved in CIVITAS mentioned that undertaking evaluations, such as using cost benefit analysis, is a real challenge for local authorities (section 8.6). In the context of the Covenant of Mayors the difficulty to evaluate CO_2 emissions emanating from urban traffic was pointed out (section 7.4). The lack of reliable and systematic evaluation of EU programmes' impact at the local level prevents the assessment of EU programmes and limits their potential success.

9.4 Impact of different EU policy instruments

This section aims to compare the impact the three different EU policy instruments examined have had on urban transport. As summarised in table 9.1, there are similarities and contrasts regarding the impact each of these instruments has had on urban transport. First, the impact hard law or binding instruments have had is mentioned, in particular the air quality directive and the 20-20-20 targets. Second, the impact soft law initiatives such as the Covenant of Mayors and CIVITAS have had is considered. Then the impact and potential of 'mixed law' is discussed. Finally, this section addresses bottom-up and top-down considerations that have emerged from the investigation. The discussion draws on the literature review established in chapter 2 (section 2.2) and 3 (section 3.5).

EU Policy Instrument / Impact on	Air Quality Directive	20-20-20 targets	CoM[1]	CIVITAS
National policies	✓	✓		
Local transport plans/documents – policy planning	✓	✓		✓
Raising awareness	✓	✓	✓	✓
Decision-making/political importance	✓			✓
Contribute to specific outputs	✓			✓

Table 9-1Assessment impact case study policies

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[1] Covenant of Mayors

9.4.1   Hard law

In this sub-section considerations about hard law are discussed, mainly in relation to the air quality directive 2008/50/EC and the 20-20-20 targets on CO_2 emissions. First, results highlight that EU binding laws have had a substantial impact on national policies as illustrated in table 9.1. The nature of the EU legal system implies that binding laws have to be transcribed into national policies, whether it is the adoption of new or amended national laws related to air quality (section 6.3), or whether it is the adoption of national targets related to CO_2 emissions (section 7.2). Despite compliance issues, EU laws or targets are likely to filter down through national laws and to impact on subnational policies (section 6.3 and 7.2). It is particularly visible in a country like France where the application of EU laws has led to the establishment of local plans related to air quality and to climate change (section 6.3 and 7.2). Therefore, by having an impact on national policies, binding EU laws are likely to have an impact at the local level on a country scale.

Second, the binding nature of these laws 'force' member states and, indirectly or directly, local authorities to take action, particularly in relation to environmental policies, as rightly pointed out by Ekins and Lee (2008, p.4583). In the context of this thesis, participants often admitted that EU binding law is needed to improve environmental issues such as air pollution, and that no substantial progress would have been made in relation to air quality without air quality laws (section 5.4 and 6.7). Furthermore, in some cases, EU binding law allows local authorities to implement unpopular policies, as mentioned in section 9.2.

Several participants mentioned that directives are preferred to EU regulations because they leave more flexibility to member states, and indirectly to local authorities, to apply preferred/most suited solutions (section 6.3). However, most member states experience compliance issues in the context of the air quality directive (section 6.3). In addition to compliance issues, one of the main limitations of EU hard law is its lack of popularity. In addition to national government's frequent reluctance to have to comply with EU binding law (section 3.5), local authorities are often unenthusiastic about binding instruments (section 5.4). Participants often mentioned that hard law is not well adapted to the diversity of local circumstances and that they would much prefer for the EU Commission to use soft law (section

5.4). Local authorities' main concern about binding law is the loss of decision making power/autonomy over local issues.

9.4.2 Soft law

Here, analysis and reflection about soft law in the context of this research are discussed, in particular in relation to the CIVITAS programme and the Covenant of Mayors.

The use of non-binding instruments has increased in the EU since the 2000s, as mentioned in section 3.5. Soft instruments have been particularly popular in relation to EU urban transport policy, as noticed by Halpern (2013), a topic subject to 'subsidiarity examination/scrutiny'. Interviewees confirm that soft instruments related to urban policies have gained importance on the EU arena and have become very popular for the Commission. This supports the claim made by Jordan *et al.* (2003) that there has been a change in the use of policy instruments towards softer instruments emanating from the supranational level.

Through programmes such as CIVITAS and, to some extent, the Covenant of Mayors (COM), the Commission fosters the establishment of city networks. This has several aims. On the one hand it fosters the dissemination of information and knowledge, principally to share solutions or exchange 'best practice' and discuss common issues between cities. For instance, in the context of CIVITAS, the results of the CIVITAS survey indicate that 'engaging and learning from other cities' is one of the key reasons why cities applied to become a demonstration city and that CIVITAS provided a platform for the exchange of information between cities (section 8.6). Through the exchange of information between cities, the Commission attempts to generate policy transfer, or what Radaelli (2000, p.25) calls "isomorphism processes", where successful policies in one city are replicated in another city. On the other hand, city networks are a useful tool to generate benchmarking (i.e. competition) between local authorities across Europe. Interviewees and survey participants frequently mentioned the wish for their city to 'do better' or at least as well as their neighbours' transport policy (section 8.5). In the case of the Covenant of Mayors, the fact that so many local authorities have signed the Covenant (close to 6000) might indicate that cities feel pushed to join in order not

to be the 'laggard' in the European arena of cities. However, the number of European city networks related, directly or indirectly, to sustainable mobility is very numerous (such as Polis, Eurocities or UITP). This might explain why the CIVITAS forum network has had a relatively limited impact as mentioned in chapter 8.

In the case of CIVITAS and the Covenant of Mayors, gaining visibility was frequently mentioned as a reason why cities decided to join these networks. For instance, most CIVITAS survey respondents highlighted that CIVITAS is an opportunity for their city to 'showcase' progressive urban transport policies and to receive 'EU recognition' (section 8.6). In the context of the CoM, local participants often reported that their city joined the CoM to 'improve the city's image' (section 7.5). Thus, local authorities perceive these networks as a way to enhance their position and visibility on the European arena.

Obtaining funding is one of the reasons why local authorities join city networks established by the Commission. Indeed, in the case of CIVITAS most participants mentioned that their city had joined the CIVITAS forum in the hope of obtaining funding to implement sustainable mobility policies (sections 8.5 and 8.6). Similarly, but to a lesser extent - since the Covenant of Mayors does not offer any direct funding - some cities like Bristol used their involvement in the Covenant of Mayors to obtain financial help through tools such as the ELENA funds (section 7.5). This confirms Betsill and Bulkeley (2004)'s findings that cities join voluntary programmes to have access to financial support. The popularity of EU funding programmes is mainly explained because local policy-makers often lack funding to implement sustainable mobility projects, in particular unpopular or innovative projects, such as testing the use of energy efficient buses (section 8.6).

The direct interactions with Commission officials or Commission representatives (as further described in section 9.6) also explains the popularity, and to some extent success, of EU soft tools amongst local authorities. Unlike hard law, in the context of funding or voluntary programmes such as CIVITAS and the CoM, a strong emphasis is placed on consultation and collaboration with local authorities (section 5.4). As a result, local actors tend to be more 'engaged' and involved in the projects, and are more likely to accept and value EU influence (section 5.4). This confirms Trubek and

Trubek's (2005) theory that soft tools are an effective way to reduce barriers to cooperation by enhancing local authorities' willingness to cooperate.

A comparison between the impact of the CIVITAS and the Covenant of Mayors programmes on urban transport indicates that the impact of CIVITAS has been much more substantial. The limited impact of the Covenant of Mayors may mean that a lack of 'conditionality' through funding (or legal instruments) is likely to limit the impact of EU policies. Furthermore, it could also indicate that in-depth collaboration with local stakeholders – as illustrated in the case of CIVITAS demonstration projects - is key for EU programmes to have an impact, as suggested by Radaelli and Rose (2004; 2002). However, the lack of impact which the CoM has had on urban transport policies might also be explained by the fact that the initiative is recent or by the fact that the focus of the programme has been mainly directed towards the politically more acceptable building policies (section 7.6). Furthermore, it should be highlighted that the CoM network has close to 6,000 members whereas the CIVITAS programme only has 57 demonstration cities and a further 153 non-demonstration cities[1] in the CIVITAS forum. There is a possibility that the CoM has had a limited impact on a large number of cities whereas CIVITAS has had a more substantial impact on a more limited number of cities.

9.4.3   Mixed instruments

The combination of soft and hard law seems to be popular amongst local actors and, increasingly amongst Commission officials. In relation to the air quality directive, survey respondents highlighted that the EU Commission should offer further complementary workshops and guidance to support local authorities (section 6.6). In relation to soft instruments, some participants mentioned that funding programmes such as CIVITAS should be offered with more conditionality, such as having previously established sustainable urban mobility plans (SUMPs) as a condition to participate in the programme (section 8.6). Interestingly, it could be argued that to some extent, the Covenant of Mayors is already a form of mixed instrument or a 'new environmental policy instrument' (Scott & Holder, 2006), since it aims at supporting the implementation of the 20-20-20 targets at the local level. Even though the impact of the CoM on urban transport has been limited, by raising awareness

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[1] Excluding CIVITAS Plus II demonstration cities

related to CO_2 emissions in cities, the Covenant of Mayors contributes to fostering change at the local level (section 7.4).

Several participants mentioned that soft law could be used to introduce new ideas and policies and that, if results are not achieved, it could then be complemented by harder forms of law (section 5.4). Scott and Trubek (2002) made a similar suggestion in relation to the Open Method of Coordination (OMC), as mentioned in section 3.5. However, this would imply that the impact of soft instruments should be monitored and evaluated, which, as illustrated in this research, proves to be challenging (section 8.6).

9.4.4   Bottom-up or top down Europeanisation?

Examining the impact which EU hard and soft tools have had on urban transport raises considerations related to bottom-up and top-down Europeanisation (section 3.2 and 3.3). The results of the study suggest that the use of soft tools by the Commission has generated different forms of bottom-up Europeanisation. First, instruments such as CIVITAS and the Covenant of Mayors have been used as a tool to inform policies at the Commission level (section 7.3 and 8.3). Indeed, as pointed out by Atkinson (2001a), the Commission uses programmes such as CIVITAS to generate a 'knowledge base' and inform Commission policies such as the action plan on urban mobility (section 8.6). Second, these soft instruments, in particular CIVITAS, have been used by local authorities to lobby the EU Commission, as highlighted by Pflieger (2012). In addition, the Commission uses soft tools to generate bottom-up initiatives. Indeed, soft instruments such as CIVITAS and the CoM attempt to generate bottom-up action at the local level. In the case of CIVITAS for instance, the measures to be implemented are actually designed by the cities themselves, following a set of themes designed by the Commission (section 8.3). In the case of the CoM, the cities are given complete autonomy to implement the policies most suited to their local context (section 7.3).

The use of hard and soft EU tools has also generated top-down Europeanisation. Binding instruments such as the air quality directive are used by the EU Commission to prompt national governments to take action and to generate legal and political change in member states (section 6.3). Furthermore, through soft instruments such as

CIVITAS and the CoM, the Commission intend to tackle key issues, such as air quality or climate change, and contribute to initiate change at the local level (section 7.4 and 8.5).

9.4.5 Is the Commission becoming a soft legislator?

According to a Commission official, soft tools such as the Covenant of Mayors "are the projects of the future" (section 5.4). Soft EU tools seem to offer a solution to overcome subsidiarity issues (as mentioned in section 9.5) and to increase knowledge and popularity of EU institutions, in particular the Commission. EU funding programmes are highly popular and, in addition to respecting the subsidiarity principle, ensure results through 'conditionality' and a direct (or semi-direct) relationship with the EU Commission. If funding programmes or other soft instruments are becoming the preferred option, what does that imply for the future of the European Commission as a legislator?

EU binding tools, such as the directive on air quality, generate change on a large scale. Therefore, it seems that EU binding tools are more effective at achieving substantial results on a large scale compared to soft tools, in particular related to environmental issues. However, compliance issues limit their efficiency and the lack of popularity and understanding of binding instruments at the local level present an issue. So, is the use of mixed EU instruments the answer? It might offer a solution to address the shortcomings of both instruments.

9.5 Principle of subsidiarity: implications for EU urban transport policies

Understanding the implications of the subsidiarity principle is key to comprehending EU policy-making in relation to urban transport. This section discusses the principle of subsidiarity in the context of this thesis. First, it questions whether EU action is justified in the field of urban transport in the light of subsidiarity. Second, it highlights the influence subsidiarity has had on the Commission's choice of policy instruments. It then reflects on how the subsidiarity principle might explain why EU

environmental policies play an important role in relation to urban transport. Finally, it links subsidiarity with multi-level governance, the topic of section 9.6.

Considerations about the subsidiarity principle in the context of this research often boil down to one question: When or is EU action justified in the field of urban transport? Opinions varied amongst interviewees, but overall participants seem to agree that the Commission should justify its action in relation to urban transport and should always strive to answer the question: is the EU bringing an added value by implementing/initiating this policy? (section 5.4). Indeed, both local policy-makers and Commission officials agreed that the principle of subsidiarity should be respected, in particular in relation to urban transport policy. Commission officials recognise that, to a large extent, solving urban transport issues is out of their scope (section 5.4); while local authorities argue that transport problems are often unique to their local context and that they are better placed to solve urban transport issues.

