Mechanisms for stakeholder analysis and engagement in mobility management projects

A case study of Sustainable Travel in Umeå Region, Sweden

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Dedication

“To my beloved and amazing family which has always offered me its unconditional support”
Diana Mihaela Prodan

“To my family especially my parents, no matter how many times I fall, you are always there to help me. You have taught me to stand up and face life’s adversities and never to go give up”
Eduardo Vega Fanjul
Abstract

The current study investigates the mechanisms employed for analyzing and engaging stakeholders through the planning and implementation phases of the mobility management project Sustainable Travel in Umeå Region (Sweden).

In alignment with researchers’ epistemological and ontological assumptions, an abductive approach and the case study strategy were selected. The qualitative data collected through conducting interviews with the five project team members and through examining project’s documentation were analyzed using the pattern matching technique and leading to the findings presented in detail in Chapter 4 and discussed in Chapter 5.

The core finding of the study is a model of the use of mechanisms through the planning and implementation phases of a MM project. The planning phase of the project coincides with the stakeholders’ analysis process, thus identifying, classifying, characterizing and a very complex process of designing the engagement strategy for citizens, which includes also deciding and starting implementing the strategy for organizations. The correspondent analysis and engagement mechanisms, developed by the project stakeholders’ scholars for each of these stages, are mostly unwittingly used by the project team. Once the engagement strategy for citizens is decided, the implementation phase is initiated. The implementation phase is characterized by a blend between MM mechanisms and classic stakeholders’ engagement mechanisms, which are constantly reassessed through project’s lifecycle.

In addition, the main challenges emerged in the process of stakeholders’ engagement in this project are discussed, concluding that the lack of alignment between some of the regulations coming from the national and supranational level and the project’s aim, combined with communication issues and the unwillingness of the targeted organization to interfere in the personal lives of their employees, are the elements that most endanger the success of the stakeholders’ engagement process and implicitly of the MM project.

**KEY WORDS:** project stakeholder; mobility management; stakeholders’ analysis mechanisms; stakeholders’ engagement mechanisms; planning phase; implementation phase.
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Chapter 1– General Introduction

“Today's problems cannot be solved if we still think the way we thought when we created them.”
Albert Einstein

1.1. Background introduction

1.1.1. From sustainable development to the mobility management project: Sustainable Travel in Umea Region

In the century of globalization and consumerism, sustainable development, climate change, energy efficiency and global warming become major concerns for scientists and policy makers all over the world.

Degradation of the global environment and depletion of resources have turned into one of the most serious threats for the development of the humankind (Matsuhashi et al, 2004). In particular, as Christopher (2007) states, this extended concern about climate change and global warming is mostly determined by the continuous increase of GHG (greenhouse gases emissions), despite international efforts of reducing them (e.g. The Kyoto Protocol).

Therefore, additional consistent effort is orientated towards finding efficient and fair ways of reducing GHG emissions at a global level. Improvements in energy efficiency, both at production and consumption level, are generally considered the main key of the solution (Wang & Firestone, 2009). Moreover, authorities seem to have reached a common agreement that the most appropriate manner of achieving this objective is through delimitating their scope and developing small energy efficiency projects such as small renewable energy projects for specific rural or urban areas. This way it is simpler to identify and control the interrelation of economic, environmental and social factors involved in this kind of projects than it would be at a global level. Consequently, “the opportunity for full participation in all activities, benefits, and decision-making’’ is given to most of the stakeholders (Regional Environmental Centre, 2011).

Thus despite considering sustainable development a global issue, the actuation path seems to go from the minimum exponents, such as cities and their inhabitants, to the global actuation under the regulations of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol (KP).

The transport sector solely currently accounts for a quarter of EU’s CO₂ emissions, 40 % of which result from urban transport (Civitas, 2011). As mobility demand increases, local solutions to curb greenhouse gas emissions and reduce dependency on fossil fuels are imperative to addressing global climate change. Moreover considering that approximately 75% of Europe’s population is living in urban areas (EEA, 2006, p. 5), reducing the CO₂ emissions becomes a crucial matter also for ensuring the quality of life of the residents.

In this context the European Commission has invested over 300 million € in encouraging a clean urban transport through co-developing projects in almost 60 European cities (Civitas,
One of the co-financed projects was implemented in Umea, Sweden, between May 2008 and September 2011: Sustainable Travel in Umeå Region. The purpose of the project was to “promote sustainable travel through new and expanded mobility and accessibility schemes in the Umeå Region” in order to improve the air quality (Hermann & Mehl, 2011). The air quality improvement has become essential, since recent studies have shown a potential unhealthy threat for the population living in this region, determined by the pollution cumulated due to the high atmospheric pressures, overall during the winter time.

As in most of the mobility management (MM) projects, the main challenge for the project did not have a technical or logistical nature, but was represented by the aim of achieving change through extensive citizen engagement, which implicitly required a strong engagement of many others stakeholder. The project was considered a success (Hermann & Mehl, 2011), thus it might constitute an example worth investigating for potential dissemination of best practices in terms of citizens’ and other stakeholders’ engagement, as well as for the optimum level of local tailoring (i.e. customizing to local demographic-, geographic- and cultural particularities).

1.1.2. Theoretical background – Managing external stakeholders
Projects’ stakeholders are generally defined as “individuals or groups of individuals, which can affect or are affected by the project” (Aaltonen et al., 2008, p. 509). These individuals/groups impact project’s decisions, and, in turn are impacted by the decision made within the project (Freeman, 1984; Aaltonen et al., 2008). They are internal and external actors that are in various ways actively or passively involved in all the layers of a project, having different, sometimes conflicting interests, different needs, and different objectives.

The importance of dealing with stakeholders in project management, in general, and in sustainable development projects, in particular, is jointly recognized by literature and practice and closely related with the concept of project success (Müller & Turner, 2010; Achterkamp & Vos 2008; Aaltonen et al., 2008). Both, the classic (organizational) stakeholder theory and project stakeholders’ research, help at identifying, classifying and categorizing stakeholders, but also at understanding their behavior and choosing an appropriate approach towards each of them. Thus the literature reveals a multitude of tools and techniques for identifying, characterizing, grouping and engaging the stakeholders.

On the other hand, the European Commission and other specialists make their own particular suggestions for engaging stakeholders in MM projects.

To what extent should the theory be blended with the practical guidelines of the main sponsor: the European Commission, with the previous experience, and/or with the particular context of each city, it is the decision of each of the project managers and their project team.
Thus this study aims at analyzing the mechanisms that the project manager and its team have chosen for engaging the stakeholders in the planning and implementation phases of the MM project: Sustainable Travel in Umeå Region (Sweden).

In order to define a more precise research context, the research aim and the research question will be detailed in the subsequent sections, followed by a presentation of the study’s relevance for both practice and theory, and finally its delimitations and its architecture.

1.2. Research objectives

The main research objective of the paper is to investigate and explain the use of mechanisms for analyzing and engaging the stakeholders throughout the planning and implementation phases of the mobility management project: Sustainable Travel in Umeå Region.

This objective has been decomposed in five secondary research objectives:

(a) To identify and analyze the tools, techniques and methodologies proposed by the literature for analyzing and engaging stakeholders in projects. This objective will be achieved through literature review.
(b) To examine the particularities of the stakeholders’ analysis and engagement processes in MM projects (i.e. the stages of the processes and the techniques recommended by MM researchers). This objective will be achieved through literature review.
(c) To determine the mechanisms used by the project team during the planning and implementation phase. This objective will be achieved through collecting and analyzing project-related documentation and conducting interviews.
(d) To identify the challenges, which have arisen in the processes of stakeholders’ analysis and engagement during the two phases of the project: planning and implementation. This objective will be achieved through conducting interviews.
(e) To analyze the results obtained, creating a model for the use of stakeholders’ analysis and engagement mechanisms through the planning and implementation phases of the project. To extract conclusions and update propositions. To identify aspects worth further investigation in project stakeholders’ management research. This objective will be achieved through analysis of the data resulted from the project-related documentation and from the conducted interviews in parallel with the literature reviewed.

1.3. Research questions

The main research question can be formulated as it follows:

What are the mechanisms employed for stakeholders’ analysis and engagement and how were they used throughout the planning and implementation phases of the mobility management project: Sustainable Travel in Umeå Region?

This research question can be broken down in six more specific research questions:
(a) Which are the mechanisms proposed by the literature for analyzing and engaging stakeholders?
(b) Which are the recommendations of the MM researchers for analyzing and engaging stakeholders in MM projects?
(c) What mechanisms for stakeholder analysis and engagement have the project manager and its project team used in the planning phase?
(d) What mechanisms for stakeholder engagement have the project manager and its project team used in the implementation phase?
(e) Which are the stages followed to engage the stakeholders during both phases: planning and implementation?
(f) Which challenges/barriers were encountered in the process of stakeholders’ engagement?

Unit of analysis
Correspondingly, in order to define a complete picture of the research context, the unit of analysis, the main entity that is studied, has to be clearly specified. As it could be spotted in the research question, stakeholder management mechanisms can be identified as being the unit of analysis of this study. More precisely, the focus will be on those mechanisms that were utilized in the processes of the stakeholder analysis and engagement throughout the planning and implementation phases of the mobility management project: Sustainable Travel in Umeå Region.

1.4. Relevance of the study
The significance of the study can be evaluated in parallel at both practical and theoretical level. From the practical point of view, it can prove relevant in terms of identifying and evaluating the practices used to analyze and engage stakeholders (i.e. tools to engage both citizens and organizations), that could be potentially disseminated to other mobility management projects, being constantly aware of the limitations of the study. The study can also prove relevant in terms of making practitioners (that are confronted with similar contexts) aware of the potential barriers that might be encountered in the process of stakeholders’ engagement.

In terms of theory, the study aims at contributing to project stakeholders’ research through attempting to address some of the gaps identified through the literature review. Firstly, there is a lack of study of project stakeholders generally and of mobility management projects’ stakeholders in particularly (Aaltonen, 2010, Achtercamp & Vos, 2008). Secondly, most of these studies are dedicated to the construction industry (El-Gohary et al., 2006), neglecting other industries, in general, and mobility management in particular. Thirdly, most of studies adopt, a primarily instrumental/ utilitarian premise, thus stakeholders tend to be looked at from the management perspective orientated towards benefits' maximization (Spitzeck & Hansen, 2010, pp.379-380), while coping with the limited resources, thus neglecting the ethic and sustainable perspective. Forth, most of the research is concerned with conceptual development of tools and classification frameworks and less with the descriptive side, their applicability in the real world (Aaltonen, 2010). Fifth, the literature has focused more on internal stakeholders than on external, probably because of their overemphasized legitimacy and importance for the project (Aaltonen,
2010). Sixth, even though literature has highlighted the importance of considering project lifecycle phases, when discussing stakeholders management (Achtercamp & Vos, 2008, Jepsen & Eskerod, 2009), its implications on the process were rarely explicitly considered (El-Gohary et al., 2006).

Thus this study aims to challenge some of theoretical assumptions through addressing the use of mechanisms for analyzing and engaging stakeholders, more precisely, external stakeholders, in real projects, characterized by a “normative approach” (such as the mobility management projects) throughout the project’s lifecycle phases: planning and implementation.

1.5. Delimitation of the study
The study is based only on one specific region of Umea (Sweden), though the local particularities (e.g. the size of the city -110,000 inhabitants; the geographic positioning – 63°49’32” N – 20° 50’49” W, and the afferent climatic characteristics such as high atmospheric pressures; the economic and political situation – Umea is part of Sweden, a very well economically developed country, with strong environmental policies) have played an important explicit and/or implicit role on the final choice of tools. Though, the findings of the study are not aimed at being generalized, but rather at developing an understanding on the complexity and the uniqueness of the case. Furthermore, the analysis is mostly based on the perception and descriptions of project practitioners and on the data contained in the project documents provided by them, not on ’hard data’, thus more qualitative, than quantitative. Besides, the nature of the study is considered as cross-sectional rather than longitudinal.

1.6. Architecture of the study
Chapter 1 consists of a short introduction into the overall context of the topic and a presentation of the research objectives and research questions of this study. Chapter 2 covers the literature review, offering a general overview of the stakeholder theory and project stakeholders’ research, followed by focusing on the particularities of mobility management and of stakeholder’s engagement in mobility management projects. The chapter ends with the formulation of five propositions and a theoretically-based research model that will be the foundation for the process of data analysis. Chapter 3 details the philosophical assumptions of the authors and the research methodology that was undertaken for this study, highlighting the validity and reliability of the collected data. Chapter 4 includes the analysis of the data collected through both documentation and interviews. Chapter 5 presents the discussion about the findings in parallel with the literature previously reviewed. Finally, Chapter 6 ends the research paper through summarizing the conclusions of the study, its strengths and limitations, as well as its implications and proposing the set of reviewed propositions and recommendations for further research.
Chapter 2 – Literature review

2.1. Introduction
Considering the multi-disciplinary nature of the topic, literature was selected from different fields of study (i.e. stakeholder theory, project management, sustainable development, transport management, urban management), attempting to create a complete picture of the research previously conducted in relation to stakeholders’ analysis and engagement in mobility management projects.

The following steps were undertaken in order to conduct the literature review process: (1) search academic journals, accessible online through various electronic databases (i.e. Sciedirect, Emerald), with a special emphasis on project management journals: *International Journal of Project Management, International Journal of Project Organization and Management, Journal of Project Program and Portfolio Management, Project Management Journal*, and on the following journals: *Energy sustainable development, International Journal of Environment and Sustainable Development, International Journal of Transport Management, Theoretical and Empirical Researches in Urban Management*; (2) expand search scope to include search engines such as EBSCO, Google Scholars and several online bookstores; (3) follow-up a part of the references from the articles/books read. For refining the research, the following keywords were used: stakeholder’s engagement, project stakeholders’, mobility management.

The starting point of the literature review will be an intrusion in thesis’ main theoretical background: stakeholder’s theory. This will enable creating an overview on stakeholders and management’s behavior towards them In addition project management literature will be analyzed, in order to gain an improved understanding about projects’ stakeholders. Finally, the mobility management research will be tackled in order to form a complete setting for the research study.

2.2. Stakeholder theory research

2.2.1. Underlying assumptions of stakeholders’ theory
The concept of ‘stakeholder’ has been mentioned for the first time in a memorandum of the Stanford Research Institute in 1963. At that point stakeholders were conceived as “those groups without which the organization would cease to exist” (Elias & Cavana, 2000, p.174). Many disciplines (i.e. corporate planning, corporate social responsibility, systems theory, organization theory) have rapidly embraced the concept, but it was only in 1984, when Freeman has published his ‘landmark’ book *Strategic Management: A Stakeholder Approach*, that stakeholder theory became an independent field of study. Since then, the usage of the ‘stakeholder’ research continuously took amplitude, being used in academia (i.e. articles, books) and practice, in media and even in government communications (Friedman and Miles, 2002, cited in Aaltonen, 2010, p.23).

The stakeholder approach is envisioned as an alternative way to understand a company and its environment. This perspective proposes enlarging management’s horizon outside the profit maximization function and its implicit concern about stockholders, towards
considering also the needs and the interests of other groups (Mitchell et al., 1997, p. 855, Spitzeck & Hansen, 2010, p. 379).

The main thought that constitutes the basis of this theory is that each organization is characterized by a network of relationships with a wide range of individuals and groups, whose relevant interests should be considered and balanced (Freeman, 1984, Spitzeck & Hansen, 2010, Aaltonen, 2010). Thus the main purpose of stakeholders’ theory is to give managers the chance to understand, but also to manage appropriately the stakeholders (Freeman, 1999 cited in Aaltonen, 2010). Several studies (Freeman, 1984; Mitchell et al., 1997; Spitzeck & Hansen, 2010) have emphasized stakeholder management’ importance, showing the direct relationship between it and the long-term survival of organizations.

While the interest in stakeholders’ theory has constantly increased, the perspectives on the topic have diversified. As stated by most authors (Yang et al., 2011, p.901, Spitzeck & Hansen, 2010, p.379), three main approaches for stakeholders’ theory can be distinguished: descriptive, instrumental and normative. The descriptive perspective identifies and classifies stakeholders, without assessing their power, or the legitimacy of their claims (Spitzeck & Hansen, 2010, p.380), describing and eventually explaining company’s behavior towards them. The instrumental theory embraces the idea that a company should focus only on the stakeholders that affect its value (Mitchell et al., 1997; Jensen, 2001 and Donaldson & Preston, 1995, cited in Spitzeck & Hansen, 2010, p.380). Finally, the normative approach supports the idea of considering the “intrinsic value: of stakeholders’ claims – “the moral rights” of individuals/groups affected by the company’s conduct: (Donaldson and Preston, 1995 and Ulrich 2008 cited in Spitzeck & Hansen, 2010, p.380).

2.2.2. The classic concept of stakeholder – definition, classifications and main perspectives
To some extent in line with the aforementioned theories, stakeholder theoreticians can be differentiated in accordance to their 'broad or narrow' perception of the 'stakeholder universe' (Mitchell et al., 1997). The broad views are based on the empirically inspired assumption that an organization can be 'vitally affected by' almost anyone or it can 'vitally affect anyone'. Meanwhile the “narrow views are based on the practical reality of limited resources, limited time and attention” (Mitchell et al., 1997, p.857) and the limited cognitive capacity of managers for dealing with all the external constraints.

The classic example of broad definitions is the first definition given to the notion of stakeholder by Freeman (1984), which has also become the most common-used (Mitchell et al., 1997, p.854): “any group or individual who can affect or is affected by the achievement of the organization's objectives” (Freeman, 1984, p. 46). Its broad nature is indicated by the lack of specification regarding the type of interest, the legitimacy of the claims or the stakeholder-company relationship.

This classic definition represents also often the reference point for the formulation of the narrower views, for “finer grained categorizations”, where 'can affect' and 'affected' are more explicitly described (Achterkamp & Vos, 2008, p.750). One of the classic examples is the distinction between “external” (e.g. community, NGOs, media) and “internal” stakeholders (employees, customers and stockholders) (Freeman, 1984). Another
differentiation was made by Mitchell et al. (1997) between “voluntary and involuntary” stakeholders. Some other examples of categorizations resulting from ‘narrower definitions’ are cited in Achterkamp & Vos (2008, p.750): stakeholders who have “potential for collaboration” and stakeholders who have “potential for threatening” (Savage et al., 1991, p.63) “fiduciary and non-fiduciary” stakeholders (Goodpaster, 1991 cited in Achterkamp & Vos, 2008, p.750) or “primary and secondary” stakeholders (Clarkson, 1995 cited in Aaltonen, 2010, p.28). However, the most widespread stakeholder classification model is the salience and characterization model of Mitchell et al. (1997) (Achterkamp & Vos, 2008, p.750).

Salience is understood as the way in which managers prioritize the claims of their stakeholders, thus Mitchell et al. (1997) attempted to comprehend and explain this process and the rationale behind it. Thereby they have developed a comprehensive theoretical framework, concluding that the highest priority is given to ‘definitive stakeholders’ - those who are powerful and which have a legitimate and urgent claim. In relation to the possession of different combinations of these three characteristics (i.e. power, legitimacy, urgency), they (Mitchell et al., 1997) have developed a classification containing seven different groups. They also claim that this typology offers an insight on how stakeholders can lose or gain salience to the managers (Mitchell et al., 1997, p.868), but according to Achtercamp & Vos (2008) overlooks an essential aspect: clearly defining who are considered stakeholders.

Overall, stakeholders’ theory provides a deep understanding of the stakeholder concept. Figure 2 synthesizes the evolution of the stakeholders’ theory, emphasizing its foundation-role in the development of the project stakeholders’ research.

**Figure 1.- Stakeholders Typology**

Figure 2.- *The evolution of stakeholder’s theory*
Adapted from Elias et al. (2000), p.175

Stakeholders’ theory also represents the original source of the most renowned tools and techniques for stakeholder analysis, and especially for stakeholder classification, most of which were further employed and adapted by project’s stakeholders’ research, as it will be detailed in the next section.

2.3. Project stakeholder research

2.3.1. Relevance
Project stakeholders’ management is broadly recognized as both a critical component of project management and as a success factor for most of the projects (Müller & Turner, 2010, p. 61; Achterkamp & Vos, 2008; McElroy & Mills, 2003). In line, many research studies have revealed that project managers’ inability to consider project stakeholders’
needs, interests and expectations is a common source of project failure. (Achterkamp & Vos, 2008, El- Gohary et al., 2006). The importance of stakeholders’ management is explicitly postulated in the project management definition given by PMI (Project Management Institute) (PMI, 2008): “Managing a project includes adapting the specifications, plans and approaches to different concerns and expectations of the various stakeholders”. This definition clearly reveals one of the underlying assumption of most of the project stakeholder research, namely that stakeholders management is crucial for effectively and efficiently implement a project. Nonetheless, project management academics, such as El-Gohary et al. (2006), have only in recent times start taking into consideration this aspect, and consequently invested more attention to their research in this direction, even though the notion was initially introduced in the literature in 1986 (Aaltonen, 2010). Still the majority of the studies are dedicated to the construction industry (Aaltonen, 2010, p.58), most of the other industries receiving only scarce attention in the project stakeholders’ research world.

El – Gohary et al. (2006) seem to be the only ones to focus on stakeholder involvement in infrastructure development projects. Thus their study will represent a landmark for our research, as it is the most related valuable study to the context of mobility management, belonging to project stakeholders’ research that has been identified.

2.3.2. Definitions and classifications

As previously mentioned, the notion of stakeholders was introduced to the project management context, only two years after Freeman (1984) put the basis of the organizational stakeholders’ theory, by Clealand in 1986. His work has followed closely the ideas proposed by Freeman (1984). Several scholars have further researched on the topic, proposing several definitions and categorization and classification models, ranging from broad to narrow. Annex 1 presents a table used by Aaltonen (2010) to synthesize the definitions given by project management literature until the current moment. A simple overlook on the table confirms a homogenous understanding of the stakeholder concept in the sense that all the definitions associate the stakeholders with an individual or a group of individuals. On the other hand, some significant differentiations are noticeable, especially when it comes to the scope of stakeholder interest and power. Accordingly a wide range of classifications have been developed by the project management academics.

Winch (2004), cited in Aaltonen (2010, p.43) distinguishes between internal - often called primary, business actors and external - secondary, non-business, thus using the nature of the relation with the project as a primary differentiator (i.e. contractual, formal for internal and informal for external). The external stakeholders could be also split into public (e.g. governments, local public) and private. However, this classification is heavily discussed thought-out the literature because of the semi-over-lap between internal - and public stakeholder groupings.

Another possible distinction could be done between the stakeholders who promote and oppose the project. McElroy and Mills (2003) propose a more detailed five-leveled model: active opposition, passive opposition, non-committed, passive support and active support. This positioning impacts directly the role of stakeholders in projects' decision making.
Furthermore, in accordance to the functional role played in the project, a further classification is proposed by literature. Achterkamp & Vos (2008) advocate a mix of their ‘role-based stakeholder classification model’ designed for organizational stakeholders’ theory (i.e. client, decision maker, designer, passively involved) - and the project roles described by the project management literature: owner, user, sponsor, resources, broker, steward, manager (Turner, 2006 cited in Achterkamp & Vos, 2008) and controller, executor, constraining, discretionary, adviser (Callan et al., 2006 cited in Achterkamp & Vos, 2008).

El-Gohary et al. (2006, p.596) also consider it is important to distinguish between local- and global stakeholders, justifying that their interests significantly differ (direct effect on routine activities and lifestyle vs. monitor and evaluate project impacts related to their field of interest).