However, several arguments justify the added value of EU policies in the field of urban transport. First, EU action is often justified given the scale of the problems generated by urban transport, primarily linked to health (e.g. air pollution) and environmental issues (e.g. CO_2 emissions), as mentioned in section 5.4. Furthermore, the EU has the capacity to 'complement' national and sub-national policies, and to offer solutions to address common urban transport problems faced by most local authorities in the EU (section 5.4).

Second, this research has illustrated that the Commission's choice of policy instruments is heavily influenced and framed by subsidiarity considerations, as mentioned in section 2.5, 5.4 and 9.4. The lack of EU binding policy directly addressing urban transport issues is strongly linked with the Commission's reluctance to breach the subsidiarity principle. It also explains the preference given to soft law or non-binding instruments related to urban mobility, as stated by several authors (Jordan, Wurzel, Zito, *et al.*, 2003). Subsidiarity prevents the Commission from directly acting or legislating in the field of urban transport, with the exception of certain soft policies such as CIVITAS. Indeed, through the use of soft programmes such as CIVITAS, officially dedicated to enhance research, the Commission directly influences urban mobility policies in EU cities without infringing on the subsidiarity principle.

Soft EU policies such as CIVITAS or the Covenant of Mayors do not represent a threat to national government's sovereignty, unlike binding policies. Indeed, overall, national governments have not put barriers to the establishment of funding or voluntary programmes initiated by the Commission related to urban mobility (section 7.3 and 8.3). In the context of the Covenant of Mayors, Commission officials reported that they have been cautious about respecting the subsidiarity principle by not being too authoritative with local authorities (section 7.3). In other words, Commission officials have been wary not to infringe on national government's powers. However, this lack of authority or applied 'conditionality' (i.e. stipulating that if you do not submit a sustainable energy plan you cannot remain in the network) might explain why the Covenant of Mayors has had limited impact on urban transport policies.

Interestingly, some Commission officials have argued that through soft programmes such as CIVITAS or the CoM the Commission actually encourages subsidiarity (section 7.3). Indeed, if the definition of subsidiarity implies that decisions should be taken 'as close to the citizens as possible', then EU soft tools, to some extent, foster that. Indeed, the aim of most soft tools is to enhance 'local capacity' by providing tools to local authorities and to encourage local policy-makers to implement sustainable mobility policies. Thus, some argue that EU soft tools, by fostering and supporting local authorities to improve urban transport apply the subsidiarity principle taking the initiative directly at the local level rather than via national or regional governments.

However, most Commission policies target sustainable mobility indirectly, often through environmental policies (section 5.3). Indeed, through policies such as the air quality directive or the Covenant of Mayors, the Commission indirectly targets urban transport. The case of the air quality directive is an interesting example. Officially the Commission justifies the use of the directive by arguing that air pollution has no political boundaries and that it poses a serious threat to citizen's health. However, indirectly the directive targets urban transport, given that the majority of the pollutants emanate from traffic in cities (section 6.3). The Commission is cautious not to mention local authorities in the directive and to leave sufficient flexibility to national governments in order to respect the subsidiarity principle (section 6.3).

Thus, through the use of environmental policies such as the air quality directive, the Commission influences urban transport policies (section 6.4). The subsidiarity principle explains why so many EU environmental policies have addressed or targeted urban transport, directly or indirectly, because the Commission can easily justify EU action in relation to environmental policies whereas it cannot do so directly in the field of urban transport.

Finally, the principle of subsidiarity partly explains why there are no 'official' EU urban transport policies and why DGs such as DG Environment, Climate Change or Energy have initiated many laws and policies that have had an impact on urban transport, directly or indirectly (chapter 5). This, almost invisible, green line–invisible because the actors themselves do not know where it starts or where it stops - implies that the Commission should always be cautious not to cross it, otherwise it risks infringing on member states' sovereign powers. To some extent, the principle of subsidiarity is an indefinable rule which subtlety orchestrates and defines roles, relationships, and interactions between actors and different levels of power within the EU arena. However, this 'Janus-faced' concept (Estella de Noriega, 2002) leaves uncertainties and restrictions regarding the role of the Commission in relation to urban transport.

This investigation argues, that, as mentioned by Collier (1997a, p.55), the subsidiarity principle should be used to enhance collaboration between different levels of governance and not merely as a way to prevent the Commission from implementing policies at the local level. Indeed, faced by increasing environmental issues, joint solutions across levels of governance should be implemented. However, this would imply that national governments give away some of their sovereign powers, as stated by Van Asselt (2010).

9.6   EU urban transport policies in a multi-level governance context

The concepts of subsidiarity and multi-level governance are tightly bound. The subsidiarity principle is based on a multi-level governance system: it regulates the exercise of power between multitudes of actors across governance levels within the

EU arena. This section reflects on the interactions between the actors involved and the way the policy instruments examined filter down from one level of governance to another. Finally, it discusses broader themes related to multi-level governance in the context of this investigation.

EU urban transport policy is, by default, shaped by multi-level governance processes. Indeed, EU policy related to urban transport involves a range of actors across levels. Figure 9.1 illustrates the multi-level governance links related to the three case study policies. EU binding policies, such as the air quality directive, mostly involve three levels of governance: the supranational, the national, and, often indirectly, the subnational levels (see figure 9.1). Once an EU law is adopted by all member states, the implementation process tends to be top-down, involving few direct interactions between the EU Commission and national or local governments. In the context of the air quality directive, occasional workshops directly link the Commission and national and subnational policy-makers. However, this is unusual, and national governments remain the entity mainly responsible for implementing EU laws at the subnational level, as noticed by Bache and Flinders (2004). On the other hand, in the case of soft tools, programmes such as CIVITAS or the Covenant of Mayors rely on direct, or mainly indirect, interactions between the Commission and local authorities. As illustrated in figure 9.1, contacts happen via the intermediary of EU programmes' secretariats or offices. National governments are not usually involved in soft EU projects, as noticed by Hooghe (1996) and George (2004). Thus, different EU policy instruments are based on different multi-level governance systems.

In the context of funding projects such as CIVITAS, a range of sub-national actors is involved, which Hooghe and Marks (2003, p.241) categorise as 'type 2 actors', also referred to by some as horizontal actors. Indeed, consortia are formed by a range of stakeholders, ranging from the public to the private sector and involving Brussels-based associations in charge of horizontal contacts (section 8.3). Given the number of sub-national actors involved, funding programmes such as CIVITAS are likely to have a broader impact compared to projects such as the Covenant of Mayors which only involve local authorities. Therefore, funding programmes such as CIVITAS are designed to involve a broad range of actors and are based on a complex multi-level governance system.

As mentioned in section 3.4 of this thesis, very little work to date has investigated multi-level governance in relation to EU policies linked with urban transport. This investigation has highlighted multi-level governance in relation to EU urban transport policy, mainly focusing on type 1 or vertical actors, as illustrated in figure 9.2.
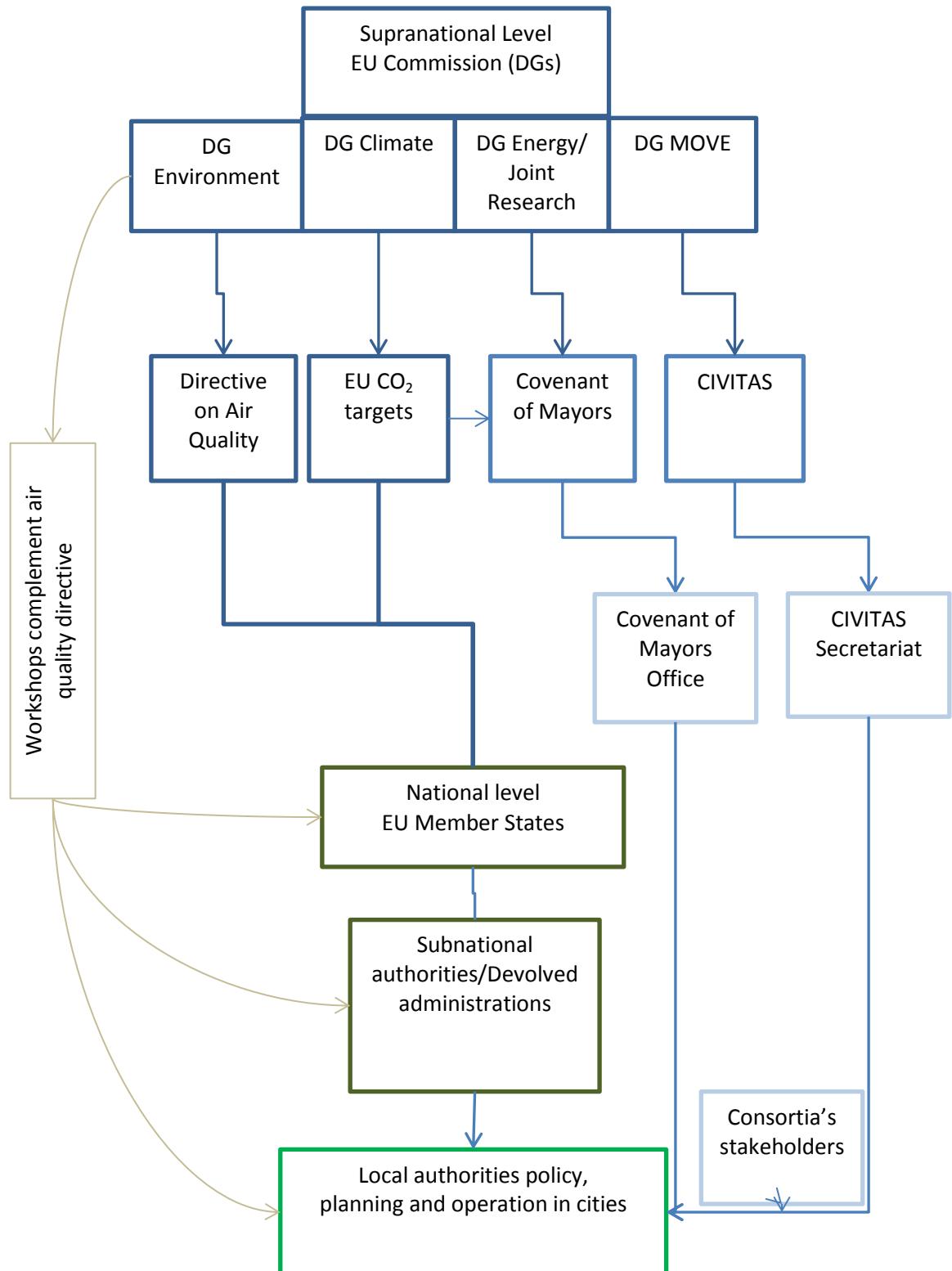
Figure 9-2 Multi-level governance processes

Results of this investigation suggest that the impact of EU policies on urban transport is likely to be more substantial when consciously placed in a dynamic multi-level

governance system involving a range of actors across levels. Indeed, in the context of the air quality directive, the involvement of national authorities generates large scale impact (section 6.3). However, the lack of consultation with local authorities represents a barrier (section 6.4). In the case of CIVITAS, impact is generated through direct contacts with local authorities and by involving a range of local and European stakeholders (section 8.3). Thus, the need for increased multi-level governance seems justified in order to accelerate the uptake of sustainable mobility policies in cities.

9.7 What role should the EU play in urban transport?

Finally, this section discusses the role the European Union, in particular the EU Commission, should play in relation to urban transport. First, it summarises participants' opinions and responses to the question: "What role should the EU play in urban transport?" Then, in the light of the results, it discusses the role that the EU should, or should not play in relation to urban transport.

All participants from the final stage of interviewing (references in section 4.4) were asked to provide their opinion about "what role should the EU play in urban transport?" 33 respondents representative of all types of participants provided an answer as illustrated in figure 9.3.
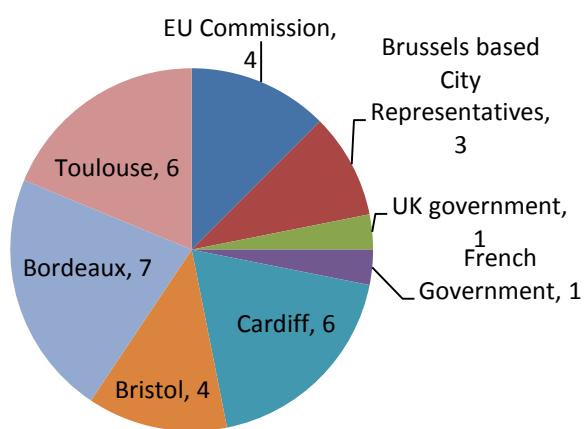
Figure 9-3 Respondents question 'What role should the EU play in urban transport?'

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Apart from one British government official - who claimed that the EU should not play any role in the field of urban transport and mentioned that cities in the UK are reluctant to receive 'orders' from the EU - all participants stated that the EU should play a role in urban transport policy-making. As illustrated in figure 9.4, fourteen participants across all levels stated that the EU's role in the field of urban mobility should be to 'inspire', 'guide' or 'motivate'. Expressions such as 'long-term vision', 'showing the way', 'leadership', or 'impetus' were used. According to these participants, the role of the EU should be to promote long term and progressive policy vision and objectives. Some explained that this is needed to 'counter balance' the short term policies associated with local mandates. Others mentioned that the EU's role is to deliver "over-arching sustainability policies" and 'harmonised' policies across the EU. Thus for many participants, the EU's 'added value' should be to lead the way and foster sustainable urban mobility solutions across the EU.