2.3.3. Stakeholder engagement mechanisms
Since the notion of stakeholders’ was firstly introduced in project management (1986), the interest and the knowledge on the topic has grown significantly; converting it into an independent field of study inside the project management body of knowledge. However despite the fact that both project management practitioners’ associations (APM, 2006; PMI, 2008) and scholars accept this, only a few research focuses mainly on project stakeholders and their engagement (Achterkamp and Vos, 2008; Aaltonen, 2010, Yang et al., 2011).

According to Aaltonoen (2010), two major directions can be identified in the previous project stakeholders’ research, both of them adopting a mostly static understanding of projects. The first direction has focused on proving the importance of stakeholders and of their management/engagement (e.g. Cleland, 1986, cited in Aaltonen, 2010), while the second one went further in terms of attempting to give more practical advice in this direction, culminating through developing several tools and techniques. A very similar evolution was followed by the stakeholders’ engagement concept. Thus the importance of engaging stakeholders in projects in general, and in infrastructure projects in particular is already jointly recognized by both theory and practice (El-Gohary et al., 2006, p.596) and several managerial frameworks, tools and techniques are consecrated in the literature. However, stakeholders’ involvement remains an extremely complex process. Figure 3 offers a partial overview on the stakeholders’ engagement process, revealing its various components and their multifaceted interactions.
As it can be spotted from the loop presented, El-Gohary et al. (2006, p. 598) distinguishes five main components of a stakeholders’ engagement system: processes, products, actors, resources, constraints and concerns and mechanisms. All five components are continuously interconnected through the stakeholders’ engagement process. Considering the nature of the MM projects that will be presented more in detail in the next chapter (their main aim is to develop “tools to support and encourage change of attitude and behavior towards sustainable modes of transport” EPOMM, 2011, p.15), the most appropriate standpoint when analyzing the stakeholders’ engagement in this context seems to be the mechanisms perspective.

In this context, mechanisms are defined as ways “to obtain stakeholders input for effective collaboration” (El-Gohary et al., 2006, p. 597). The possible engagement mechanisms are divided in three main categories: stakeholders’ analysis mechanisms, information dissemination techniques and participation techniques” (El-Gohary et al., 2006, p. 602). Thus an accurate stakeholder analysis is considered essential for designing an appropriate engagement process.

**Stakeholders’ analysis mechanisms**
Andersen et al. (2004, cited in Jepsen & Eskerod, 2009, p.336) propose a comprehensive framework for performing the stakeholders’ analysis in a project context (Figure 4).
The framework is synthesizing most of the literature's common conclusions (e.g. Müller & Turner, 2010, McElroy & Mills, 2003) on what a stakeholder analysis should contain in a simplified and easy to understand way. Thus they argue that the stakeholder analysis process should have three steps: identifying stakeholders, characterizing them in terms of needed contributions, expectations and power and lastly decide upon the appropriate strategy to engage them with the project (Jepsen & Eskerod, 2009, pp. 337). They (i.e. Jepsen & Eskerod, 2009 and other scholars) emphasize the importance of the stakeholder analysis, as an essential stage in achieving stakeholders’ engagement, sometimes even considering the two stages as equivalent. However, what can be clearly concluded is that the result of the stakeholders’ analysis should always be a strategy, of even the mechanisms for engaging stakeholders.

Furthermore, table 1 will group the conceptual research reviewed related to project stakeholder engagement mechanisms, using the structure proposed above. Thus two main categories of mechanisms will be distinguished: stakeholder analysis mechanisms and stakeholders involvement/engagement mechanisms. In accordance to the use purpose of each mechanisms, the first category will be divided in three subcategories (mechanisms for: identification, for classification, characterization and prioritization and for deciding the engagement strategy) and the latter category will be split in two subcategories: ‘Providing information’ and ‘Interactive engagement’ mechanisms. While the second subdivision, is directly resulted from the classification made by El-Gohary et al.(2006), the first subdivision was mostly based on the stakeholders’ analysis structure proposed by Andersen et al. (2004, cited in Jepsen & Eskerod, 2009, p.336) (Figure 4).

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Area of interest</th>
<th>Contributions</th>
<th>Expectations</th>
<th>Power</th>
<th>Strategy</th>
<th>Responsible</th>
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</thead>
</table>

**Figure 4.- Framework to present results of stakeholders’ analysis**

Source: Jepsen & Eskerod, 2009, p. 337
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Stakeholders’ engagement/involvement mechanisms</th>
</tr>
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<tbody>
<tr>
<td>Provide information</td>
<td>- Printed public information materials (before, during, after the project): (letters, posters, notices, press releases, leaflets &amp; brochures, fact sheets, newsletters, pictures, technical reports) (Rupprecht et al., 2011)&lt;br&gt;- Printed internal information: reports (i.e. fact-based, opinion-based (Müller &amp; Turner, 2010, p. 5)&lt;br&gt;- Local radio and television shows (Rupprecht et al., 2011)&lt;br&gt;- Site Office, Site Visits, Notifications, Information Kiosks, Website(El-Gohary et al., 2006)</td>
</tr>
<tr>
<td>Interactive engagement</td>
<td>- Meeting mechanisms&lt;br&gt;- Individual (El-Gohary et al., 2006, pp. 597-600, Jepsen &amp; Eskerod, 2009, pp. 340-341, Yang et al., 2011, p. 906):&lt;br&gt;  - individual meetings (e.g. with community leaders, local organizations representatives, landowners)&lt;br&gt;  - personal surveys&lt;br&gt;  - personal interviews.&lt;br&gt;  - door-to-door visits&lt;br&gt;- Multi-stakeholder:&lt;br&gt;  - group works/committees: steering committee; reference groups, multi-stakeholders forums, stakeholders’ advisory panels (SAPs) (Spitzeck &amp; Hansen, 2010, pp. 384-386), citizen juries (Rupprecht et al., 2011)&lt;br&gt;  - focus group discussions (Jepsen &amp; Eskerod, 2009, p.339)&lt;br&gt;  - (public) workshops (El-Gohary et al., 2006, p. 603, Yang et al., 2011, p. 907)&lt;br&gt;  - public meetings, public hearings (El-Gohary et al., 2006, p. 599)&lt;br&gt;  - conferences and seminars (El-Gohary et al., 2006, p. 599)&lt;br&gt;  - exhibition, topical events (e.g. transport visioning events, weekend events, open space events), information center;&lt;br&gt;  - study tours and community visits&lt;br&gt;- Audio-video interaction mechanisms (El-Gohary et al., 2006, p. 599):&lt;br&gt;  - telephone surveys, telephone interviews, hotlines&lt;br&gt;  - teleconferencing&lt;br&gt;  - electronic town-meetings&lt;br&gt;- Online mechanisms&lt;br&gt;  - electronic surveying  (El-Gohary et al., 2006, p. 600)&lt;br&gt;  - electronic conferencing (El-Gohary et al., 2006, p. 600)&lt;br&gt;  - Web-based decision-making platforms or toolkits (Spitzeck &amp; Hansen, 2010, p. 388)&lt;br&gt;  - WEB 2.0 (Spitzeck &amp; Hansen, 2010, p. 388)&lt;br&gt;  - Web-based forums (Rupprecht et al., 2011)&lt;br&gt;- Mailing mechanisms (i.e. mail surveying) (Cova et al., 1996; Karlsen, 2002 cited in Aaltonen, 2010).&lt;br&gt;- Training activities(e.g. guidelines and training on using on-line techniques) (El-Gohary et al., 2006, p. 599)&lt;br&gt;- Voting mechanisms (Spitzeck &amp; Hansen, 2010, p. 386)&lt;br&gt;- Negotiations (Yang et al., 2011, p.906)</td>
</tr>
</tbody>
</table>

**Table 1.- Mechanisms for stakeholders’ analysis**
<table>
<thead>
<tr>
<th><strong>Main purpose</strong></th>
<th><strong>Planning stakeholders’ engagement: Stakeholders’ analysis mechanisms</strong></th>
</tr>
</thead>
</table>
- Brainstorming (Achterkamp and Vos, 2008, Jepsen & Eskerod, 2009)  
- Lessons learned reports (El-Gohary et al., 2006)  
- Personal past experience of the project team  
Yang et al. (2011), p. 906:  
- Guidelines from governments or one's own organization  
- Being directed by a superior  
- Focus group meetings of the project team  
- Asking the obvious/identified stakeholders to identify others  
- Professional services |
| Stakeholders’ classification, characterization and prioritization | - Stakeholder salience model (Mitchell et al., 1997), classification based on power, legitimacy and urgency  
- Power/interest matrix (Johnson & Scholes, 1999)  
- Role–based stakeholder models (Achterkamp and Vos, 2008)  
- Outline tool (Andersen et al., 2004, cited in Jepsen & Eskerod, 2009)  
- Stakeholder commitment matrix (McElroy and Mills, 2003)  
- Stakeholder Circle - measuring and visualizing stakeholder influence (Bourne & Walker, 2006 cited in Young et al., 2011)  
- Focus group meetings of the project team (Yang et al., 2011, p.906)  
- Personal past experience (Yang et al., 2011, p.906) cited in Aaltonen (2010):  
- Cleland’s model (1986): identify stakeholders and their interest, measure the interest, predict stakeholders’ future behavior  
- Stakeholder group categorization (Winch, 2004): opponents and proponents  
- Vested interest-impact index (Bourne and Walker, 2005)  
- Stakeholder mapping (Winch and Bonke, 2002)  
- Stakeholder impact index (Olander, 2007)  
- Application of uncertainty management framework, SHAMPU  
- Stakeholder ethical responsibility matrix, SERM (Moodley et al., 2008) |
| Decide engagement stakeholders’ engagement strategy | - Keep satisfied, manage closely, monitor, keep informed (Johnson & Scholes, 1999)  
- The socio-dynamic model (D’Herbemont, 1988 cited in Müller & Turner, 2010, p. 69)  
- Stakeholder involvement strategies (McElroy & Mills, 2003, Jepsen & Eskerod, 2009)  
- Stakeholder involvement process (El-Gohary et al., 2006)  
- Communication and information dissemination strategies (PMI, 2008)  
- Meetings, Negotiations, Social contacts, Guidelines, Appealing to Executive Council (Yang et al., 2011, p.906)  
Cited in Aaltonen (2010)  
- Stakeholder empowerment (Rowlinson and Cheung, 2008)  
- Stakeholder engagement process (Bourne and Walker, 2006; IFC, 2007) |

*Table 2.- Mechanisms for stakeholders’ engagement/involvement*
The table contains most of the mechanisms available for stakeholders’ analysis and engagement and links them with the phases of the stakeholders’ engagement process: the planning phase – stakeholders’ analysis and the implementation phase – performing stakeholders’ engagement. It reveals that the previous research that was conducted in relation to project stakeholders’ management, had mostly focused on the conceptual development of various frameworks and tools which Aaltonen (2010, p. 50) and other scholars classify as ‘irrelevant’, because of their lack of understanding of the actual behavior of managers in relation to stakeholders. This had as a direct consequence the inapplicability of most of the mechanisms in real contexts (Aaltonen, 2010, p. 70). Thereby, the current study will adopt the generic, basic proposition that:

Proposition 1 -There are various mechanisms for stakeholder analysis and engagement available in the literature, but only a few are wittingly used in practice

Several other researchers support the idea. For example, Yang et al.(2011) emphasize the incapacity of the analysis mechanisms to identify all stakeholders and their interest in a practical and effective manner. Jepsen and Eskerod (2009) express also their general concern regarding the lack of clarity on how to identify stakeholders, but also their needs and their expectations. Meanwhile, Vos and Achterkamp (2009) doubt even the validity and the correctitude of the decisions taken by the project team/managers regarding stakeholders. Even though many critics were formulated[,] only few researches have “actually empirically described the employed activities and behaviors of a focal project with regard to stakeholders” Aaltonen, 2010, p. 51). Furthermore, the majority of the stakeholder management studies focus on the techniques used in the planning phase of the project, namely on the initial stakeholder analysis (e.g.Jepsen and Eskerod, 2009). In consequence a more comprehensive and holistic perspective on the active stakeholder analysis and engagement process throughout the project lifecycle is deemed as necessary (Aaltonen, 2010, p.51).

Thereby, this current study will aim at addressing some of these gaps through investigating and evaluating the mechanisms employed for analyzing and engaging stakeholders and their use throughout the planning and implementation phases of a focal project: Sustainable Travel in Umeå Region.

Furthermore, the next sub-chapter will introduce the concept of mobility management and the particularities of mobility management projects, in order to set the background for the sub-chapter 2.5., which will focus on stakeholders in mobility management projects.

2.4. Mobility management

2.4.1. Context: Mobility management as part of Sustainable Urban Transport

The transport activity can have several negative impacts on population such as traffic congestion and air pollution. Until the 1990s, it was believed that augmentation of the traffic volume was connected to an economic growth; therefore the large-scale infrastructure investment was the vehicle used to reduce the effects of these negative impacts. (Gronau & Kagermeier, 2004, p.315). At the same time, the awareness of scientists and policy makers from all over the world regarding the emissions produced by the transportation and their harmful effects on the population increased. Thus
measures from policies to economical instruments were taken to reduce these emissions in a sustainable way. However, the success of these measures was not truly encouraging: whilst the average rate of emission was reduced, the total quantity of these emissions was increased due to the faster growth of the average rate of traffic volume (Izquierdo 2002, p.14). At this point ‘the traffic planners realized that hardware and supply oriented approaches were not the best ways to address the continually increasing demand for transport’ (Gronau & Kagermeier, 2004, p.316).

Subsequently, during the mid-1990s, the approach within the transport science changed; the main aim was not only to build infrastructures, but also to influence the transport demand generated. This approach was based on the idea of influence the individual decision-making processes on transport selection (Gronau & Kagermeier, 2004, pp.315-316). Other authors as Scheurer (2008) also explain the importance of the mix between social science and transport research that was established, rather than statistical analysis.

Consequently, the research of efficient ways to reduce the demand of individual transportation by managing the people’s mobility needs and every-day decision making was initiated. By discouraging the use of private transport and promoting the public and non-motorized modes, most of the cities around the world started trying to manage the traffic demand. However, the policies which seek to calm down car users might have the opposite effect by encouraging car use and alienating the attractiveness of public transport (Kaufmann, 2000), if they were not applied in an appropriate manner. Therefore, the use of demand- oriented and ‘softer’ measures became an essential part for the achievement of sustainable urban transport (Gronau & Kagermeier, 2004; Jou et al, 2009, pp. 201-204). Eventually, the section of the sustainable urban transport in charge of the management of these soft tools has been called as Mobility Management (MM).

2.4.2. Definition. Main features. Objectives.
As it could be spotted from the brief presentation of the context, most of the specialists, including the two main European transports research knowledge centers: MOMENTUM (Mobility ManagemENT for the Urban environMent) and MOSAIC (MObility Strategy Applications In the Community) distinguish two different strategies of actuation: the supply versus demand orientated measures and hard versus soft orientated measures.
Two approaches:

- **Traffic System Management**: based on supply and hard orientated measures, such as laws, regulations, pricing, fiscal and infrastructure development.
- **Mobility Management (MM)**: based on demand and soft orientated approach, using mechanism as: coordination, communication, information and organization of the stakeholders.

The two approaches illustrated in the previous figure have to be necessarily coordinated in order to achieve a sustainable urban transport. However, it is in the MM field where the stakeholders are the central point of interest. Therefore, MM as the linking point between Traffic System Management and citizens, will be the main field of investigation of this research paper.

EPOMM (2011, p.15) defines Mobility Management as “a demand orientated approach to passenger and freight transport that involves new partnerships and a set of tools to support and encourage change of attitude and behavior towards sustainable modes of transport. These tools are usually based on information, communication, organization, co-ordination and require promotion”. (EPOMM, 2011,p.15). Mobility Management is also called Transport Demand Management (TDM), due to the focus on responding to the demand of transport network’s end-users, promoting a more efficient transport, opposing the increase of the supply measures such as road expansion, construction of new parking’s or other motor-vehicle facilities (Litman, 2003, pp. 4-6).

The multiple benefits generated by MM strategies are those which make these strategies vital. Several benefits are described in the MM literature, such as the improvement of the economical efficiency (e.g. road and parking facilities cost savings, consumer savings); environmental quality (emissions reduction) and efficient land use. All these
benefits together with the low cost of the implementation make the MM appropriate for both, developing and developed countries (Litman, 2003, pp.4-6).

The MM approach provides a closer relation with the end-users of transport, trying to influence their every-day choice. In order to achieve this, MM starts from admitting that “the behavior is not exclusively rational, but has a subjective and emotional component as well” (Scheurer, 2008).

The main aim of MM is sustainable travel, covering people and organizations’ mobility needs, at the same time as taking into consideration the environmental, social and economic issues emerged in the different societies. Therefore, due to the miscellaneous character of these necessities, co-operating and alliances creation among the different participants is a crucial element of the MM framework. (Scheurer, 2008; Kaufmann, 2000)

This main aim can be broken down into several specific goals, such as: to impulse the use of collective and public transport modes, as well as walking or biking; to provide equal rights to, pedestrians and non-motorized traffic over motorized traffic (Scheurer 2008), following the next priorities: 1. Emergency vehicles/trips, 2. Walking, 3. Cycling, 4. Public transit, 5. Service/freight vehicles, 6. Taxi, 7. Single occupant cars, 8. Automobile parking (Litman, 2003); to improve the smart use of the land by better land-use planning; to increase the efficiency of the transport system by interconnecting the different transport networks

2.4.3. Mobility Management organization
Mobility management can be implemented in many different ways and can emerge at different levels (i.e. policy level, management level, user level). In order to achieve the previously mentioned goals through a specific population, it should end up providing a collection of tailor made methods to engage the users, fitting local/regional conditions.
It is important to bear in mind the potential existence of a misalignment between the strategies designed by the policy makers and the strategies designed for the stakeholder’s engagement inside the mobility management projects. A common direction has to be taken in order to achieve a more sustainable urban transport, therefore the package of policies and methods for engagement have to aim in the same direction. In several occasions this strategies are contradictory, generating barriers that will cancel out the effectiveness of both, policies and methods for stakeholders’ engagement.

Figure 6 shows the ideal state of the MM organization and how the strategies should cascade down from the policy level to the user level. As it is shown in the figure, the system is usually initiated and coordinated at the policy level, where the sustainable urban transport strategies are set up. Firstly, the strategies are cascaded down towards the management level, where the MM governance institutions from the regional level have to coordinate and consult other partners in order to design a tailored mobility plan. The mobility plan is usually implemented through programs, portfolios or projects, using methods to engage the end users (citizens and private companies), to maintain the interest of the existent partners and to attract new partners. A special attention has to be paid to the engagement of citizens and freight transporters due to their particular characteristics. These characteristics will be explained in the section 2.5.4
From policy level to management level: Mobility Management strategies

Jou et al. (2009) reveal the importance of setting up a general Transport Demand Management (TDM) strategy in order to increase the shift from private users towards public transportation. He distinguishes two types of TDM strategies: one is based on introducing incentive measurements (‘Carrots’); and the other one is based on imposing disincentive mechanisms (‘Sticks’) (Jou et al. 2009, pp. 201-204; Litman, 2003, pp. 3-4).

Alternatively, Ison and Wall (2003) describe two different approaches to deal with traffic-related pollution: a market-based and non-market based approach. The first one provides incentives to the users using the environmental resources in an optimal way. The Non-Market based is related with command and control, and can be utilized as mechanism to establish regulations. Under these approaches a list of instruments to reduce car pollution can be enumerated. They can be differentiated in economic and regulatory instruments.

It can be considered as economic: imposition of different taxes among different types of fuel – less polluted equal to less taxes; graduated vehicle excise duty – taxes depending on the engine size; road user charging – as a mean of rationing a scarce resource, avoiding the free access to the roads; parking charges – as a rational control of parking spaces; and the introduction of public transport subsidies, reducing public transport ticket price.

Ison and Wall’s (2003) suggestion of regulatory instruments consists of: traffic calming- range of measures introduced in order to reduce traffic speeds and divert traffic away from certain areas and stricter enforcement of emission standards, controlling periodically these emissions and promulgating their reduction. But they (Ison and Wall,
also underline the importance of what Litman (2003) calls ‘smart growth’: more efficient land use and transport planning, considering the location of offices, leisure, educational facilities, shopping centers and other types of buildings. Besides those, Jou et al (2009) and Litman (2003) also included other soft strategies such as car sharing (reducing ownership and trips), rideshare promoting or pedestrian bicycle improvements.

The aim of all these means, instruments and strategies is the engagement of the stakeholders via incentivizing and prioritizing the rational-environmental use of the transport, promoting the public transport, cycling or walking (Ison and Wall, 2003; Jou et al., 2009; Litman, 2003). Thus, a combination of hard and soft policies or an application of ‘carrots’ and ‘sticks’ strategies is crucial to achieve effective results, promoting stakeholders’ acceptance of the new alternatives (Kaufmann, 2000; Gronau & Kagermeier, 2004; Jou et al., 2009; EPOMM, 2011). When this broad package of policies at local, metropolitan, national or international level is successfully accepted in one area, it can breed further initiatives which will lead to the transmission of the best practices and routines in the performance of other similar projects (Kaufmann, 2000).

**From management level to user-level: Mobility Management projects**

As already mentioned, mobility management can be implemented in many different ways. However, most often it takes the form of programs and projects.

It is recognized that the most innovative mobility management approaches have resulted from demonstration and research programs and projects developed at regional/urban level as well as at the national/ European level (Wilhelm, 2003). The European Commissions’ Initiative: CIVITAS (“City-Vitality-Sustainability”, or “Cleaner and Better Transport in Cities”) is probably the most European renowned example of such mobility management program, but there are much more projects/programs that have played a crucial role in the development of Sustainable Transportation methods.

Nevertheless, most of the projects were initially dedicated to metropolitan areas (>1.000.000 citizens), in order to answer to their special necessities, caused by the extreme-high trip densities and congestions. Only recently, in this decade the research has started shifting also towards the particular application and use of mobility management in small cities and even in rural areas (Gronau & Kagermeier, 2004, p.316). Thus the present study will focus on the planning and implementation of mobility management projects in the small-medium sized city of Umea (Sweden).

**2.4.4. Projects’ lifecycle**

The actual development of a mobility management projects, follows generally four - to some extent distinct - stages (EPOMM, 2011, p.89) which are in line with the project stages described by the project management literature (e.g. in PMBok - PMI, 2008) : Planning, Implementation and Evaluation).

- Stage I: Exploration Planning
- Stage II: Formation
- Stage III: Operation Implementation
- Stage IV: Evaluation Evaluation and Monitoring

The four stages are not necessarily successive, in contrast most often they overlap or/and a loop is created (EPOMM, 2011, p.90).
The exploration phase is initiated through the formulation of a first mission statement that consists of a first assessment of the problem, a first version of the goals, a collection of arguments to support the utility of the project and an overview of the environmental factors, such as, potential target groups, an analysis of the trip purposes and most common target destinations. Secondly a screening process is necessary to identify the attitudes and policies of the authorities, the factual mobility and accessibility schemes, but also the user needs and the possible contribution of potential supporters and participants to the project (EPOMM, 2011, p. 91). This stage should result in a feasibility study (EPOMM, 2011, p.93).

If the project is considered feasible, the formation part should be conducted through the update of the mission statement, the creation of a work plan (i.e. which are the actions that should be undertaken, and how will they be implemented and a preliminary cost/revenues analysis) and projects’ governance (e.g. the creation of a steering committee or even of a new institution) (EPOMM, 2011, p.96). This is followed closely by the negotiation with partners, especially with the potential sponsors.