Second, many participants mentioned the need for the EU to 'facilitate' or 'promote' exchange of best practice. This is also linked to what some participants have called 'distil' or 'diffuse' information at the local level. Thus, participants view the EU as a coordinator, a facilitator that is able to build links between cities and allow policy transfer or information to be exchanged. As a result, cities can be aware of useful mobility solutions that have been established in one city and that could be replicated in their city. This is related to 'providing information or awareness' as mentioned by some and the need for the EU to bring "political and technical awareness". Therefore, facilitating policy transfer and providing information was frequently mentioned.

Third, many participants, particularly at the local level, highlighted the need for the EU to provide financial support to cities. Some participants referred to financial tools such as the European Regional Development Fund, popular in Bordeaux, others to funding programmes such as CIVITAS. In relation to funding programmes, some participants also mentioned the need for the EU to encourage innovation and experimentation, such as fostering the implementation of a 'pilot project', cutting edge technology and innovative and alternative policies. Indeed, local authorities

often have difficulties in financing innovative projects which involve an element of risk.
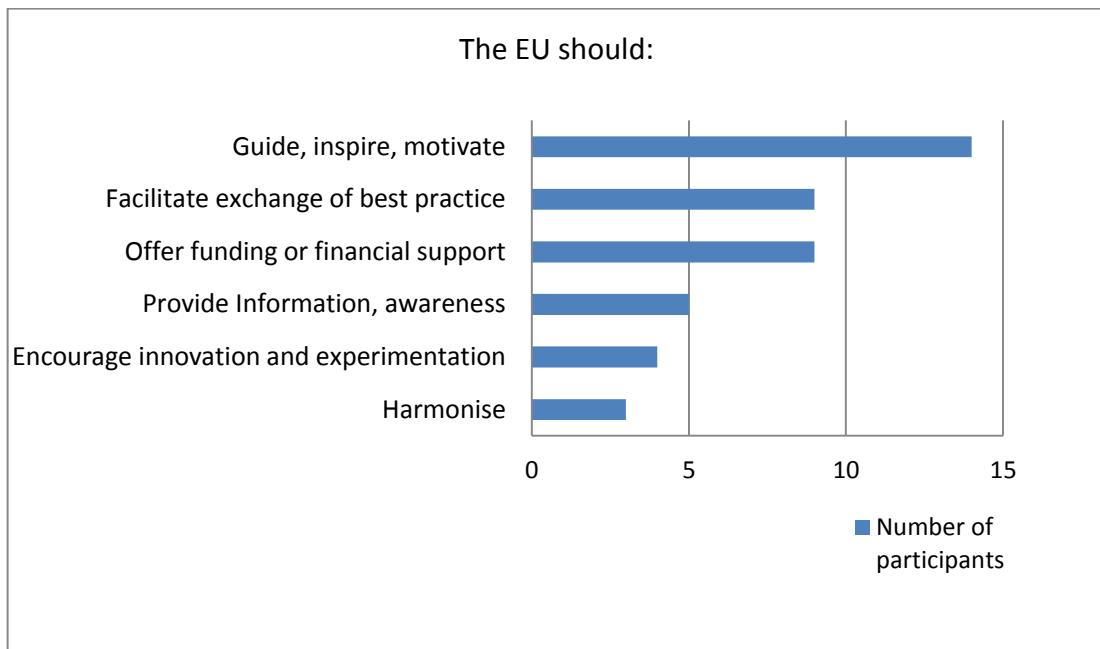
Figure 9-4 Participants' responses to the question 'What role should the EU play in urban transport?'

The results of this analysis are very informative but limited. Indeed, the participants at the local level are only from two countries in the West of Europe. However, the results of the public consultation 'the urban dimension of the EU transport policy' run by the Commission in 2013 align with the findings of this investigation. In that survey 206 stakeholders across the EU were asked: "Which policy action should be taken at EU level?". The first three options mentioned were 'Development and exchange of best practice', 'Support Research and Development projects' and 'Development of guidelines and recommedations", as illustrated in table 9.2 (European Commission, 2013f, p.49). These results validate the results of this investigation. Almost all participants who expressed their views stated that the EU has a role to play in the field of urban transport, mainly to:

- offer a long-term, innovative, harmonised vision for urban transport policies
- play the role of a facilitator to foster policy transfer and information
- provide funding and financial support

- foster innovative policies

Which policy action should be taken at EU level?	The number of times choices were ticked. Participants were allowed to tick all that apply
Development and exchange of best practice	125
Support R&D Projects	99
Development of guidelines and recommendations	97
Provide a platform for stakeholders to exchange best practice	89
Development of standards on ICT applications	88
Legislation (e.g. on interoperability of equipment)	82
No action needed at EU level	12
Other	5

Table 9-2 Survey responses: Policy actions needed at EU level. Source: Results of the public consultation 'The urban dimension of the EU transport policy', April 2013

Binding or non-binding?

Participants expressed contrasting views about whether the EU should implement binding laws or not. Three participants, a Commission official, and two local policy makers in the UK and France, argued that the role of the EU should be to make hard laws that "force people to change", particularly related to environmental issues. On the other hand, seven participants, mainly local actors, stressed the importance of respecting the local context and not to "impose" binding legislation in the field of urban transport. According to these participants, cities should have the flexibility to choose which policy to implement because "each city is different". Thus the majority of the participants who commented on this topic were in favour of soft rather than hard measures.

Complement national policies

Finally some participants highlighted the need for EU policies to complement national policies in the field of urban transport. As illustrated in box 9.1 below, for some the EU has a more important role to play in this field than national governments. Thus, EU action can 'complement' or substitute national action regarding urban transport policies.

> *"The EU is a broad tool box that we then complete with national policies"*
> French Government official
>
> *"Having less interference from national government would be preferable"*.
> Bristol policy maker
>
> *"Some cities are keen to see more EU involvement because the EU can sometimes provide the support they do not necessarily get in their country"*.
> EU Commission official

Box 9.1: Participants' quotes in answer to the question "What role should the EU play in the field of urban mobility?"

To **conclude** this section, according to many European stakeholders in the field of urban transport, the EU has a role to play as a coordinator and facilitator of sustainable mobility at the local level across Europe. Many participants warned against EU making laws that would force them to implement specific policies and highlighted the need to respect local differences. Some participants mentioned that the EU's role is key and should complement or even substitute national policies. Indeed, unlike national governments, or even the European Parliament, who tend to prioritise short-term interests (Glencross, 2014, p.285), the EU Commission aims to offer a long-term vision, anticipate future problems and offer sustainable solutions for the decades to come (Jordan, 2005). In addition, the EU Commission aims to promote a common well-being that goes beyond national boundaries. This is particularly important for environmental policies, mainly pollution and CO_2 emissions related to urban transport. This thesis argues that, in order to tackle these crucial issues, the EU Commission should, as mentioned by Timms (2011), play a more extensive important role in the field of urban transport.

Chapter 10   Conclusions and Recommendations

"*The point is not merely to understand the world, but to change it.*" Karl Marx (1818 - 1883)

10.1 Introduction

This thesis has strived to broaden and deepen the limited knowledge and understanding of the effectiveness of EU policies related to urban transport. It has aimed to achieve this by identifying whether EU policies have had an impact on urban transport and if so, to better comprehend their impact, with a particular focus on policy and decision making and planning at the local level. This thesis has made various contributions to the academic debate, especially by studying the evolution of EU urban transport policy, by investigating the influence different EU policy instruments have had on urban transport and by discussing subsidiarity and multi-level governance in relation to EU urban transport policy.

This chapter starts by summarising the contribution this thesis has made to each of the research questions and to discuss the validity of the initial hypotheses. It goes on to identify the main limitations of the thesis. Policy recommendations designed to guide the Commission on how to improve policy implementation at the local level and co-operation between the EU and subnational authorities are then formulated. These recommendations also advise on the efficiency of different policy instruments in relation to urban transport. Finally, recommendations for future research related to this topic are proposed.

10.2 Answering research questions and hypotheses

To what extent have the European Union policies had an impact, directly or indirectly, on urban transport?

The first research question asked to what extent the European Union policies have had an impact, directly or indirectly, on urban transport. To start with, the thesis has identified the actors involved in EU urban transport policies, directly or indirectly, at different levels of governance and their interactions. It revealed a wide range of actors involved in EU policies related to urban transport across levels of governance. It showed that there is a comprehensive multi-level governance system, where supranational institutions such as the EU Commission have developed relationships with sub-national entities, often through Brussels-based associations representing local authorities. It also highlighted the power dynamics and the bottom-up and top-down mechanisms linking various actors at different level of governance. Finally, it stressed that the actors involved and their relationship varies according to the type of policy instruments used. The direct, or semi-direct, relationship between the EU Commission and cities is frequent in the context of soft instruments, such as funding programmes. The conclusions point out that the greater the multi-level governance cooperation, the more effective the implementation and impact of EU policies is likely to be.

Second, a sub-research question asked whether EU policies not directly associated with transport have had an impact on urban mobility – particularly environmental policies. Results confirm the hypothesis that EU policies directly or indirectly addressing urban transport emanate from multiple directorate generals within the Commission. The findings of this study suggest that most EU policies likely to affect urban transport are in fact initiated by DGs concerned with environmental or energy issues. The evolution of EU environmental and transport policies partly explains this change. EU environmental policies, including climate change, have become increasingly influential on transport policies. The impact which EU environmental policies have had on urban transport seems to be mainly indirect; policies such as the air quality directive or the 20-20-20 targets have, through national legislation, contributed to raise awareness of the need to decrease harmful emissions from urban traffic, at the local level.

What impact have different EU policy instruments had on transport policy, planning and decision making at the local level, particularly in the UK and France?

The second research question asked whether different EU policy instruments have contributed to encourage sustainable mobility policies and measures in cities and if so, how. The way each instrument filters down from one level to another was looked at. Three different case studies were examined: the EU directive 2008/50/EC on air quality, the voluntary programme of the Covenant of Mayors and the funding programme CIVITAS. The UK and France were the main case study countries.

In relation to **the air quality directive**, the investigation indicated that in many cases the directive has had an impact on urban transport policies, but mainly indirectly. In countries such as the UK and France, the directive has generated important changes at the national level. In both case study countries, the directive has been transcribed into national law and national governments remain the sole entity legally responsible for its implementation. The changes that have been generated at the national and local level in both countries are, overall, similar. First, air pollution is now monitored in most medium or large size cities in the UK and France. Second, in cities where pollution levels exceed the limit-value, air quality plans have been established. The only significant difference between the way the directive has been implemented in the UK and France relates to the establishment of emergency measures. In France, local authorities have to take significant emergency measures when local pollution levels exceed the limit-value, whereas in the UK emergency measures are limited. However, the local administrative structures in the two case study cities in the UK gave more importance to air quality policies – by having dedicated administrative structures and effective cross sectorial collaboration – than the French case study cities. Results of the interviews and survey suggest that, overall, the air quality directive has indirectly contributed to 'forcing' local authorities to address air pollution generated by traffic and in some cases to implement specific measures, mainly localised, to reduce people's exposure. Furthermore, the directive has contributed to raising awareness and to giving importance and visibility to air quality issues at the local level and so has had an impact on transport planning policies.

The in-depth analysis has focused on medium size cities in the UK and France, and the survey has investigated air quality policies in capital cities in the EU. It is important to note that these results do not necessarily represent all medium or large

scale cities in the EU, in particular, further research is necessary to investigate the impact of the air quality directive in Eastern European countries.

Non-compliance cases remain very frequent in EU countries; and even though local policy-makers admit that without the directive limited action would have been taken to address air quality issues, the use of a binding policy is not widely popular or understood by local policy-makers.

The Covenant of Mayors is a project initiated by DG energy that aims to complement the 20-20-20 binding targets on CO_2 emissions reduction. It is a non-binding voluntary programme that targets local authorities exclusively – unlike the 20-20-20 targets that address national governments. It involves direct collaboration between the EU Commission and local authorities across the EU. Results of this investigation suggest that the Covenant of Mayors has not generated major direct changes in local transport policies in signatory cities. As previously mentioned this could be explained by the fact that the Covenant of Mayors is a relatively recent initiative that has chosen to focus on energy efficiency in buildings.

On the other hand, the Covenant of Mayors has contributed to raising awareness of the need to address CO_2 emissions emanating from urban traffic and to strengthen CO_2 emissions reduction commitment. Furthermore, the initiative has proved to be very popular (with close to 6,000 signatory cities), especially amongst small size cities. Projects such as the Covenant of Mayors can be a platform to obtain EU funds, for instance through the ELENA scheme. Finally, it appears that CO_2 emissions reduction policies such as the 20-20-20 targets are more likely to have an impact on urban transport policies on a large scale in a city, whereas air quality policies focus on people's exposure to pollutants and tend to generate 'localised' action.

The **CIVITAS I, II and Plus programmes** have had an impact on urban transport in the short term. The demonstration programmes have contributed to accelerate the uptake and implementation of sustainable mobility measures and have encouraged local authorities to innovate and take risks in the field of urban transport. Furthermore, involvement in CIVITAS has generated policy transfer through exchange of knowledge and benchmarking between local authorities in Europe. CIVITAS has had a long-term impact on decision-making and planning but in the

two case study cities examined the majority of the measures established during the demonstration phase have not continued for long beyond the period of EU funding.