Once the funding for the project is ensured, the operational stage (implementation) is able to commence. A rescreening process, based on more concrete information, such as, identification of real needs and practical travel current knowledge and behaviors, is recommended in order to define and, subsequently, implement the concrete action plan (EPOMM, 2011, p.99-100).

The evaluation phase should be continuously carried through projects’ life-cycle. Ranging from pretesting to controlling and monitoring, it should ensure the relevance and the efficiency of the activities performed at both, the operational and the organizational level of the project (EPOMM, 2011, pp.102-104). Considering that the evaluation phase is performed mostly in parallel with the planning and implementation phase of such projects, thus most often it is treated implicitly as a component of this two
phases, the present research will address the dynamic of stakeholders’ engagement throughout the planning and implementation phase of mobility management projects.

2.4.5. Summarizing
Ideally, the portfolio, programs and projects dedicated to MM flow from the strategy at the regional, national and/or supra-national level. They should be in line, support and contribute to the improvement of efficiency in the traffic system management (TSM) ‘hard’ measurements, and not overlap or even more hazardous, contradict themselves. However in practice it is rarely the case that this occurs. These contradictions generate paradoxical situations, for instance: in order to develop the urban transport it is necessary to increase significantly the number of users, while the number of users can not be increased due to the lack of infrastructures, services, employees and alternatives. Conversely, “an individual’s best intentions for reducing their car use will invariably remain thwarted” (Scheurer 2008, p.1). Similarly, Kaufmann (2000) gives another example: “improving public transport with a view to increasing usage, whilst not encouraging the simultaneous integration of new places of employment within the public transport infrastructure network, will cancel each other out” (Kaufmann, 2000; p.8). For these reasons it is mainly to set up a collection of specific tailored measures aiming a common action towards the specific goals established during the exploration and formation (the planning phase) of the project. In order to ensure the efficiency of these actions, it is also essential to reassess them constantly throughout project’s lifecycle.

2.5. Stakeholders in mobility management projects
The general understanding of the concept of stakeholder in mobility management projects corresponds to the overall picture proposed by the reviewed project stakeholder literature. Thus, the most comprehensive and wide-spread definition of project stakeholder: “individuals and organizations that are either affected by or affect the development of the project” (El-Gohary et al., 2006, p. 596), will be employed as a basis for the present study.

2.5.1. Benefits of stakeholders’ engagement in mobility management projects
Carter (2009, p.2) considers as a main factor for stakeholders’ engagement ‘moving beyond the position where stakeholders are merely passive receivers of information, to where they become engaged in a proactive way’. Carter (2009) also enumerates a collection of benefits that can be generated through stakeholders’ involvement. Firstly, learning and awareness rising can be an important gain, considering that the first step to make stakeholders aware of project’s outputs and of the subsequent dissemination of these outputs is the identification of the stakeholders. Secondly, the enhancement of legitimacy through the involvement of stakeholders during projects’ development, allows meeting more specifically the needs of its end users (Carter, 2009, p.3; Rupprecht et al., 2011, p.8).

Stakeholder involvement also supports the development of a more effective and efficient resource saving plan through the establishment of collaborative networks and synergies (Carter, 2009, p.4; Rupprecht et al., 2011, p.80).
2.5.2. Citizens vs. Organizations

When analyzing the stakeholders’ engagement in MM projects, an indispensable distinction has to be made between: citizens and organizations (incl. targeted organization and partners). This type of differentiation is not very common along the project stakeholders’ literature, but seems essential, when analyzing MM projects, mainly due to the aim of this type of projects: behavioral and attitudinal change towards sustainable transportation modes. These projects seek to influence the decision making of the different stakeholders regarding the transport mode selection. Therefore each stakeholder has to be considered according to its specific characteristics.

Citizens and targeted organizations are mainly addressed through the working plan, while the partners are mainly addressed through project governance. The role of both groups is synthesized in the final action plan.

The planning phase (Exploration and Formation) leads to a preliminary identification of both potential partners and target groups, while the implementation phase (operational) tests the actual appropriateness of the tools and strategies previously designed.

Most of the literature (Jepsen & Eskerod, 2008, p. 336; McElroy & Mills, 2003, Taschner & Fiedler, 2009, p. 12) seems to agree in distinguishing first between stakeholder analysis and stakeholder engagement mechanism and, second, in subdividing stakeholder analysis in: stakeholder identification, classification, characterization and choice of strategy, even while using different expressions for defining the concepts.

2.5.3. Mechanisms for stakeholders’ analysis and engagement in the planning phase

Müller & Turner (2010, p. 61) highlight the importance of engaging stakeholders from the beginning in a project, underlining the importance of winning their support even before starting the project. However they agree that it is impossible to gain everybody’s support, thus they argue that ensuring the support of the key stakeholders before launching the project is the essential movement towards achieving project success (Müller & Turner, 2010, p. 62). But in order to develop a relationship, stakeholders’ need firstly to be identified, than characterized and categorized in order to anticipate their reaction to the project and to decide a strategy to engage them, which should include a carefully-designed communication plan (Müller & Turner, 2010, p. 62). Therefore a previous data gathering process is necessary to realize an appropriated analysis. This process of data collection may be considered as the starting point to engage the stakeholders in the MM projects.

Identifying

Firstly, in identifying the stakeholders it is important to keep in mind what is meant by project stakeholder. Several potential understandings of the concept are synthesized in Annex 1.

Furthermore, identifying stakeholders is mostly a ‘managerial dimension’ (Müller & Turner, 2010, p. 62), thus it is up to the project manager and its project team to choose the most appropriate approach/mix of approaches. It should be also in their competence to split the long list of stakeholders into different categories. There are several tools available for stakeholder identification: (1) brainstorming (Calvert, 1995, p.215), (2) using available lists of generic stakeholders (Pouloudi & Whitley, 1997 cited in Jepsen
& Eskerod, 2008) for example the list of typical stakeholder groups involved in transport projects based on GUIDEMAPS as presented by Taschner & Fiedler. (2009), and reproduced in Rupprecht et al. (2011, p. 33) that is presented in Annex 2 and/or (3) asking persons from the organization/project team to point out stakeholders (Pouloudi & Whitley, 1997 and Brugha&Varvasovszky, 1995 cited in Jepsen & Eskerod, 2008).

Categorization/Classification

One of the most basic categorization defines two categories: primary/key and secondary stakeholders (Freeman, 1984, p. 32, Clarkson, 1995, p.93). The difference between them lies in the fact that a key stakeholder can actually have an influence over the project’s outcome (McElroy & Mills, 2003, p.102) and that they are ‘essential for the wellbeing and survival of the project’ (Jepsen & Eskerod, 2008, p.336), while the secondary are just affected in a positive or negative way by the measures of the project (Taschner & Fiedler, 2009, p. 13). In consequence, some authors support the idea that more attention should be dedicated to the former category (Taschner & Fiedler, 2009, p. 14), hence the next steps of the analysis usually focus on the key stakeholders. However other authors tend to support the idea that all stakeholders should be engaged to an appropriate extent in the project, thus they should also be considered in the next steps of the analysis (Rupprecht et al., 2011).

Due to the wide range of stakeholders involved on the MM projects (from individuals to private or public organizations), different classification of stakeholders are proposed by different authors. The general stakeholders classifications are presented in subchapter 2.2.2. Subsequently, the classification proposed by the MM literature will be also detailed.

For Carter (2009) the first step to classify stakeholders is creating a special hierarchy, providing a general vision on them. Carter (2009) distinguishes among Supra-national, National, Regional and Sub-regional. The supra-national stakeholders range from the European Union to global stakeholders (e.g. UN), while the national are represented by the authorities at the country level (e.g. government). Both stakeholders’ groups must be consulted and/or informed and have a strategic influence in the decision making since they are the organisms designing the supportive legislation and providing the guidance and leadership on adaptation issues. At the national level it is also important to highlight the urban mobility plans design and the taxation policy among the responsibilities of the organism at this level. On the other hand, the organisms, companies and people at the Regional and Sub-regional level must be actively involved in the projects and focus on the stakeholder’s engagement trying to understand how organizations and groups can develop a better adaptation.

Furthermore, for Carter (2009, pp. 6-7) the list of stakeholders seems to be defined in the very beginning of the project, as in the planning phase. Meanwhile, Rupprecht et al. (2011, pp. 31) and other researchers consider that stakeholder’s identification should be a continuous process of reassessment. They (Rupprecht et al., 2011) also provide a more accurate classification, adopting an urban mobility projects perspective. This classification divides the stakeholders in three groups: Primary stakeholders, Key actors and Intermediaries. Primary stakeholders, are considered to be those ‘who are ultimately affected by new transport measures’ such as citizens and different social
groups or professions (Rupprecht et al., 2011, pp.31). Besides, the guidelines for practitioners (Rupprecht et al., 2011) bring up the involvement of the final users as primary stakeholders during the planning and the implementation phases, fact that was not considered by Carter (2009) in his hierarchy taxonomy. Furthermore, Key actors are defined as the organisms having political influence and responsibility, as well as the financial resources and the technical skills and expertise as for example the European Commission, mayor, public administrations, universities and other organizations within the private and public sector. Finally the Intermediaries would be the ones implementing the transport policy designed by the Key actors to be used for the Primary stakeholders, such as infrastructure operators, public administrations, police -. The Intermediaries category also includes the places where the more transport activities are carried on (e.g. freight operators, airports, harbors), and also the local media, authorities and operators which inform and report about the transport networks. Annex 2 synthesizes the typical stakeholder groups involved in MM projects.

It is also important to consider local champions (lobbyist), who can play a main role in mobilizing resources and creating alliances due to their knowledge and recognition received among the local actors (Rupprecht et al., 2011, pp. 104).

One of the main techniques, highlighted by Rupprecht et al. (2011, p. 33), for identifying clusters of stakeholders and obtaining a clear picture of conflicts of interest or potential coalitions, is the creation of a matrix with different parameters.

Power, legitimacy, urgency (Mitchell et al., 1997, p. 872), knowledge and commitment (McElroy & Mills, 2003, p.108) are two of the most renowned combination of parameters recommended especially by theory. However, the best practice guidelines of the EU Commission (Taschner & Fiedler, 2009, EC DG for Energy and Transport, 2004) (the main sponsor of most of the mobility management projects) advise using as a starting point the simple power-influence matrix, which was inspired from the power-interest matrix proposed initially by Johnson & Scholes (1999) It is indeed easy to carry out for project managers, while delivering also sufficiently reliable results. It is at the latitude of the project manager/project team to establish the values of those two parameters for each stakeholder, and to balance the time and the level of rigor of the data collection process required in order to obtain an accurate result (Jepsen & Eskerod, 2009, pp. 340).

In mobility management projects, in particular, several other parameters were considered more relevant, especially for the case of categorizing citizens, as for instance: trip purpose (school, work, business, shopping and personal care, leisure, transport of goods), origin/destination pattern or restraints during and after the trip (EPOMM, 2011, p. 40).

Nevertheless, many authors suggest different types of classification regarding different parameters. For instance, Scheurer (2008) suggests a new classification based on the citizens’ lifestyles rather than trip propose. This classification distinguishes among: Domestic Traditionalists, Risk-Oriented Car Enthusiasts, Status-Oriented Motorists, Nature-Oriented Traditionalists, and Decided Environmentalists (Scheurer 2008). As the features of these groups are different, Scheurer (2008) speculates the necessity to target these groups in a different and more precise manner in order to be successful in
the engagement process. Meanwhile the *Domestic Traditionalists and the Nature-Oriented Traditionalists* would need just information or awareness –soft methods–, others as *Risk-Oriented Car Enthusiasts and Status-Oriented Motorists* would need a package of incentives and/or policies to be set up –hard methods–.

**Characterizing**

There are several perspectives on characterizing stakeholders too. Jepsen and Eskerod (2008) and other researchers support the idea that characterizing the stakeholders implies identifying the needed contributions from each of the stakeholders (I), their expectations concerning the rewards for their contributions (II) and their power in relation to the project (III). The needed contributions (I) can take the form of specific deliverable (most often the case of mobility management project’s partners) or a positive attitude or a specific behavior (most often the case for mobility management project’s ‘end-users’). The project mandate should be a reliable source for identifying the specific deliverable (1), while the stakeholder commitment matrix proposed by McElroy and Mills (2003, p.115), could be an useful tool to be used for describing the level of achievement of the desired attitude/behavior (2). Figure 8 represents an example of completed commitment matrix.

![Figure 8.- Commitment Matrix](image)

Adapted from McElroy & Mills (2003), p.108

The expectations concerning the rewards for their contributions (II) significantly differ between internal and external stakeholders. Example of general mechanisms that are recommended to be used for identifying the expectation of stakeholders from the project are face-to-face interviews, questionnaires, (Varvasovszky & Brugh, cited in Jepsen & Eskerod, 2008, pp.337), but also focus groups (Jepsen & Eskerod, 2008, pp.340). Each of the methods has their own strengths and weaknesses.

Lastly, for the evaluation of the level of power (III) in relation to the project, there is no specific tool, being mostly based on intuitive judgments of project team’s members, supported by knowledge about the formal and informal roles of the project’s stakeholders.

Müller & Turner (2010, p. 62) support the idea that in addition to evaluating the level and the direction of the support and the influence (power level) of the stakeholders, it is also important to consider their level of knowledge about the project. Comparing the current level of knowledge with the desired level of knowledge can lead to the construction of a suitable communication plan.

**Decide Strategy to Engage**

The literature proposes several tools, for establishing the involvement strategy for each of the identified stakeholders groups. One of the most wide-ranging tools, that is
suggested also by the MM literature (e.g. Taschner & Fiedler, 2009, Rupprecht et al., 2011) is the: Keep satisfied-Manage closely-Monitor-Keep informed (Johnson & Scholes, 1999) The classic illustration of the four strategies is through four quadrants (Figure 9), but the illustration through bands, proposed by Müller & Turner (2010, p. 69) seems more representative (Figure 10).

<table>
<thead>
<tr>
<th>LOW STAKE</th>
<th>LOW INFLUENCE</th>
<th>HIGH INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep informed</td>
<td>Minimum effort</td>
<td>Manage closely</td>
</tr>
</tbody>
</table>

This model supports the idea that the degree of attention that should be paid to a cluster of stakeholders should be directly-proportional with both: stake and influence, thereby it might be worth allocating more resources in investigating the appropriate strategy for involving firstly the high stake-high influence stakeholders, secondly the high stake-low influence, low stake-high influence categories and lastly the low stake-low influence category.

Another model that can serve in deciding and designing an appropriate engagement strategy is the commitment matrix proposed by McElroy and Mills (2003) (Figure 8). The matrix evaluates on a five steps scale ranging from active opposition to active support (i.e. active opposition, passive opposition, neutral, passive support, and active support) the current and the required positioning of each of stakeholder (see Figure 8 as an example). In accordance three different situations might arise: the need to lower commitment, to maintain commitment or to enhance commitment. The principles that should support the chosen strategy can be synthesized as follows (McElroy & Mills, 2003):

- Lower commitment: Stress the need for the project team to coordinate the actions of stakeholders in order to ensure maximum benefit for the project.
- Maintain commitment: Reinforce their positive commitment and stress alignment of the project with the stakeholders’ objectives.
- Enhance commitment: Highlight the role of stakeholders in achieving project success and raise awareness and involvement desire.

Furthermore, McElroy and Mills (2003, p. 111-113) refine the model by also considering the knowledge parameter and designing the ‘knowledge attitude/commitment influence’ matrix The latter matrix presents in addition to the maintain and enhance commitment, two other strategies. For the stakeholders with a low level of knowledge about the project and a support attitude, they (McElroy & Mills, 2003, pp. 111-113) advise to ‘be the first to inform’. On the completely other side, for the stakeholders that are already informed about the project, but are in opposition, the
two scholars recommend adopting a ‘nullify/isolate’ strategy – ensuring that they cannot affect the project, but preferably after attempting to have a rational discussion with them (McElroy & Mills, 2003, pp. 111-113).

A third model was identified in the project stakeholders’ literature review. Müller & Turner (2010, pp. 67-69) present a model created by D’Herbemont (1988), which is grounded on the stakeholders’ commitment with projects’ goals and their acceptance of the method through which the project achieves its goals. According to Müller & Turner (2010, p. 69), 40% of the stakeholders are passive supporters, thus their engagement level can and should be influenced. ‘The golden triangle’ are considered the key for this and generally the key for project success because they are the “thoughtful supporters” of the project, thus they are credible and, therefore able to influence the other categories. In this context, it becomes extremely important to focus on strengthening the engagement of the ‘golden triangle’ (Müller & Turner, 2010, p. 69).

During this last stage of the planning phase, as discussed above, different techniques are used to analyze the possible manners of approaching each stakeholder. But in order to realize an accurate analysis it is regarded as necessary to engage the stakeholders also during this planning phase. First step to achieve this, as introduced in the beginning of this section, is the data collection. Second is the inclusion of the stakeholders identified as partners during the engagement strategy’s design. Those partners will contribute to the decision making process. Both, the data gathering and the partners’ collaboration facilitate and legitimize the mechanisms decided to be implement through the chosen engagement strategy.

2.5.4. Mechanisms for stakeholders’ engagement during the implementation phase

General considerations
During the implementation phase, “a dedicated strategy is needed for the involvement of stakeholders, drawing on different formats and techniques when dealing with authorities, private businesses, civil society organizations, or all of them together” (Rupprecht et al., 2011, p.42). This strategy and the design and choice of the appropriate
techniques will vary depending on many local parameters, such as, community’s demography, geography, and political conditions or citizens’ particular needs and desired commitment.

A wide variety of techniques to encourage stakeholder’s engagement are mentioned in the general (project) stakeholders literature (see Table 2.- Mechanisms for stakeholders engagement). From Carter’s (2009) perspective these tools belong to three main approaches: Active involvement, Consultation and Information provision. The first approach address direct participation in shaping the outputs, taken under consideration stakeholders’ vision in analyzing future possible scenarios, events and measures to take in order to solve the new situations. Unfortunately the active involvement is difficult to achieve through a large population, thus active involvement is aiming to engage selected stakeholder groups. Consultation allows gaining feedback of the project drafts via gathering information. This information is usually gathered developing and analyzing questionnaires, using different communication channels as telephone, internet, individual surveys, etc (Carter, 2009, Rupprecht et al., 2011). The third approach, Information provision, consists in the dissemination of the information using various means such as reports, publications, conferences, workshops and post/email (Carter, 2009, pp. 4-5, Rupprecht et al., 2011, pp.31-34).

As already mentioned two major categories can be differentiated regarding the diverse strategies and mechanism used for stakeholders’ engagement. In the first category all the mechanisms to engage citizens have to be considered. On the other hand, the second category is formed by the mechanism to engage organizations, being necessary differentiate firstly between which of these organizations have to be consider as partners in the project and which not, and secondly between the freight transporters and other companies. Even though the MM projects try to embrace all the stakeholders into them, the most of the projects dedicated to urban mobility management focus on changing the behavior of the citizens since it is more feasible than changing freight transporters practices.

Citizens’ engagement
Despite of having a large number of tools to engage stakeholders, the citizen’s engagement is not an easy process. As previously stated, citizens are considered a special sub-group of stakeholders. Specially since the citizens’ involvement during the planning phase of mobility management is a fundamental duty required by European Unions’ directives and international conventions (Rupprecht et al., 2011, p.104). Not only for this reason their collaboration is crucial, but also because influencing their transport mode choice is the main aim of these projects. However, their involvement in the planning phase is difficult to achieve. Despite of these factors, it is not before the implementation phase when the citizens usually seem to be truly involved. This is one of the causes for the continuous reassessment of the methods used during the project life cycle. Reassessing the techniques used is possible to design a more accurate project which accomplishes the citizens’ necessities.

Therefore, the main reason of this late involvement is the difficulty to engage such a broad range of stakeholders, taking under consideration all the parameters that cover those necessities and generate acceptance among the different target groups of citizens. Factors such as previous experiences, travel frequency, preference of travel mode, type
of travel, characteristics of traveler, life style, limitation of accessibility, and socio-economic characteristics, are deemed as central when influencing the acceptance of MM strategies (Scheurer, 2008, pp. 6-8; Jou et al, 2009, p.204).

In addition, Scheurer (2008) discusses that several of the previously mentioned parameters should be analyzed in a more specific scope, such as the residential neighborhood level. Therefore, it would be taken into account the accessibility of services, internal density, interactivity and integration of public transport at this level (Scheurer 2008). This author suggests that, in order to achieve positive results, a more precise strategy is necessary to be realized. It is easier to engage users more directly through a delimited population, influencing them in their every day decision-making, their habitual behavior in its socio-cultural context and their environmental awareness (Scheurer 2008).

EPOMM (European Platform of Mobility Management) give an account of a collection of MM services as a mean to target citizens in a direct manner, having as a final goal the citizen’s behavioral change. These services are a cluster of mechanisms that aim to engage the citizens in the project and at the same time in the process of change. They can be named as: Information, Consulting, Awareness, Education and Sales and reservations. The table 3 explains the aim of all the services, offering examples of concrete MM mechanisms that can be used (EPOMM, 2011, pp. 24-29):

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>EXPLANATION</th>
<th>EXAMPLES OF MECHANISMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Central information at local, regional, national level of the public transport as well as the available modes of transport</td>
<td>Timetable information using different communication channels – internet, phone calls, brochures; information on rental and repair shops; road closures</td>
</tr>
<tr>
<td>Consulting</td>
<td>Provide tailor-made travel plans and guidance for customers: from individuals or schools, to private companies</td>
<td>Combined tickets ‘event + transport’; guaranteed ride home for participants of car-pooling; a city-wide delivery service; financial bonuses for users of sustainable transport.</td>
</tr>
<tr>
<td>Awareness &amp; Education</td>
<td>Consciousness in the advantages and disadvantages of the different possible modes of transport</td>
<td>Mobility education in the kinder gardens and schools; publicity campaigns for various modes; activity days (e.g. a car free day); ecological impact of traffic.</td>
</tr>
<tr>
<td>Sales &amp; Reservations</td>
<td>Transport facilities reservation and rent</td>
<td>Public transport tickets and reservation; car sharing and ridesharing booking; bike and car rental; sale of mobility related products; tourist information</td>
</tr>
</tbody>
</table>

**Table 3. - Services for citizens’ engagement**  
Adapted from EPOMM, 2011

Since these activities have a voluntary character, it is essential their marketing and promotion (EPOMM, 2011, p.44).

**Organizations’ engagement**

As it was introduced before, firstly it is necessary to identify which are the organizations that affect and/or are affected by the MM projects. Secondly, analyze
which of those organizations (private or public) have to be considered as project partners and which of them as targeted organizations. The latter category will be addressed similarly to the citizens, since they are just a special form of grouping of citizens. However, as indicated by the MM definition, freight transporters will be analyzed separately, especially because of the nature of their activity.

**Freight transporters engagement**

Freight transport is managed by private-sector organizations which everyday mobility depend of their customers’ orders. Moreover, the freight transporters not only have to be considered in the local distances but also in the long-distance (EPOMM, 2011, p. 68). These particular characteristics together with their large presence in the traffic system transform them into special stakeholders, requiring singular attention.

Most of the strategies to engage and manage freight transporters emerge from the policy level, such as the restriction of delivery times in central business districts (Litman, 2003, p.28). Nevertheless, from the MM perspective, the methods to engage them are focused on enhancing the effectiveness of these activities through organizing and coordinating the shipping activities.