The CIVITAS programmes are designed to involve a large number of actors across sectors and levels and to generate cross-sectorial collaboration, mainly at the local and at the supranational level. The close collaboration between the EU Commission and local authorities – mainly through associations representing cities – has generated top-down and various forms of bottom-up Europeanisation. Indeed, on the one hand CIVITAS has informed Commission officials regarding urban transport policy and on the other hand it has fostered sustainable mobility initiatives at the local level. However, the benefits of the CIVITAS programme remain limited to the demonstration cities (57 cities from 2002 until 2012). In fact the results of the investigation suggest that the impact of the CIVITAS Forum remains limited. Therefore, the impact of CIVITAS remains limited to a small percentage of cities in the EU. In addition, there seems to be a lack of awareness amongst local policy-makers about the benefits CIVITAS has had in participating cities.

Therefore, the **examination of the three case study policy instruments** seems to confirm the hypothesis that certain EU policies have had an impact on urban transport. In the case of binding laws such as the air quality directive, the impact has been indirect through national policies not directly related to transport, whereas in the case funding programmes, the impact has been mainly direct. Results indicate that hard law is effective to generate change on a large scale but unpopular, whilst soft tools such as funding programmes have an impact on a smaller scale but are effective at raising awareness and at giving political importance to sustainable mobility through engaging with local actors. Results suggest that EU policies have made a contribution to the promotion of sustainable urban mobility, with the exception of the Covenant of Mayors that does not seem to have had a substantial impact on urban transport. This might indicate that binding tools or financial instruments are more effective than voluntary agreements such as the Covenant of Mayors. Finally, EU urban transport policy is shaped by complex multi-level governance processes that vary depending on each policy instrument.

Several contextual and structural elements have affected top-down Europeanisation and policy transfer at the national and at the local level in relation to

urban transport, as discussed in chapter 9. Several barriers to the successful implementation of EU policies were highlighted. The limited support, especially financial, from national governments has been an important barrier to the effective implementation of EU policies in many countries, particularly in the context of binding laws such as the air quality directive. In addition, the lack of political willingness to take risky decisions related to urban mobility was highlighted as a limitation to effective EU policy implementation. Non-compliance issues and the lack of rigorous evaluation of EU programmes at the local level were also identified as lessening the impact of EU policies on urban transport. Finally, the lack of understanding of EU policies, and the lack of widespread visibility of programmes such as CIVITAS was pointed out as an obstacle to top-down Europeanisation.

In relation to the four case study cities, similarities and subtle differences were highlighted. In the French case study cities the lack of cooperation between environmental and transport departments within local authorities was a hurdle to the implementation of air quality policies, and thus indirectly, constituted a barrier to the europeanisation of the air quality directive. Cultural and political differences also explained why air quality policies were given more importance in a city like Bristol, compared to Toulouse for instance. Indeed, as mentioned in chapter 4, section 4.3, local policies and politicians in Bristol have been prioritising environmental issues for more than a decade in contrast to the city of Toulouse, particularly in relation to urban transport. These contextual and structural differences partly explain why environmental policies – and indirectly certain EU environmental policies - seem to have had more impact on transport policies in some local authorities (e.g. Bristol) and less in others (e.g. Toulouse).

In relation to EU funding programmes, europeanisation seems to have been more substantial in cities where one or several local policy-makers or politicians actively engaged in EU projects, and in cities with an existing 'European culture'. The city of Bristol and Toulouse were able to benefit from/and be influenced by EU funding programmes such as CIVITAS thanks to the initiatives taken by a few local actors within the municipality. Interestingly, CIVITAS seems to have had more impact in the city of Cardiff, which applied to become a demonstration city, than in Bordeaux, whose involvement in the CIVITAS forum remains limited.

Notwithstanding the contextual and structural differences discussed above, the investigation has not identified major differences between the UK and France and the surveys have not detected significant dissimilarities between Western and Eastern European cities (section 6.6 and 8.6). This suggests that the initial hypothesis stating that there are striking differences in responses to EU policies between member states is not supported in the context of this research and that, overall, Europeanisation seems to have been relatively homogeneous in relation to the three case study policies in the two member states. The investigation highlighted that in the case of EU binding instruments, national authorities remain the key actors responsible for transcribing and implementing EU policies, and that in most cases information regarding the origin of legislation gets 'lost in translation'. As a result, local actors are often not aware of the European dimension of certain policies. In the case of EU soft instruments, relationships tend to be exclusively between the supranational and the sub-national level with very limited, or non-existent, involvement of national authorities.

The thesis tested whether the findings from the in-depth analysis were applicable beyond the UK and France. Results from the initial and the semi-structured interviews (particularly at the EU level), the analysis of the EU wide surveys, and cross examination with other studies (European Environment Agency, 2013; Technopolis Group *et al.* 2013; McDonald *et al.* 2010), suggest that the results also apply to other member states, including Eastern European cities and less centralised member states. However, in-depth analysis is needed in eastern European countries or countries which are less centralised than France or the UK to certify the applicability of the results.

Finally, a few conclusions have been reached in relation to the last research question and the hypothesis discussing the **role the EU has played and should play in the field of urban transport policies**, particularly in the light of the subsidiarity principle.

First, the investigation has found that an increasing number of EU policies, mainly environmental or non-binding, address urban transport. Even though the EU does not have a 'fully institutionalised' urban transport policy (Halpern, 2013; Rommerts, 2012), there has been a growing interest in addressing urban transport issues since

the late 1990s. Local transport problems have been addressed through the use of EU soft instruments, such as CIVITAS, but a substantial number of EU binding policies, particularly environmental, have also had an indirect impact on transport, with the air quality directive being the most obvious example. The lack of direct and official EU urban transport policy is mainly explained by the restrictions the Commission has in relation to the subsidiarity principle. However, the role played by the EU in the field of urban transport is increasingly important despite subsidiarity issues.

The principle of subsidiarity is a sensitive theme that, to a large extent, defines EU urban transport policies. On the one hand, local authorities want the Commission to respect it and to limit the use of binding law. On the other hand, they recognise that there is a need for the EU to support the transition towards sustainable mobility and to complement national policies by offering guidance, information, resources, by inspiring, and by acting as a coordinator and facilitator of sustainable mobility at the local level. Results of this study indicate that local transport policy makers welcome initiatives and funding emanating from the EU in relation to urban mobility. There is an increased demand for non-binding tools coming from the Commission by European cities who recognise the contribution they can make to improving management of their city mobility and transport.

The role of the EU at the urban level is still being defined and is constantly evolving. This study suggests that there is likely to be an increasing number of EU policies directly tackling urban transport issues through soft instruments and indirectly through binding instruments, mainly environmental. In addition, there seems to be an increased need for multi-level governance to address urban issues, particularly related to environmental problems caused by urban traffic.

10.3 Key limitations: the difficulty of measuring change

One of the main difficulties encountered in the context of this thesis has been to accurately identify and assess changes generated by EU policies at the local level. On the one hand the study has examined how pieces of EU policy conceived at the supranational level are applied at the sub-national level. On the other hand, it has looked at changes happening at the local level and has tried to identify potential associations with EU policies. However, change often happens as a result of multiple

factors and variables which are sometimes difficult to pin down, in particular since local policy-makers were often unable themselves to make a link with EU policies.

Further, the rapidly changing environment of the European Union presented a challenge. Indeed, results were obtained over a period of two years, which limited to some extent the comparability of the results.

Finally, the case study cities only covered four medium-size cities in two western European countries which means that different policy systems, mainly in Eastern Europe were not studied in a comprehensive way. Even though the air quality and the CIVITAS survey included Eastern European cities, and despite comparing the research results with existing surveys, there is a possibility that in-depth analysis done in Eastern European cities would have produced different results.

Furthermore, in relation to the Covenant of Mayors the researcher was unable to conduct a large scale survey, thus limiting the representativeness of the results.

10.4 Recommendations for policy-makers

The results of this thesis serve to inform stakeholders at the supranational, national and subnational level. Here, several policy recommendations are formulated.

10.4.1 Increased cross-sectorial policies

There are a number of areas in which cross-sectorial policies at the EU Commission level need to be developed. Key EU policies need to be jointly drafted and implemented by different Directorate Generals. First, air quality and CO_2 emissions policies should be more integrated. Increased collaboration between DG Environment, DG Climate, DG Energy and DG Enterprise is needed to ensure that these policy areas complement rather than contradict each other (e.g. regulations on diesel vehicles to reduce CO_2 emissions have been detrimental to air quality). Second, increased common approaches between EU transport and air quality policies are needed to ensure better results. For instance, in parallel with the air quality directive, EU transport policies should facilitate the implementation of certain

measures, such as common standards for low emission zones or retrofitting of buses. Third, links between non-binding programmes such as CIVITAS and the Covenant of Mayors should be strengthened. DG Move and DG Energy should improve collaboration to ensure that each program complements the other. For instance, the Commission could request cities who intend to obtain funding in the context of CIVITAS to join the Covenant of Mayors.

At the local level, integrated policies between EU transport and environmental sectors (including climate change policies) are also necessary. In a country like France, transport and environmental departments in local authorities need to improve collaboration in relation to urban mobility, in particular to better integrate air quality and transport policies.

10.4.2 Further multi-level governance collaboration

Given the current challenges caused by urban transport, in particular environmental, increased multi-level cooperation between levels of governance is, more than ever, crucial. This thesis joins many scholars in arguing that further multi-level cooperation should be established contextually and structurally in the EU (Atkinson, 2001b; Bache & Chapman, 2008; Banister, 2000b; Bulkeley & Betsill, 2005; Collier, 1997b; van Asselt, 2010). A partnership approach between authorities across all levels must be implemented to tackle urban transport issues, particularly environmental. Local authorities should assume greater responsibility and receive more support from regional, national and European authorities to tackle urban transport issues. In this context, subsidiarity barriers should be overcome, particularly by national governments, and priority should be given to effective and collaborative action involving a range of actors including the EU Commission.

10.4.3 Reinforce knowledge and visibility of the EU at the local level

The lack of understanding of EU policy-making amongst local policy-makers seems to be significant in the context of this research. Furthermore, EU initiatives such as the CIVITAS programme lack visibility at the local level. The EU Commission should address these issues by increasing collaboration and consultation of local authorities and by dedicating resources to enhancing EU programmes' visibility and local knowledge about EU policies. Programmes such as CIVITAS should be heavily

branded and results should be disseminated in a more visible way and EU legislative processes and policy mechanisms should be better explained to local policy-makers. This is particularly important in the context of rising Euroscepticism which is partly explained by the lack of understanding about EU institutions (McLaren, 2007, p.3).

10.4.4 Strengthen EU evaluation procedures

Evaluating the impact of funding programmes or projects such as the Covenant of Mayors has had is challenging and its limitations have been pointed out throughout the research. The EU Commission needs to rethink evaluation schemes at the EU level. One solution is for the Commission to establish guidance documents regarding the establishment of ex-ante evaluation frameworks. Increased funding within each project should be dedicated to evaluating the impact of the project at the local level, in particular qualitative assessment and evaluation in the long-term.

10.4.5 Delivering the Air Quality Directive

The study of the air quality directive stressed that local authorities lack resources and expertise to implement the necessary changes to comply with the requested limit-values. Yet the success of the implementation of the directive depends/relies heavily on effective action taken at the local level. A dedicated support framework to support local authorities in complying with limit-values is probably necessary. The author of this thesis recommends the establishment of a multi-level governance programme - involving national authorities - dedicated to supporting cities with air quality issues. This framework should see increased consultation with local authorities, provide further guidance, systematic workshops and/or funding programmes to support local authorities. Specific guidance should include details regarding the location of monitoring stations and harmonised ways to report on results to achieve comparable standards. In addition, national governments across the EU should be encouraged to support and assist local authorities in their country. Providing local authorities receive increased support, national governments should consider making local authorities legally responsible for complying with limit values.

Combining air quality policies with CO_2 emissions reduction policies would encourage local authorities to address pollution issues in a more comprehensive way. One of the limitations of the air quality directive is that it tends to foster localised

action to reduce people's exposure to particulates, whereas CO_2 reduction emissions policies stimulate action on a wider scale. Thus harmonising the two policy areas would be beneficial for sustainable mobility in cities. Furthermore, Euro standards and air quality policies should be harmonised with a view to ensuring that foreseen emissions reflect emissions in the real-world. This entails further cross-sectorial collaboration within the EU Commission.

10.4.6 Supporting CIVITAS

EU funding programmes have proved to be popular amongst local authorities and in the case of CIVITAS effective at promoting sustainable mobility policies in demonstration cities. This research recommends that the EU Commission continues the expansion of its funding programmes, in particular among less advanced cities.

The key recommendations for CIVITAS include improving dissemination, evaluation of the programmes and engagement with further cities.

First, the CIVITAS programme should strengthen its dissemination strategies/policies and ensure greater visibility of the programme at the local level. Funds and agreements with local authorities should be established to guarantee greater visibility and public information about the benefit of the programme for local citizens. In addition, the benefits and lessons learned from CIVITAS since its inception should be more effectively synthesised and disseminated amongst various local authorities throughout the EU to support policy transfer.

Second, the evaluation process within CIVITAS should be improved. Local authorities and their partners should be further encouraged to undertake a rigorous and thorough evaluation through financial incentives and technical help. Emphasising the evaluation component in the project calls is vital. A careful assessment of the proposals' evaluation plans should be conducted with rigorous quantitative and qualitative evaluation methods. Additional support, including financial and technical support (e.g. guidance documents offering a set of indicators, expert knowledge/training) should be provided to cities and their consortia to design and conduct evaluations, including conducting ex-ante evaluations, both qualitative and quantitative.

Engaging with a greater number of EU cities and ensuring the CIVITAS Forum has a greater impact is crucial to the success of CIVITAS. Indeed, as previously mentioned the success of CIVITAS in promoting sustainable mobility in cities is limited to a small number of cities in the EU, many of which tend to have existing progressive transport policies. For the CIVITAS programme to be successful on a large scale, a greater number of cities should benefit from CIVITAS.

Increased importance should be given to the CIVITAS Forum with CIVITAS Forum cities receiving greater benefits from being involved in the Forum. For instance, local policy makers could be invited to visit demonstration cities to learn about their policies. Ensuring that a larger number of CIVITAS Forum cities participate in the annual Forum meeting is crucial with, by way of example, CIVITAS offering to cover policy makers travel expenses to attend. Finally, to increase the number of CIVITAS Forum members links with existing networks, such as the Covenant of Mayors, and joint events, could be established.

Finally, the Commission's conditional funding portion of funding programmes should be increased. It offers an effective and legitimate solution to push cities to make necessary changes in relation to sustainable mobility.

10.4.7 Enhancing the Covenant of Mayors

The Covenant of Mayors project should give increased importance to urban transport. First, the programme should be run in close collaboration with DG MOVE and should be better integrated with policies linked to sustainable urban mobility plans or urban transport programmes such as CIVITAS. Enhanced coordination and cooperation between Commission officials in charge of the Covenant of Mayors and of urban transport policies is crucial. Local authorities should be actively encouraged to address urban transport issues in their sustainable energy action plans and to actively involve policy-makers responsible for urban transport policies.

Second, the programme should request or at least encourage local authorities to establish CO_2 emission reduction targets related to urban traffic. Specific guidance should be offered to cities to adequately measure CO_2 emissions in the field of transport.

Finally, the impact the Covenant of Mayors has had on signatory cities needs to be more accurately evaluated. The necessary resources should be allocated to independently assess the impact the Covenant of Mayors has had on local policies including transport. This should include in-depth qualitative analysis and comprehensive quantitative evaluation.

10.5 Recommendations for further research

First, in-depth qualitative research is needed to ascertain whether the impact EU policies have had on urban transport policies vary between centralised (e.g. UK) and less centralised states (e.g. Spain, Germany). This investigation was predominantly focused on two centralised EU member states. The analysis could be helpfully broadened to new member states, particularly in Eastern Europe.

With respect to CIVITAS, it would be useful to identify both the recurrent barriers and the most commonly successful measures across all CIVITAS programmes. Moreover, further research is necessary to assess the impact the CIVITAS demonstration programmes have had in the long-term.

The Covenant of Mayors programme needs to be researched in much more detail. This should include research on whether the Covenant of Mayors has had an impact on small cities, as suggested by the mid-term evaluation commissioned by the EU Commission. A large scale survey representative of the CoM signatory cities could be undertaken to assess what impact the CoM has had on urban transport policies. This would provide a greater understanding of the role, suggested by the initial interviews and the mid-term evaluation report, played by the CoM in establishing carbon plans (or equivalent). It would also be interesting to know whether the CoM has had an impact on decision-making amongst politicians since this investigation has focused mainly on policy-makers.

Finally, it could be instructive to assess the impact of bottom-up Europeanisation in relation to this topic. In other words, to assess whether local policy making has had an impact on EU policies in relation to the topic of this investigation.

Looking forward

This thesis has looked at the impact EU policies have had on urban transport in some European Union cities and has discussed the role the EU Commission should play in this field. It has concluded that the need for supranational action and solutions is increasingly justified to tackle the many common environmental and societal issues generated by urban traffic. In this context, it is important to reflect on the role supranational entities play and should play in the field of urban mobility. With respect to the EU, it would be interesting to examine the potential impact EU policies have had in non EU cities. For instance, a programme such as CIVITAS has started to target Mediterranean cities. On the other hand, it would be relevant to study the role and impact a supranational institution such as the United Nations has in relation to urban transport. Indeed, the United Nations (UN) has also started to tackle urban transport issues by issuing guidelines and by implementing some funding programmes. It would be useful to assess whether the conclusions drawn from this study apply with respect to the UN initiatives.

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Appendices

Appendix 4.A: List of interviews transcribed

EU level	National level	Sub-national level
EU Commission DG Move o 3 participants DG Environment o 1 participant DG Energy o 2 participants DG Climate o 1 participant	**UK** DfT*** - Climate Change policies o 1 participant DEFRA**** - Air Quality o 2 participants DECC***** Climate change and transport o 1 participant	**Bristol** City Council- Transport o 4 participants Air Quality o 1 participant Sustainability o 1 participant
	France Air Quality****** o 2 participants Climate Change – Transport******* o 2 participants	**Cardiff** Welsh Government - Transport o 1 participant City Council Transport o 4 participants Air Quality o 1 participant Sustainability o 1 participant
		Toulouse Transport o 3 participants Sustainability o 1 participant
		Bordeaux Transport o 5 participants Sustainability o 1 participant

*** Department for Transport **** Department for Environment food and rural affairs; ***** Department for Energy and Climate Change; ****** 'Ministère de l'écologie, du développement durable et de l'énergie – air qualite' ******* 'Département lutte contre l'effet de serre - emissions'

Appendix 4.B Sample interview questions to official in charge of air quality policy at the supranational level

- What is your role in DG Environment?
- Does the DG ENV have more contact with national, regional or local authorities? What is your relationship with each of those levels?
- Over the past 10-5 years which legislation and non-binding law initiated by DG ENV has affected urban transport?
- Over the past 10-5 years, which legislation and non-binding law has had most influence on urban transport in cities across all DGs?
- What is DG Env position on urban transport?
- Who initiated the Air Quality Legislation? (Which actors were involved in the process?) When? Why? How do you monitor the implementation of the Air quality legislation?
- Can cities contact the Commission regarding the implementation process? What is the best way for cities to contact you?
- What impact has Air quality legislation had at a national, regional and local level? (Why has Air Quality been controversial?).
- What differences can you see in the way the UK, France and Spain have been influenced by the Commission and in the way they have applied or interpreted legislation or non-binding laws such as the Air Quality law? (Between London, Paris and Madrid).
- What is the DG Env´s position on binding and non-binding policies that can affect urban transport? Do you have any preference?
- Over the past 10 or 5 years, has the EU been more involved in urban transport policy?
- What role does the Commission (esp DG ENV) play in influencing transport policies and regulations in EU regions and cities (formally and informally)?
- How do you interpret the principle of subsidiarity?
- What role should EU and DG ENV have regarding urban transport? (subsidiarity principle, expand)

Appendix 4.C: Sample interview questions to a policy-maker at the national level regarding the air quality directive

Key themes:

- How does the Directive 2008/50/EC function in the UK?
- Which authorities are responsible for its establishment, implementation and annual reports?
- What has been the impact of Directive 2008/50/EC at the local level – on transport policies?

Functioning:

- How are responsibilities divided between the EU, the government and the sub national authorities to manage and implement the Directive?
- What is your relationship with the EU Commission? Do you have any direct relationship?
- In the UK, what are the mechanisms to obtain annual reports? How does the cooperation with local authorities function?

Links with transport policies:

- What role do Air Quality policies have in relation to transport? What role do transport policies have in relation to air quality?
- Does your team collaborate with other units within the UK Government ? (DFT ?)

Urban scale and impact:

- What are the barriers/obstacles for the implementation of the Directive at the local level?
- What has been the impact of the Air Quality Directive on urban transport policies in the UK?

Additional questions:

- Is the Directive necessary in the UK, if so, why?
- Would the UK have implemented similar policies without an EU Directive?
- How does the UK government influence EU air quality policies?
- To what extent do EU policies influence DEFRA's policies?

Appendix 4.D: Sample interview questions to a local policy maker in charge of air quality policy

- How long have you been working for the City? What is the role of your unit? When was it created?
- When did air quality started to enter the policy sphere in Cardiff? What did influence it?
- What impact has Air Quality legislation had in Cardiff transport policies? Any specific results?
- Over the past 10 years, which policies have made a difference in Cardiff transport and sustainable mobility policies (LTP, Project)?
- Does the EU have any direct or indirect influence on Cardiff policies, (compared to the regional and national state)?
- Can you think of any policy originating from the EU which has had an impact on transport policies and sustainable development in Cardiff?
- How would you describe Cardiff's relationship with the European Union and Cardiff's identity related to that?
- Do you think that policy makers and citizens are always aware that a number of laws and policies originate from Brussels?
- What key policy documents summarise Cardiff air quality policies? What are these documents influenced by?
- Do climate change policies have an impact on transport policies in Cardiff?
- Which role does the EU play related to Cardiff's policies?
- Which role should the EU play regarding transport and sustainable policies in Cardiff?

Appendix 4.E: Sample interview questions to Commission officials in charge of the Covenant of Mayors

- When the Covenant of Mayors was created, what objectives did you have regarding urban transport?
- What has been the relationship with National Governments in the context of CoM? Which role have they played? Have all MS always fully supported the CoM? How have they been responding to CoM?
- How has the Parliament been responding to CoM?
- Has CoM had any influence on the EC Commission´s policies? If so, which influence?
- Is the CoM a platform for bottom up policies?
- Have CoM had an impact on local authorities transport policies? If so, which one and has it been widespread or exceptional?
- Do Air Quality Plans and Energy Action Plan complement each other, or overlap?
- Do Air Quality Policies and Co2 emissions policies have contradictory effects?
- Energy Action Plan & SUMP?
- What have been the main problems/barriers encountered in the CoM projects for:
    o the Commission
    o for local authorities?
- Can you see any difference in the way the UK, France and Spain have been influenced by CoM?
- Have you noticed an evolution regarding the principle of subsidiarity in the context of CoM?

Appendix 4.F: Sample interview questions to Commission officials in charge of CIVITAS policies

- Have CIVITAS core objectives evolved/or been modified over the past 10 years?
- What has been the relationship with National Governments in the context of CIVITAS? Which role have they played? Have all MS always fully supported the CIVITAS project? How have they been responding to CIVITAS?
- How has the Parliament been responding to CIVITAS?
- Has CIVITAS had any influence on the EC Commission´s policies? If so, which influence?
- Do you think that CIVITAS has been a platform for bottom-up policy in the EU? (A platform to lobby the Commission?)
- Have CIVITAS demonstration projects had a long term impact on local authorities transport policies? If so, which one and has it been widespread or exceptional?
- The same question regarding CIVITAS Forum.
- What have been the main problems/barriers encountered in the CIVITAS projects for:
  - the Commission
  - for local authorities?
- How would you describe the level of awareness in CIVITAS cities regarding CIVITAS?
- Can you see any difference in the way the UK, France and Spain have been influenced by CIVITAS?
- Have you noticed an evolution regarding the principle of subsidiarity in the context of CIVITAS?

Appendix 4.G: Sample interview questions to a local policy maker in charge of transport policy

- What are the policies which have made a difference in Bristol transport and sustainable mobility policies in the past 10 years?
- Does the EU have any direct or indirect influence on Bristol policies, compared to the regional and national state?
- Are policy makers and citizens aware that a number of laws and policies originate from Brussels?
- Have EU policies had an impact on Bristol transport and sustainable transport policies? If so which ones?
- What key policy documents summarise Bristol transport policies and sustainable development policies (including urban planning)? What are these documents influenced by?
- What impact has Air Quality legislation had on Bristol transport policies? Any specific results?
- Does Bristol have established policies to tackle climate change? Does climate change have an impact on transport policies in Bristol?
- Has CIVITAS had a long term impact on local authorities' transport policies?
- What have been the main problems encountered during the CIVITAS project?
- Which role does the EU play related to Bristol's policies?
- Which role should the EU play regarding transport and sustainable policies in Bristol?