There are collections of common and tailored techniques that can be employed to improve the freight transport system. These techniques can be grouped in two main categories: consultation and information. For instance, consultation can be provided in order to get a policy travel or a plan travel design. Also provide access to information (e.g. city maps showing suitable roads, restricted areas, parking spaces and locations of companies) is an excellent common way to introduce the freight transporters in the MM system (EPOMM, 2011, p. 69).

Those common and tailored methods together encourage these stakeholders to adopt a more efficient shipping, involving them in the MM projects at the same time with providing them with the opportunity to collect useful information for the project and it reassessment.

The following table includes most of the mechanisms to engage freight transporters in the implementation of MM projects that were identified in the literature:

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>EXPLANATION</th>
<th>EXAMPLES OF MECHANISMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information</strong></td>
<td>central information at local, regional, national level</td>
<td>freight facilities, road closures, accessibility guides, sustainable travel.</td>
</tr>
<tr>
<td><strong>Consulting</strong></td>
<td>provide tailor-made and guidance</td>
<td>Preparation of a comprehensive Mobility Plan for a freight company</td>
</tr>
<tr>
<td><strong>Coordination</strong></td>
<td>There must be co-ordination between different providers and local authorities, public and private interests.</td>
<td>Coordinated scheduling; city logistics for freight transport</td>
</tr>
</tbody>
</table>

Table 4.- *Services for freight transporters’ engagement*

Adapted from EPOMM, 2011
Partners’ engagement

Partnering is an essential action for the successful implementation of MM projects. The partners should play a main role in the design of the MM project, as well as in the implementation of the strategies to engage citizens, either as an active or a passive player. Therefore, it is crucial to identify, and prioritize them during the planning phase, to consequently role them in the design of the engagement strategy. The most influent ones will collaborate in such important task as consultants, under the coordination of the MM project managers. All of them have to be coordinated with the selected strategy and with the other stakeholders. The following table shows the potential partners considered in the Mobility Management projects (Rupprecht, 2011, p. 33):

<table>
<thead>
<tr>
<th>Government / Authorities</th>
<th>Businesses / Operators</th>
<th>Comunities / Local Neighbourhoods</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>•Local authorities</td>
<td>•Transport operators/providers</td>
<td>•National environmental NGOs</td>
<td>•Research institutes</td>
</tr>
<tr>
<td>•Local transport authority</td>
<td>•Transport consultants</td>
<td>•Motorist association</td>
<td>•Universities</td>
</tr>
<tr>
<td>•Other local transport bodies</td>
<td>•Car sharing companies</td>
<td>•Trade unions</td>
<td>•Expert from other cities</td>
</tr>
<tr>
<td>•Other local authority bodies</td>
<td>•Bicycle rental operators</td>
<td>•Media</td>
<td>•Foundations</td>
</tr>
<tr>
<td>•Politicians</td>
<td>•Other mobility providers</td>
<td>•Schools</td>
<td></td>
</tr>
<tr>
<td>•Partnering organizations</td>
<td>•National business association</td>
<td></td>
<td></td>
</tr>
<tr>
<td>•Emergency services</td>
<td>•Private financiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>•Health &amp; safety executives</td>
<td>•Regional/local business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>•European union</td>
<td>•Local business associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>•Ministry of transport</td>
<td>•Engineers/contractors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>•Other national ministries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>•Regional Government</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.- Potential Partners in MM projects.
Adapted from Rupprecht et al. (2011)

However, the partners not only have a crucial role during the planning phase, but also during the implementation phase where all of them have to be coordinated in order to achieve a fruitful combination of resources and services. The next table explains the MM services aimed to partners’ coordination, in order to align the efforts towards citizens’engagement:
The coordination becomes an important element considering the diverse range of partners (table 5), thus the need for the creation of governance mechanisms, such as task force, working groups or consultative board made up of promoters, supporters and other interested parties (i.e. steering committee) (EPOMM, 2011, pp.46-49).

However, the partners not only play the role of contributors in the stakeholders’ engagement, but they also have to be engaged in the project, either ensuring the long term collaboration or as an emerging stakeholder that should be introduce in the system through the reassessment process (see section 2.4.4 Project life cycle). In order to engage the partners it is necessary to secure financing alliances and contracts with the promoters and supports. Therefore, as stated before, it is essential to establish from the beginning the role and the level of power of each stakeholders in the decision making process, the methods through which their opinion will be integrated in the final decision (e.g. voting mechanisms, web-based decision-making platforms/toolkits, WEB 2.0).

Since the impact of the Mobility Management projects only becomes visible in the long-term, a durable association among the different partners involved in the projects is required. For that reason it is necessary to include ‘quick win’ solutions which may help to generate a positive response among them as well as among the citizens. Consequently, promoting, lobbying, as well as clarifying win-win situations are considered as good practices to convince possible partners and, at the same time, promote acceptance through the citizens (Carter, 2009; Rupprecht et al., 2011).

Another vital aspect that should be continuously treated with awareness, especially in the contact with partners, is the communication (Müller & Turner, 2010, p.62). On one side, communication builds trust, and trust is essential for developing and maintaining a fruitful relationships (Müller & Turner, 2010, p.77). On the other side, the miscommunication, usually has undesired consequences, such as conflicts (Müller & Turner, 2010, p.80). Formal stakeholder dialogues with a wide and diverse group of stakeholders, such as multi-stakeholders forums and/or more regularly discussions with a limited number of external stakeholders, such as advisory panels (SAPs) or with individual stakeholders, have been proved also extremely useful methods (Spitzeck & Hansen, 2010, p. 384).

**Table 6.- Partners – services alignment**
Adapted from EPOMM, 2011

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>EXPLANATION</th>
<th>EXAMPLES OF MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Organization and Coordination</td>
<td>This field involves the organization of new forms of sustainable transport or the co-ordination and improvement of existing services. These would be targeted to specific user groups.</td>
<td>Co-ordinated scheduling and fares; car pool matching; city logistics; special transport for mobility impaired persons, workbuses.</td>
</tr>
<tr>
<td>(New) Transport-related Products &amp; Services</td>
<td>This includes the organisation of innovative products and services which make using sustainable modes easier and/or more comfortable. Identifying also new partners</td>
<td>Combined tickets - ‘event + transport’; guaranteed ride home for participants of car-pooling; a city-wide delivery service; financial bonuses for users of sustainable transport.</td>
</tr>
</tbody>
</table>
Overall, while the project stakeholders’ literature has mainly shown interest in the process of stakeholders’ analysis and on the development of correspondent conceptual tools, the relatively new mobility management research offers more insight in the process of stakeholders’ engagement, emphasizing the importance of citizens, as they constitute the main target group of this type of projects. However, blending the knowledge from the two perspectives has lead to the formation of a relatively clear picture of stakeholders’ analysis and engagement processes and mechanisms in a MM context, that will be described more in detail the following subchapter.

2.7. Literature review conclusions: Propositions and predicted pattern model
As already mentioned and justified in Chapter 2.2., the basic general proposition of our study is:

Proposition 1 - There are various mechanisms for stakeholder analysis and engagement available in the literature, but only few are wittingly utilized in practice.

Several classic mechanisms for stakeholders’ analysis and engagement were suggested by both project stakeholders’- and MM research. More specific MM mechanisms/activities, dedicated directly to changing the behavior of people and targeted organizations have also been analyzed throughout the literature review. However identifying which mechanisms were actually employed in this particular project remains the main exploratory goal of the case study analysis.

On the other hand, in order to be able to answer the second part of the research question (i.e. How are this mechanism employed throughout the planning and implementation phase?) and to shape the data collection plan and a relevant analytic strategy, it was regarded as necessary to formulate a set of four more detailed propositions:

Proposition 2: Practitioners perform a stakeholders’ analysis, covering all the classic phases: identification, classification, characterization, prioritization and deciding a generic engagement strategy, using both analysis and engagement mechanisms.

Proposition 3: Customized mechanisms for engaging citizens and targeted organizations are designed and employed jointly by the project team and partners in accordance to the local contextual particularities.

Proposition 4: The stakeholders’ analysis and the engagement mechanisms are constantly reassessed.

Proposition 5: The main challenges in engaging stakeholders in MM projects are related to the lack of alignment between projects’ objectives and some of Transport System Management’s (TSM) regulations developed at the national and supranational level.

With the same aim, a logical step-wise process of stakeholders’ analysis and engagement has been designed, in accordance to the understanding gained by the authors during the literature review process, thus reflecting the propositions already
stated. This is assumed to be the pattern that these kind of projects follow, which will be further compared with the empirically based pattern, resulted from the process of data analysis.

It is also necessary to highlight that the visual representation of the model masks the complexity of the process. Thus model is illustrated, but also further described below:

Figure 13.-Model for stakeholders’ analysis and engagement.

As showed in the Figure 13, there are several steps to analyze and engage stakeholders through the different phases of the project life cycle. For every step, several potential mechanisms can be used. It is the responsibility of the project managers’ and their project team to decide which of these tools are more appropriate.

Firstly it is essential to perform an analysis of the stakeholders (El-Gohary et al., 2006, p.598), which, according to most of the projects stakeholders’ literature, should include: identifying, classifying, characterizing, prioritizing and deciding an appropriate strategy to engage the stakeholders (Yang et al., 2011; Müller & Turner, 2010; Jepsen & Eskerod, 2009; McElroy & Mills, 2003).

It is also recommended to interactively engage stakeholders in the analysis phase, especially in order to identify their needs, their interests and their expectations, thereby a data gathering process is assumed to be the starting point of the process (Müller & Turner, 2010, Jepsen & Eskerod, 2009).

According to the reviewed MM literature, the basic stakeholders’ distinction that should be made during this classification phase of the project is between the citizens and the organizations; and inside the organizations between partners and other targeted
organizations (considering freight transporters as a special subgroup inside the latter category) (Rupprecht et al., 2011, EPOMM, 2010).

Consecutively, an interpretative sequence will be performed in order to decide the strategy that will be used for stakeholders’ engagement during the implementation phase. Several mechanisms and frameworks are proposed by the literature in order to support this decision making process as well as all the preliminary analytical steps (i.e. identification, characterization, classification and prioritization)(e.g. Müller & Turner, 2010, pp.68-69; Taschner & Fiedler, 2009, p.13; Rupprecht et al., 2011; McElroy & Mills, 2003, El-Gohary et al., 2006, Yang et al., 2011).

The collaboration of the stakeholders identified as partners in the design phase of the strategy to engage citizens and targeted organizations is regarded as essential. Therefore, the implementation of the engagement strategy for organizations is considered to be initiated with the partners’ collaboration and consultation. Thereby selecting different mechanisms of governance as for instance, steering committee, reference group or SAPs from the start of the project turn into a necessity (Spitzeck & Hansen, 2010, pp. 384-386).

The alignment among the different players (citizens, partners and organizations) and with the strategy is deemed as fundamental in order to achieve the success of the project. Hence, coordination and communication mechanisms become mainly in order to effectively create and develop a collection of valuable and attractive MM services (i.e. set of MM mechanisms that will directly encourage the dynamic engagement of citizens and targeted organizations in the project, leading to their behavioral change). Marketing mechanisms are also considered important, since the participation in the services has also a voluntary character for the members of the target groups (EPOMM, 2011, p.44

It is only after initiating the process of citizens’ engagement when the data collection and the information become more accurate, thus it is during the implementation of the project when it becomes possible to track the stakeholders involved or identify new stakeholders that have to be introduced in the project system. Thereby, the continuous evaluation and reassessment of the stakeholder analysis and of the engagement mechanisms are seen as critical especially in this type of projects.