Appendix 4.H Coding thematic matrix extract sheet category 'General impact of EU policies on urban transport'

Coding Name Interviewees	Organisation	Role	Impact EU policies on urban transport	Specific EU policies which have had an impact on urban transport	Awarness of EU policies	EU role	Recommendations	Additional Comments
23 P26, Cardiff Sustaina	Sustainable Develo	Group Lea	The participant does not think EU	The participant does no	There is a need to have "an over-arching sustainability policies", guidelines, targets with some flexibility so that local a			
24 P27, Cardiff Europe	Cardiff City Council	Head of International Policy			Strong lack of awarness amongst citizens			
25 P28, Cardiff Air Qua	Cardiff City Council	Air Quality Manager			"I don't know" whether	There is a resistance amongst local authorities to be told what to do. Binding legislation such as the Air Quality are nec		
26 P29, Transport Cardi	Cardiff City Council	Transport			Policy maker in Cardiff a	"in an ideal world they can play a much stronger role through the Welsh Government" I would like to see stronger pol		
27 P30, Transport Cardi	Cardiff City Council	Head of Transportation			In relation to Air Quality	"Probably not". Amongst local policy makers "there is a view that the Welsh Assembly has more power than it actually		
28 P31, Welsh Assembl	Welsh Assembly	Sustainable Travel			Even policy makers in th	Distil experiences to t	The language is over complex	
29 P33, Bus Cardiff	Bus Users	Head					Need more finance to support public transport	
30 P34, Bristol Trans	Bristol Council	City Transport Manager	Air Quality			It offers a good mixed currently including guidance and networking opportunities to gain information. Facilitating furth		
31 P35, Bristol Transpo	Bristol Council	Transport		Green Capital Award has given an impe	EU is helpful in providing impetus for progressive policies. Providing support to implement pilot projects. Providing a p			
32 P36, Environment B	Bristol Council	Pollution						
33 P37, Bristol Transpo	Bristol Council			Being part of a network of European cities that had implemented road pricing was very innovative and helpful.				
34 P38, Bristol Council	Bristol Council	Head of the opposition			People do not know wh	"The cities have to be the driver of policy and they are the engine of economic growth" so European Policies have to a		
35 P39, Bristol Sustain	Bristol Council	Sustainability			Air Quality, CIV	"That is an area I don't u	EU binding laws are important because they "force people to change". Fostering creating, inspiration and showing goo	
36 P40, DECC	DECC	EU policies			"Traditionally the EU regional policy an	"It is important that the Commission understands urban transport, but we do not want them to go to huge legislations		
37 P41, DEFRA	DEFRA, UK	Climate Change						
38 P42, GLA	DfT	Air Quality Policy						
39 P43, DfT Climate Ch	GLA		EU Better Regulation and Transposition;	Head of Climate Change St	Essentially, it is the role of the EU to act where Member States cannot act alone i.e. where it would distort the single m			
40 P45, CETE	CETE SUD OUEST	Mobility		Air Quality, indirect impact		France is very well organised so the added value of the EU is to diffuse information about best practise.		
41 P46, AURBA BX	A'urba	Mobility						
42 P47, CUB BX	CUB	Transport	Policies that have changed infras	When asked what EU policies were the source of change at the national and at the local level, the participant clearly hesitated and even though				
43 P48, Europe BX	CUB	Service Europe				Financing programmes, harmonising policies across Europe but it challenging because there are big differences across		
44 P49, CLIMA BX	CUB	Plan Clima			Limited awarness			
45 P50, AIR QUALITY B	CUB	Development Durable			No awarness of the fact	Yes EU normes are necessary. Transcriptions into national law are not always right.		
46 P51, FEDER BX	CUB	FEDER			Do not know what polic	Financing support is very welcome especially in time of crisis		
47 P52, REGIO BX	Conseil General Gir	Urban issu	In Gironde a White Paper on mobility towards 2030 was e	More financial support.				
48 P53, CUB BX	CUB	Transport	EU policies related to providing a	It depends on the inter	EU should play a role in financing projects, providing a framework to exchange with other cities. The EU should play a p			
49 P54, Eco Toul	Ville de Bordeaux	Transport		Air Quality, No	Unlikely that people are	The role of the EU is to manage industrial demand, that is to carry on selling cars, with environmental protection which		
50 P55.1, Mob Toul; P5	Grand Toulouse	Developm	Fond FEDER have been very imp	There is very little awar	The EU has a role to play. A stategic role. It should foster the intake of progressive policies. The EU needs to advice and			
51 P56, ACAD TOUL	Tisseo - Direction G	Urban Tra	Environmental as	Loi sur l air et l	"Given that 80% of fren	The EU has a role to play, maybe even more important than the national level. It could be a guide, it ould spread impo		
52 P57, ENER TOUL	Science Po							

Appendix 4. I Coding thematic matrix extract sheet category 'Impact of Air Quality'

Coding Name Interviewees	Organisation	Role	Impact Air Quality has had on local policies	Barriers	Air Quality would not have improved as much without Directive	Recommendations	Additional Comment
29 P33, Bus Cardiff	Bus Users	Head					
30 P34, Bristol Trans	Bristol Council	City Trans	Large air quality management area				
31 P35, Bristol Transport	Bristol Council	Transport					
32 P36, Environment Bris	Bristol Council	Pollution					
33 P37, Bristol Transport	Bristol Council		Air Quality legistation pushed the city t	It has pushed local authorities to give importance and prioritise air quality issues			
34 P38, Bristol Council	Bristol Council	Head of tl	Yes it has had an impact				
35 P39, Bristol Sustain	Bristol Council	Sustainab	Air Quality has had an impact on Bristol's policies. It has led to the establishment of air quality management areas and has been transposed into how we manage transport in the				
36 P40, DECC	DECC	Climate Change					
37 P41, DEFRA	DEFRA, UK	Air Qualit	It has not had a direct European Standar	missions zone) and has also been a driver for other policies in the EU which can contribute to improvements in air quality such as stronge			
38 P42, GLA	DfT	EU Better Regulation and Transposition; Head of Climate Change Strategy					
39 P43, DfT Climate Chan	GLA	EU policie	Air quality is directly affecting London	it is a good thing because it is forcing us to take action on an issue which every body agrees has to be addressed. Even more important it i			
40 P45, CETE	CETE SUD OUEST	Mobility	Obligation to establish a PDU	The Air Quality was necessary to push national policies			
41 P46, AURBA BX	A'urba	Mobility					
42 P47, CUB BX	CUB	Transport	Strong Impact				
43 P48, Europe BX	CUB	Service Europe					
44 P49, CLIMA BX	CUB	Plan Clima					
45 P50, AIR QUALITY BX	CUB	Developn	Study about the Establishment of ZAPA				
46 P51, FEDER BX	CUB	FEDER					
47 P52, REGIO BX	Conseil General (	Urban issues					
48 P53, CUB BX	CUB	Transport	It has raised awarness				
49 P54, Eco Toul	Ville de Bordeau	Transport		Without pressure from the EU the authorities in France would not have done as much.			
50 P55.1, Mob Toul; P55.2	Grand Toulouse	Developn	Strong indirect increa	The impact Air Qu	Toulouse would not have implemented strong measures like it has been doing without the binding law. Not as quickly not as systematicl		
51 P56, ACAD TOUL	Tisseo - Direction	Urban Tra	The main impact has l	Lack of cooperatic	Before the Air Quality Law in 1996 there was nothing "it was prehistorical as far as air quality was concerned"		
52 P57, ENER TOUL	Science Po						
53 P58, Mob Toul	Local Governmer	Elu Renev	It has started to raise awarness				
54 P59, Mob Toul	Tisseo	EU projec	These issues are now integrated into local transport policies				
55 P60, Ville BX	Grand Toulouse	Transport	Has brought a sensitivity towards these issues in transport policies				
56 P63, MOB TOUL	Toulouse	Tisseo					
57 P61.1, Gov clima; P61.	Ministere de l'ec	Lutte contre l'effet de serre					
58 P62.1, gov ecology; P6	Ministere de l'ec	Air Quality		EURO STANDARD!	An EU Directive is necessary because air pollut	We give priority to reducing the population exposure. "Transport and Air quality are a very	
59							
60							

Appendix 4.J Coding thematic matrix extract sheet category 'Climate Change/Covenant of Mayors'

	Coding Name Interviewees	Organisation	Role	Impact EU C02 emissions policies on transport policies	Impact CoM in general	Impact CoM on Transport	Barriers	Recommen dations	Additional Comments											
3	P1, DG MOVE	DG MOVE																		
4	P4, DG MOVE	DG MOVE																		
5	P3, DG MOVE	DG MOVE	Unit Intelligent Transport system?																	
6	P5, DG ENER	DG ENER	Covenant of Mayors		Energy Effici	Providing dat	In some cases the financial system in one city can affect its capacity to invest in sustainable projects. For instance they might need th													
7	P6, DG ENER	DG ENER	Covenant of Mayors		The CoM fost	Lack of evider	Lack of impa	There shoul	The CoM has had practically no support from National Governments - "This is a political thing" but they hav										
8	P7, JRC	Joint Research Cer	Covenant of Mayors		Many local au	Transport poli	Measuring private transpo	The CoM help to bypass national authorities.											
9	P8, DG ENV	DG Environment	Air Quality Directive																	
10	P9, DG ENV	DG Environment	Air Quality Directive																	
11	P12, DG REGIO	DG REGIO	Urban policies																	
12	P14, DG Clima	DG CLIMA	Transport	To some extent: legislation on C02 on cars, the Collaboratior	DG MOVE needs to give priority to policies reducing C02 emissions emanating from transport															
13	P15, EU Parl	UK Parliament																		
14	P16, Eurocit	Eurocities	Policy Officer Climate Chang	Many local au	It is one of the	Languages. Austerity. Nati	It bypasses national level.													
15	P17, Eurocit	Eurocities	Policy Officer for Environment and Mobilit	Convenant of C02 emissions on the pape	Many cities have an interest in climate change. Eurocities for instance has two working groups one on air o															
16	P18, Eurocit	Eurocities																		
17	P19, Eurocit	Eurocities																		
18	P20, UITP	UITP	Director	Thanks to EU polices we can con	"Elegant way to responsibil	CoM should give more importance to Transport. The focus is on housing, yet transport is key. Transport should be more														
32	P35, Bristol Trans	Bristol Council	Transport		No sure whether we are member of the CoM															
33	P36, Environment	Bristol Council	Pollution		I have heard of the covenant but I am unaware of any directly attributable changes to transport policy arising from this. We have only had a mayor f															
34	P37, Bristol Trans	Bristol Council		EU policies infuse in national policies and end up having an impact on which target to achieve to reduce C02 emissions																
35	P38, Bristol Coun	Bristol Council	Head of th	People had not woken up at that time (early 2000's)																
36	P39, Bristol Susta	Bristol Council	Sustainability		We have deloveloped our SEAP as a result of that															
37	P40, DECC	DECC	Climate Change																	
38	P41, DEFRA	DEFRA, UK	Air Quality Policy																	
39	P42, GLA	DfT	EU Better	The Carbon Plan se	I have not heard about the Covenant of Mayors															
40	P43, DfT Climate (	GLA	EU policies																	
41	P45, CETE	CETE SUD OUEST	Mobility																	
42	P46, AURBA BX	A'urba	Mobility																	
43	P47, CUB BX	CUB	Transport policies																	
44	P48, Europe BX	CUB	Service Europe																	
45	P49, CLIMA BX	CUB	Plan Clima		Do not know, probably not, no one knows about it															
46	P50, AIR QUALITY	CUB	Development Durable																	

Appendix 4.K Coding thematic matrix extract sheet category 'CIVITAS'

	Coding Name Interviewees	Organisation	Role	Why did city join CIVITAS	Impact CIVITAS on the short and long term	Impact CIVITAS Forum	Barriers	Additional Comments
3	P1, DG MOVE	DG MOVE	UNIT Urban Transport				Outreach	UK cities are experienced as far as evaluation is concerned, French cities's public transport is well develo
4	P4, DG MOVE	DG MOVE	UNIT Urban Transport		Money, Cities ar Theory yes, practice it is hard to	It is widely appreciated, Member States are represented during the establishment of the Framework Res
5	P3, DG MOVE	DG MOVE	Unit Intelligent Transport system?					
6	P5, DG ENER	DG ENER	Covenant of Mayors		To some extent the impact is limited because most medium to large size cities already have a local action plan or a long term vision for their city.			
7	P6, DG ENER	DG ENER						
8	P7, JRC	Joint Research Cen	Covenant of Mayors					
9	P8, DG ENV	DG Environment	Air Quality Directive		Demonstration programmes is a concept that works			
10	P9, DG ENV	DG Environment	Air Quality Directive					
11	P12, DG REGIO	DG REGIO	Urban policies					
12	P14, DG Clima	DG CLIMA	Transport and Ozone		CIVITAS encourages local authorities to do what they wanted to do. It provides them with extra resources and political coverage. However "it is not fundan			
13	P15, EU Parl	UK Parliament						
14	P16, Eurocit	Eurocities						
15	P17, Eurocit	Eurocities	Policy Officer for Environment and Mobility					
16	P18, Eurocit	Eurocities						
17	P19, Eurocit	Eurocities	Policy Officer for Mobility			Language is a barrier		
18	P20, UITP	UITP	Director		There is a lot of demand for this project. Their members are after this type of projects. We need more CIVITAS. It allows cities to test projects, without CIVI			
19	P21, LG	LG EUROPE						
20	P22, Paris	Ile-de-France Euro	Director					
21	P24, Polis	Polis	Director		CIVITAS has a lot of political influence. It is one of the funding projects which has had most impact. Projects accelerate policy intake and politics			
22	P45, CETE	CETE SUD OUEST	Mobility		CIVITAS is not sufficiently disseminated			
30	P53, CUB BX	CUB	Transport In 2007 Bordeaux joined the CIVITAS Forum to engage with other cities on transport policies topics. At some point they wondered whether to apply for funding but they dec					
31	P54, Eco Toul	Ville de Bordeaux	Transport					
32	P55.1, Mob Toul; P55.2,	Grand Toulouse	Development durable et ec	I think so but I am not informed				
33	P56, ACAD TOUL	Tisseo - Direction G	Urban Transport policies	Company Mobilis was established - Autopartage	It opens horizons for Toulouse and allow them to find out what other cities do. This is the added value of			
34	P57, ENER TOUL	Science Po						
35	P58, Mob Toul	Local Government	Elu Renewable Energies		Limited number of elected politicians know about CIVITAS			
36	P59, Mob Toul	Tisseo	EU project To change the image of the city					
37	P60, Ville BX	Grand Toulouse	Transport and mobility					
38	P63, MOB TOUL	Toulouse	Tisseo	PDU has been influenced to some extent				
39	P61.1, Gov clima; P61.2,	Ministere de l'ecol	Lutte contre l'effet de serre					
40	P62.1, gov ecology; P62.	Ministere de l'ecol	Air Quality					

Appendix 4.L Coding thematic matrix extract sheet category 'Theories'

Appendix 4.M Sample email sent to air quality survey participants

« Dear members,

We would like to invite you to complete a survey about Air Quality and Transport which should take less than 5 minutes: https://opinio.ucl.ac.uk/s?s=24246

This survey, run in collaboration with University College London, aims to better understand the links between Air Quality and Urban Transport Policies.

Please note that the deadline is end of February.

Even though the major links between Transport and Air Quality have been identified, the impact the EU Directive on Air Quality has had on local transport policies remains unclear. This survey should help us better understand the link between EU policy making and local transport policies (further information below).

The results of the questionnaire will be communicated to you and should be very informative.

If you wish to receive more information about the survey you can contact Clemence Cavoli, clemence.cavoli.09@ucl.ac.uk, researcher at UCL.

Thank you and we look forward to hearing from you.

Kind regards,

Further information:

Why is this survey important?

An increasing number of studies are finding that Air pollution is responsible for **serious health issues**, including heart and lung disease, worsening of asthmatic conditions, as well as cancer. As a result it has become a **major public health concern** for authorities including the World Health Organisation, the **European Union** as well as local authorities in the EU.

Directive 2008/50/EC tackles air contamination by establishing strict targets. Even though Member states are primarily legally responsible for complying with the targets, **cities are the main actors** concerned, since they are the main source of air pollution. If harmful air

pollution is primarily to be found in cities, the most significant contribution to this pollution is emissions from vehicle exhausts. Indeed, it is estimated that road transport is responsible for over 70% of air pollutants in cities.

Even though the major link between transport and air quality has been identified, **the impact the EU Directive on Air Quality has had on local transport policies remains unclear**.

1. **Without the Directive 2008/50/EC, would cities have taken action?**
2. **Has the Directive made it politically easy to prioritize sustainable transport policies?**
3. **To what extent has the Directive 2008/50/EC had an impact on their transport policies?**

These answers can help us better understand the **link between EU policy making and local transport policies**."

Appendix 4.N Survey Questionnaire: Air Quality

Urban Transport and Air Quality Policies

1. **Name of your city:**

2. **Does your city have a local Air Quality Action Plan or similar?**
   - ○ Yes
   - ○ No

   If yes, which department/unit is responsible for developing it in your city?

3. **Does your city have Air Quality Management Areas or similar?**
   - ○ Yes
   - ○ No

   If yes, which department/unit is responsible for implementing them in your city?

■■■■■■■□□□□□□□□□□□□□□□□   Save Start

Urban Transport and Air Quality Policies

4. **Does your city have a Local Transport Plan (or equivalent)?**
   - ○ Yes
   - ○ No

   If no, please indicate how transport is planned in your city:

5. **If YES, does it contain a specific section or references to Air Quality?**
   - ○ Yes
   - ○ Unsure
   - ○ No

■■■■■■■■■■□□□□□□□□□□□   Back Save Next

Urban Transport and Air Quality Policies

6. **Have transport policies/measures been introduced specifically to address Air Quality problems?**

   (such as Low Emission Zones, emergency action, pedestrianisation of streets...)

   ○ Yes
   ○ Unsure
   ○ No

   If yes, could you please list them:

   [   ]

7. **Have Air Quality Regulations made it easier to implement sustainable transport policies in your city?**

   ○ Yes
   ○ No
   ○ Unsure

   If yes, please explain:

   [   ]

■■■■■■■■■■■■■□□□□□□   Back Save Next

Urban Transport and Air Quality Policies

8. **Without Air Quality Regulations, would your city have addressed air quality issues to the extent that it has?**

   ○ Yes
   ○ Unsure
   ○ No

   Additional Comment:

   [text box]

9. **Are there barriers to implementing the Regulation in your city? (e.g. Lack of funding, lack of political support...)**

   ○ Yes
   ○ Unsure
   ○ No

   If yes, please indicate which ones:

   [text box]

10. **How could Air Quality Regulations be improved (e.g. By offering workshops, further guidance, by modifying the law, etc.)?**

    [text box]

Back Save Finish

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Appendix 4.O Sample Air quality Survey results

Appendix 4.P Sample email sent to CIVITAS Survey participants

"The First Ten Years of CIVITAS: Share your experience and improve the Initiative

Thank you for your interest in completing this survey!

The First Ten Years of CIVITAS Survey" aims to better understand the ways in which CIVITAS has impacted and benefited Forum Network member and project demonstration cities. By taking part, you will be able to share your city's experience and provide feedback on the benefits, impacts, and successes of your participation in the Initiative and help us identify areas for improvement.

The results of the survey are strictly anonymous.

The results of this survey will be independently analysed by a researcher at UCL during the late spring and plan to be presented and discussed at the CIVITAS Ten-Year Anniversary Event in autumn 2012.
The survey should take approximately 20 minutes to complete.
Please note that the deadline for completing this survey is May 24th 2012.

Please provide your contact information below. This information is kept private and will only be used to contact you in regards to this survey."

Appendix 4.Q Survey Questionnaire: CIVITAS

Name [_____]

E-mail [_____]

Telephone [_____]

2. Which CIVITAS Forum Network city do you represent?

[_____]

3. You are a:

○ You are a: Politician (or a civil servant responding on behalf of a politician)

○ Civil Servant (from your city's transport department)

○ Other

4. What is your actual job title in the city you represent?

[_____]

*

5. Is or was your city ever a CIVITAS project demonstration city? (see a map of demonstration cities here)

⦿ No, we are a Forum Network city only

○ Yes, in CIVITAS PLUS

○ Yes, in CIVITAS II

○ Yes, in CIVITAS I

This series of questions was given in option for all respondents which answered: *No, we are a Forum Network city only*" to question 5.

6. Why did your city join the CIVITAS Forum Network?

Please indicate how much on a scale of 1 (not at all) to 5 (very much) for each option below.

	1 (Not at all)	2	3	4	5 (Very much)
To find out about funding opportunities	1 (Not at all)	○ 2	◉ 3	○ 4	○ 5 (Very much)
To engage with and learn from over 200 European cities	○ 1 (Not at all)	○ 2	◉ 3	○ 4	○ 5 (Very much)
To leverage local political or stakeholder support for	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)

	1 (Not at all)	2	3	4	5 (Very much)
sustainable transport					
To access technical information (e.g. workshops, study tours, publications)	○ 1 (Not at all)	○ 2	○ 3	○ 4	5 (Very much)
To increase city visibility at the European level	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)

Other (please specify):

7. Has your city ever applied to become a demonstration city in a CIVITAS project?

○ Yes

○ No

This series of questions was given in option for all respondents which answered: Yes, in CIVITAS I, II or Plus to question 5.

6. Why did your city become a demonstration city in a CIVITAS project?

Please indicate how much on a scale of 1 (not at all) to 5 (very much) for each option below.

	1 (Not at all)	2	3	4	5 (Very much)
To obtain funding for implementing existing mobility measures and ideas	1 (Not at all)	2	3	4	5 (Very much)
To obtain funding for developing/implementing new mobility measures and ideas	1 (Not at all)	2	3	4	5 (Very much)
To engage with and learn from other demonstration cities	1 (Not at all)	2	3	4	5 (Very much)
To leverage local political or stakeholder support	1 (Not at all)	2	3	4	5 (Very much)
To gain access to technical information	1 (Not at all)	2	3	4	5 (Very much)
To increase city visibility at the European level	1 (Not at all)	2	3	4	5 (Very much)

Other (please specify)

7. Would the measures implemented during the demonstration project have been made without involvement in the CIVITAS Initiative?

○ Yes

○ No

Please describe why:

This series of questions was given in option for all respondents which answered: *No* to question 7.

8. Did your city find other sources of funding (non-CIVITAS) for the measures proposed in your CIVITAS demonstration project application?

☐ Yes, locally (local or municipal government)

☐ Yes, from our regional or national government

☐ Yes, externally

☐ No

☐ Not relevant (our city has applied for the upcoming CIVITAS demonstration project)

If you chose externally, please describe: _____

9. Did applying for a CIVITAS demonstration project raise awareness or gain support for sustainable transport in your city?

○ Yes

○ No

Please describe:

8. How much has your city benefited from the resources and services of the CIVITAS Initiative?

Please indicate how much on a scale of 1 (not at all) to 5 (very much) for each option below.

	1 (Not at all)	2	3	4	5 (Very much)	Not aware of resource / service
CIVITAS Secretariat Question and Answer service	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Not aware of resource / service
Information on local measures (through website, MOVE newsletter)	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Not aware of resource / service
Technical information from CIVITAS publications	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Not aware of resource / service
Training activities (including workshops, study tours)	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Not aware of resource / service

	1 (Not at all)	2	3	4	5 (Very much)	Not aware of resource / service
activities (more information here)	at all)				much)	aware of resource / service
CIVITAS Awards participation	1 (Not at all)	2	3	4	5 (Very much)	Not aware of resource / service
Influence EU-level policies through the PAC (see description below)	1 (Not at all)	2	3	4	5 (Very much)	Not aware of resource / service

The **Political Advisory Committee (PAC)** is a small group of motivated politicians, from within CIVITAS cities, who identify political priorities, deliver policy recommendations and define themes relevant to CIVITAS. They then deliver information in the form of "PAC statements" to politicians on the European-level, as well as to industry, transport operators and other stakeholders. More information can be found here.

9. In general, what resources and services of the CIVITAS Initiative could be improved?

10. Please indicate how much, on a scale of 1 (not at all) to 5 (very much), the CIVITAS Initiative has improved your city's ability to:

	1 (Not at all)	2	3	4	5 (Very much)	Don't know
Consider new mobility measures	1 (Not at all)	2	3	4	5 (Very much)	Don't know

	1 (Not at all)	2	3	4	5 (Very much)	Don't know
Develop new mobility measures	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Don't know
Implement mobility measures, which your city had wanted to implement prior to CIVITAS	(Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Don't know
Be perceived as a "pioneer" city nationally and/or in Europe	○ 1 (Not at all)	○ 2	○ 3	4	○ 5 (Very much)	Don't know
Leverage (strengthen) local political support to implement measures	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Don't know
Leverage (strengthen) local stakeholder support to implement measures	○ 1 (Not at all)	○ 2	○ 3	○ 4	○ 5 (Very much)	○ Don't know
Learn about	○ 1 (Not at all)	○ Europe 2	○ Europe 3	○ 4	◉ 5 (Very much)	○ Don't know

□

	1 (Not at all)	2	3	4	5 (Very much)	Don't know
other cities 'measures and share your city´s measures throughout Europe						
Obtain funding	○ 1 (Not at all)	○ 2	○ 3	4	○ 5 (Very much)	○ Don't know

11. How has the CIVITAS Initiative helped your city to leverage (i.e. strengthen) political, stakeholder or other support for measures?

[text box]

12. Are there any other ways that engagement in the CIVITAS Initiative has benefited or impacted sustainable transport in your city?

13. Does your city have any comprehensive mobility or transport plan?

○ Yes

○ No

If no, please describe what type of policy for mobility and transport exists in your city:

□

14. Is it a sustainable mobility or transport plan?

(e.g. a Sustainable Urban Mobility Plan, or SUMP - more information *here*)

○ Yes

○ No

○ Do not know

Please include an online reference or link to it here:

15. When was it last updated? (indicate the year and month if you know it)

[   ]

16. Has your city created and/or updated this plan based on experiences and exchange within the CIVITAS Initiative?

○ Yes

○ Not yet, but we plan to

○ No

Please describe how the CIVITAS Initiative has contributed to your city's transport policies:

17. What themes within the CIVITAS Initiative have you found to be the most useful and beneficial in the context of your city? Check all that apply.

☐ Clean fuels and fuelling infrastructure

☐ Hybrid, clean and electric vehicles and fleets

☐ Car-pooling and car-sharing

☐ Accessibility

☐ Ticketing and tariffs

☐ Intermodality

☐ Service improvements

☐ Access management and road pricing

☐ Bike-sharing and other cycling enhancements

☐ Parking management/pricing

☐ Mobility planning, marketing and awareness-raising

☐ Multi-stakeholder consultation/public participation

☐ Safer roads, bike and footpaths

☐ Passenger security

☐ Intelligent transport systems (ITS) for traffic monitoring, management and enforcement

☐ ITS-based enhancement of public transport and real-time user information

☐ Urban freight logistics

18. Please identify and describe any of the themes within CIVITAS that have helped most to sustainably develop mobility in your city.

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19. What themes and measures should the CIVITAS Initiative focus on in the future?

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20. What are the three main arguments that you would use to encourage other cities to join the CIVITAS Forum Network?

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21. What could the CIVITAS Forum Network offer that it doesn't already?

Appendix 4.R Samples CIVITAS survey quantitative analysis

Size of cities having a LTP - Microsoft Excel

	Number of cities	Western European cities		Eastern European cities	
	Less than 100000		3	4	
	Between 100000 and 200000		14	3	
	Between 200000 and 400000		11	7	
	More than 400000		7	1	
	Capital		3	4	
	Total		38	19	Total
					57

City Respondents profile: population and location

- Eastern European cities
- Western European cities

(Stacked bar chart with categories: Less than 100000, Between 100000 and 200000, Between 200000 and 400000, More than 400000, Capital)

Has CIVITAS influenced your Plan - Microsoft Excel

Has your city created and/or updated this plan based on experiences and exchange within the CIVITAS Initiative?

Has your city created and/or updated this plan based on experiences and exchange within the CIVITAS Initiative?

(Bar chart with categories: Yes, N/A, No, Not yet, but we plan to — Y axis: Number of Respondents)

Appendix 4.S Sample CIVITAS survey content analysis and coding

Theme	Key words	Content & Quote extracts	Word Frequency
1. Knowledge Information & Resources	Knowledge Know-How Information Access to information Find Information Technical resources	• To know about successful mobility measures • Know what other cities are doing about sustainable mobility. Know better European strategies for mobility • CIVITAS: "Is the best way to gain fundamental technical information in an informal way". • "Very good platform to discuss measures and to get inside information from all around Europe". • "great way to get a knowledge from a widely understood city mobility (workshops, conferences etc.)". • "Increase knowledge in mobility field (technical matters, rules, trends...)" • "To select the technical solution which fit better to their needs" • "Find out about the vast array of tools towards sustainable mobility in urban and peri-urban areas"	42
2. Network, Contact &	Network Meet Find partners Collaborate	• Meet new people, get new contacts and new projects • "CIVITAS bring together politicians, technicians and researchers within the same family."	31

Collaborate	Contact	• "CIVITAS helps the city to set up long term partnerships and create links for future projects and collaboration" • CIVITAS is a way to "contact with a lot of expert" and "to meet other like-minded politicians"	
3. Ideas & Good practice	Innovative ideas Good/ best practice	• Innovative ideas, Cutting-edge measures, State of the art • Experimentation, "new actions" • To "Go further"	30
4. Support & Help	Financial Support Help Funding	• Political Support. "Provides insight and spurs problem solving attitudes where local and national blockades get in the way." • Expertise. "Conceptual support to measures to make mobility more rational" • Financial support • Help foster sustainable mobility "help us to develop a better sustainable mobility for our city", " help garner support for all the more sustainable modes of travel, PT, EVs for goods distribution, Cycling & Walking"	27
5. Experience Opportunity	Experience Opportunity	• "We get more experience on sustainable mobility field" • "To learn from the experience of other cities or to share their own experience" • "An opportunity to go further into innovation and experimentation"	21

6. Exchange & Share	Exchange Share	• "exchange of ideas to be effective, faster and more particularly, to solve realistically the issues related to mobility and urban transport" • "Exchange of knowledge"	20
7. European Dimension & Image	European dimension/ scale/ project Branding/ showcase Visibility	• "to put the city onto the "map of Europe"" • "showcase city internationally" "Showcase measures", "Branding of the city" • "Measures perceived as innovative on the European scale"	18
8. Learn & Evaluate	Learn Evaluate	• Learn. "Learn about the ways how other cities cope with similar problems" • "Define a better evaluation and dissemination"	16

Appendix 5.A EU binding legislation addressing urban transport, extract sheet

		Regulation	Directive	Decision
1		Legend	Terms searched	
2		Grey is direct , Green is indirect	Mobility, urban, local, city(or ies), traffic, congestion	
3		Binding		
4		**Regulation**	**Directive**	**Decision**
5	DG Transport	Public Passenger transport services by rail & road (DG competition) REGULATION (EC) No 1370/2007 . D	Inland transport and dangerous goods. 2008/68/EC. D	
6		Type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (EURO 5 and 6) and on access to vehicle repair and maintenance information. 715/2007 ID	Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles D	
7			On the promotion of clean and energy efficient road transport vehicles. 2009/33/EC	
8			Intelligent Transport Systems (ITS) Directive (2010/40/EU)	
9			Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community D	
10			Driving licences. 2006/126/EC.	
11			Technical roadside inspection of the roadworthiness of commercial vehicles circulating in the community. 2000/30/EC	
12			Maximum authorised dimensions and weights for road vehicles. 2002/7/EC.	
13			Promotion of the use of biofuels or other renewable fuels for transport. 2003/30/EC.	
14			Measures to be taken against the emission of gaseous pollutants from diesel engines for use in vehicles. 2001/27/EC	
15			Directive 96/69/EC of the European Parliament and of the Council of 8 October 1996 amending Directive 70/220/EEC on the approximation of the laws of the Member States relating to measures to be taken against air pollution by emissions from motor vehicles	
16			Introduction of noise-related operating restrictions at Community airports. 2002/30/EC	
17			Safety and Community railways. 2004/49/EC.	
			2011/76/EU Road Infrastructure Charging – Heavy Goods Vehicles amending the Eurovignette directive	

Sheet1 | Sheet2 | Sheet3

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Appendix 6.A Bristol's Air Quality Management Area and automatic monitoring sites (2013)
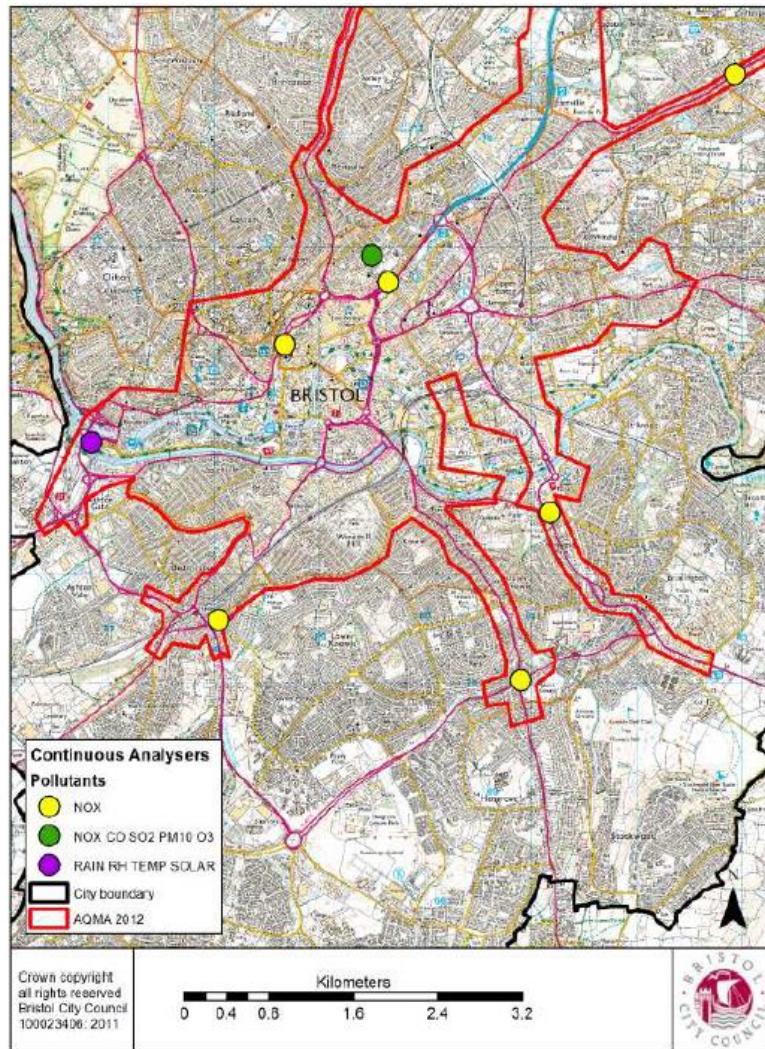
(Bristol City Council, 2014, p.17)

Appendix 6.B Map of Cardiff's City Centre Air Quality Management Area

(City of Cardiff Council, 2014, p.11)

Appendix 6.C Comparison air quality policies four case study cities

	France		UK	
City	**Toulouse**	**Bordeaux**	**Cardiff**	**Bristol**
Administrative Structure - Team/Unit dedicated to Air Quality	- Local authority collaborates with independent air quality observatory - Unit responsible for sustainable urban development deals with air quality issues, amongst other issues. No employee directly responsible	- Local authority collaborates with independent air quality observatory - 'Sustainable development' unit is responsible for air quality - No employee directly responsible	- 'pollution control' unit- two people deal with air quality issues	- 'Sustainable city' unit is responsible for monitoring air quality and policies related to air quality. - One employee and a half responsible
Barriers	- Limited collaboration between units in charge of environmental and transport policies	- Limited collaboration between units in charge of environmental and transport policies	- Transport and air quality policies are well integrated	- Cross-sectorial collaboration and integrated policies
Exceeds limit value	- NO_2	- NO_2	- NO_2	- NO_2
General impact on policy-making	- Yes indirectly through national laws	- Yes indirectly through national laws	- Yes indirectly through national and devolved administration laws - Impact political agenda	- Yes indirectly through national laws - Impact political agenda
Political importance given to air quality	- Recent, since the end of the 2000s	- Recent, since 2010 – link with directive highlighted	- Yes, since the 2010s - impact on the city's transport policy agenda	- Yes, since early 2000s – Air quality laws have contributed to give

				- importance and prioritise air quality issues – indirectly the EU directive - Accelerated the uptake and implementation of measures that were already planned or initiated
Raised awareness amongst local policy-makers and politicians	- Yes, local policy-makers are more 'sensitive' towards air pollution issues	- Yes, Change in mentality and 'awareness'	- Yes	- Yes
Directive gives visibility to air quality issues	- Yes	- Yes	- Yes	- Yes
Mentions in LTP	- No mentions to EU directive and limited mentions to air quality issues	- Implicit mention to EU directive - Addresses air quality issues	- No mentions to EU directive and limited mentions to air quality issues	- Directive indirectly acknowledged - Addresses air quality issues

Specific measures implemented as a result (indirectly, partly or directly)	- Emergency measures - No other specific measures clearly associated with air quality directive	- Improving traffic flow - Stopping buses' motor when stationed - Changing bus fleet for Euro 5 * and Hybrid buses - Has contributed to implementation of measures	- Pedestrianisation of main high streets - Air quality management areas - Bus routes were decentralised - Investment is clean buses	- Air quality management areas Monitoring of air quality - Investment in clean and efficient public transport vehicles, in particular the bus fleet
Limitations	- Air quality not yet a priority	- Air quality not yet a priority	- Air quality not yet a priority	- Air quality issues are becoming less important
Overall level of impact	- Limited indirect impact	- Moderate indirect impact	- Substantial indirect impact – EU policies have been a factor of change.	- Moderate indirect impact, accelerated the implementation of measures that were already planned or initiated

Appendix 7.A Comparison CO_2 emissions policies four case study cities

Impact/ Case study city	Impact CO_2 emission policies	Barriers/ Strength	Impact CoM on CO_2 emission policies	Impact CoM on Transport policies	Barriers
Toulouse	CO_2 emissions impact on transport - Growing awareness - But not yet a priority Plan Climat - Limited impact National policies - Influence through Grenelle EU policies - Indirect impact	- Limited cross sectorial collaboration - Priority to transport demand	- Reinforce the city's ambitions to reduce CO_2 emissions	- Participants unaware - Very limited impact	- Covenant is managed by a unit in charge of European policies - Limited contact and influence with transport policy makers
Bordeaux	CO_2 emissions impact on transport - Growing awareness - But not yet a priority Plan Climat - Some impact but limited National policies - Influence through Grenelle EU policies - Not aware	- Limited cross sectorial collaboration	- Improve the city's image - Mentioned in the Plan Climat	- Participants unaware - Very limited impact	- Transport policy-makers were unaware of the initiative

Bristol	CO$_2$ emissions impact on transport - Priority since mid-2000s <u>Climate change and energy security framework</u> - Foster sustainable mobility <u>Climate Change Act</u> - Push the adoption of ambitious targets - Allow access to funding <u>EU policies</u> - Indirect impact - Except Green Capital Award which has pushed transport policies to prioritise climate change	- Strong Cross-sectorial collaboration	- Strengthens commitments and targets to reduce CO$_2$ emissions - Facilitated access to ELENA funding	- Participants unaware - Very limited impact	- Transport policy-makers unaware of the initiative
Cardiff	CO$_2$ emissions impact on transport - Becoming a priority <u>Carbon Lite Cardiff Action Plan</u> - Limited impact on transport <u>UK Climate Change Act</u> - Direct and indirect influence through Welsh policies - Increased pressure from UK and Welsh authority to prioritise climate change <u>EU policies</u> - Not aware	- Need for stricter laws or targets at the local level, including related to transport	- Contributed to strengthen Cardiff's climate change policies	- Participants unaware - Very limited impact	- Transport policy-makers unaware of the initiative

	- Limited direct impact			