The literature review has generated a theoretical framework for the continuation of the research as well as for the readers, concluding with the formulation of study’s propositions and with a model representing the predicted pattern of the processes of stakeholders’ analysis and engagement in a mobility management project. Furthermore, in the upcoming chapter, the philosophical assumptions of the authors will be discussed together with their research strategy’- and research methods’ choice.
Chapter 3 – Research Methodology

The present chapter is focusing on explaining the philosophical assumptions and the methodological considerations underlying the current study, discussing all the steps of the research process as illustrated by Saunders et al. (2009) - Figure 14. It details the rationale of the choices made regarding the research strategy and research methods. Finally it discusses the reliability and validity of the research study.

3.1. Research philosophy

Research philosophy refers to the nature and the development of knowledge (Saunders et al., 2009, p.107), more precisely to authors’ perspective regarding this two aspects. Thus, it is based on the taken-for-granted assumptions of the researchers, influencing explicitly or implicitly the research strategy and the research method choices, and even the general aim of the investigation. Saunders et al. (2009, p.109) identify two main ‘ways of thinking about research philosophy’: epistemology and ontology.

3.1.1. Epistemological considerations

The epistemological considerations correspond to what research classifies as acceptable knowledge (Bryman & Bell, 2010, p.15, Saunders et al., 2009, p.119). Bryman & Bell (2010, pp. 15-20) distinguish three major epistemological standpoints: positivism, realism and interpretivism, which Saunders et al. (2009, pp. 112-119) also describe in detail.

The positivist perspective is constructed on the assumption that it exists just one reality (Müller & Biedenbach, 2011, p.86). It encourages the use of natural science methods to examine inside and beyond the social reality (Bryman & Bell, 2010, p.15). Hence, it is usually associated with a very structured methodology that implies most often statistical analysis of quantifiable observations, facts more than impressions (Saunders et al., 2009, pp.119-120), that should serve in testing the generated hypothesis (Bryman & Bell, 2010, p.15).

Interpretivism has initially emerged as a reaction to the positivist orthodoxy (Bryman & Bell, 2010, p.17). It completely rejects the idea that the subject matter of social sciences (i.e. people and their institutions) and the complex interactions of the business world can be analyzed in the same way as physical sciences (Bryman & Bell, 2010, p.16). On the contrary, the supporters of this idea claim that researchers should adopt an empathetic stance (Saunders et al., 2009, p.116). This includes devoting efforts to entering and understanding research subject’s individual reality, paying attention to details and to what hides behind them and distinguishing between humans and social

Figure 14.- Research Process ‘Onion’
Source: Saunders et al., 2009, p. 108
actors (Saunders et al., 2009, p.115). Thus it “leads to the assumption of multiple realities” (Collis and Hussey, 2009 cited in Müller & Biedenbach, 2011, p.86).

The realism combines the assumptions of these two main epistemological perspectives: positivism and interpretivism (Müller & Biedenbach, 2011, p. 86). It shares the positivist idea that a scientific approach is appropriate for knowledge development, which implicitly impacts the processes of data collection and analysis. And it also accepts the existence of an external reality, different from our description of it that becomes the main focus of researchers. Thus it is built on objective events and mechanisms and on subjective experiences (Bhaskar, 1975 cited in Müller & Biedenbach, 2001, p. 87).

Both Saunders et al. (2009, pp.114-115) and Bryman & Bell (2010, p.17) underline the distinction between two types of realism: empirical/direct realism and critical realism, highlighting the appropriateness of the latter one for most of the managerial and business research, when compared to the former one. The direct realism advocates that what is sensed is the reality, while the critical realism considers that what is experienced are sensations, thus representations of the reality (Saunders et al., 2009, p.115). The critic realists also support the idea of multi-level study, arguing that each level can impact the understanding of what it is researched. The main justification is based on the wide variety and the complex interaction of the processes, procedures and structures that characterize the business world (Saunders et al., 2009, p.115). The presence and the intensity of these two characteristics in the particular context of stakeholders’ analysis and engagement, cumulated with authors’ recognition of the existence of an external world, their interest in studying it and their conviction that this can be achieved successfully through using a scientific method, denote critical realism as the main research philosophy of the current study.

3.1.2. Ontological considerations

Saunders et al. (2009, p. 110) state that ontology refers to the nature of reality, to the assumptions made about the world, while Bryman and Bell (2010, p.20) offer a more concrete description, explaining that the ontological considerations “are concerned with the nature of social entities”. Consequently, two opposite perspectives were identified: Objectivism and Subjectivism/ Constructionism. The objectivist view is characterized by the idea that “social entities exist in a reality external to social actors concerned with their existence” (Saunders et al., 2009, p.110). Meanwhile, the subjectivist view regards social phenomena as a social construction, having as a foundation the perceptions of the social actors, thus in a constant need of revision (Saunders et al., 2009, p.111). However the two approaches do not exclude each other, but they constitute the extremes postures that can be taken in understanding the world.

The current study will embrace a mainly subjective perspective, as it will rely on participants’ perception of the world, hence accepting that social reality is a result of the constant interaction between people and their environment, and not a pre-defined notion; but it will also grasp the objective assumption that the research objects have an existence independent of researchers’ thoughts, beliefs or knowledge.

3.2. Research approach

An additional aspect essential to be covered when developing a research project, is the nature of the relationship between the theory and the research (Bryman & Bell, 2010, p.11). Clearly, this should be aligned with the epistemological and ontological
considerations discussed above and with the research strategy and research method that will be presented in the upcoming subchapters. The research approach is usually represented as a continuum between the two extremes of deduction and induction (Bryman & Bell, 2010, pp.11-13, Saunders et al., 2009, pp.124-126).

Deduction implies the use of the existent theory, which will generate hypotheses, that will be further rigorously tested in a new context (Bryman & Bell, 2010, p.11). Deduction usually serves at explaining the causal relationships between variables and requires a “highly structured methodology”, using operationalizable concepts, that can be quantitatively measured and leading to results that can be generalized (Saunders et al., 2009, p.125).

Induction, on the other side, advocates that theory should be the result of research, thus it encourages generating theories out of the findings (Bryman & Bell, p.13). Its main feature is the focus on gaining understanding of participants’ meanings of events. It is also associated with a more flexible structure, which enables changes of the research emphasis throughout the research process and creates space for generating alternative theories. Furthermore, it usually requires a deep understanding of the research context and qualitative data.

Nevertheless, as already mentioned, the two perspectives, are not mutually exclusive, on the contrary it is very often advantageous to combine them inside a research study (Saunders et al., p.127). Creswell (2009) indicates several practical criteria for deciding upon the appropriate mix between the two approaches, highlighting the importance of taking into consideration the topic and the emphasis of the research.

The topic of the present study combines two areas of knowledge: project stakeholders and mobility management. A wide literature related to the former domain is accessible therefore a theoretical framework and a hypothesis could be easily deduced. However the latter mentioned domain is a relatively new field, characterized by much debate and little available literature, which would encourage an inductive approach. When also considering the emphasis of the research: identifying the mechanisms employed for stakeholders’ engagement and analysis and the sequence of their use in the specific mobility management context, and the ontological and epistemological considerations previously explained, it can be clearly argued that the current study has an abductive (i.e. mix of inductive and deductive) approach (Haig, 2005, Müller, 2011).

3.3. Research strategy
Literature distinguishes several strategies that can be utilized for developing a research. Saunders et al. (2009, p. 141) explain seven possible strategies: experiment, survey, case study, action research, grounded theory, ethnography, archival research. All strategies can be used for all research types, but their appropriateness for each particular situation significantly depends on the philosophical assumptions of the study, on the research approach, research question, on the level of knowledge and on the availability of other required resources, such as time.

Considering these factors, that will be explained in more detail in the subchapter: 3.3.1. Case study: Rationale of choice, the case study strategy was regarded as being the most appropriate for this particular research context.
3.3.1. Case study: Rationale of choice

Even though case study researchers, have not reached yet a complete agreement on the understanding of the case study concept (Bryman & Bell, 2010, p. 62), the definition proposed by Robson (2002, p.178): “strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” - is sufficiently comprehensive to be employed by the current study (Stake, 1995, p. 3).

The case study is appropriate when a strong interest in understanding a particular setting or an entity characterizes the research (Stake, 1995, p.4; Morris & Young, 1991, cited in Saunders et al., p. 146,). Thus it implies an intensive examination of the particular situation, and less or no concern with generalizing to other cases. Yin (2003, p.1) also emphasizes the idea that the case study is recommended when there is no clear distinction between the context and the phenomenon being studied. All these characteristics match the research objectives of the current paper.

Furthermore, case study’s strategy’s ability to generate responses to questions such as ‘why’ as well as ‘what’ and ‘how’ (Yin, 2003, p. 5, Saunders et al., 2009, p.146) and the research questions at which this particular study is aiming to reply, confirm also the appropriateness of choosing case study as a research strategy. The choice of case study as a strategy also aligns with the philosophical assumptions, previously explained: an epistemological realism perspective, a subjective ontological standpoint, and the mainly inductive approach.

Another key aspect in favor of the case study strategy was considered to be the possibility to combine several data collection techniques, both quantitative and qualitative. This creates the effect of triangulation (Saunders et al., 2009, p.146) and avoids the high reliance on a unique method (Knights & McCabe, 1997, cited in Bryman & Bell, p.70).

3.3.2. Case study type

Considering the purpose of the research, Gummesson (1988) differentiates between three main types of case study: descriptive, explanatory and exploratory. The descriptive research illustrates “an accurate profile of persons, events and situations” (Robson, 2002, p.59). In the business research, it is usually recommended to be used just as a component of an exploratory or, more often of an explanatory study, rather than as independent research type. The explanatory research goes further, aiming at explaining the (causal) relationship(s) existent between different variables, while, exploratory research’s main focus is to clarify the understanding of a situation, most often reducing the perspective from broad to narrow (Saunders et al., 2009, p.140).

The case study type embraced by the current study can be categorized as a combination between exploratory and explanatory, as the research aims at understanding what is actually happening in the mobility management projects’ practice through “seeking new insights; asking questions and assessing (…) in a new light” (Robson, 2002, p. 59) the use of mechanisms for stakeholders’ analysis and engagement thought-out the project: Sustainable Travel in Umeå Region.
3.3.3. Case study design

In order to synthesize most of the aspects that should be considered when designing a case study, Yin (2003) proposes the following 2×2 matrix:

![Figure 15: Basic Types of Designs for Case studies](Source: Cosmos Corporation cited in Yin (2003, p. 40)]

The visual representation illustrates both the interest in studying the case and understanding the context as well as the blurry distinction between the two (‘the dotted line’). Two parameters are regarded as essential when defining a case study design: the number of cases and of unit of analysis (single vs. multiple).

When differentiating between single and multiple cases, a single case is especially worth being considered if it can be catalogued as unique/extreme, critical, representative/typical, revelatory or longitudinal (Yin, 2003, pp. 40-43, Bryman & Bell, 2011, p. 61). Stake (1995, p. 4) adds up to this idea, claiming that a fundamental element that should be evaluated when selecting a case should be the anticipation of a learning opportunity. However, the time constraints and the accessibility to the fieldwork should not be disregarded (Stake, 1995, p. 4).

These were also the main criteria considered when choosing to focus on Sustainable Travel in Umeå Region (Hållbart Resande i Umeåregionen) project. This project is often regarded as one of Sweden’s most successful examples of mobility management projects, being awarded several prizes, as for instance, “annual environmental prize for the best example of a successful approach to a better environment”, offered by the Union of Baltic Cities (UBC) (Umeå Website, 2011). Moreover, Sweden is one of the most developed countries in terms of mobility management. Furthermore, the issue of stakeholders’ engagement is often directly correlated with project success, in the general project management contexts and even more clearly in the mobility management contexts. Thereby, on the whole, Sustainable Travel in Umeå Region can be classified as a ‘critical’ example for the world of mobility management projects. It clearly represents an object of interest, worth investigating for an in-depth elucidation of its
features that will serve at testing the validity of the propositions formulated at the end of the literature review and eventually generating alternative theories.

Regarding the second dimension – single vs. multiple unit of analysis, as already mentioned when describing the research context (Subchapter 1.3.), the current study will focus on a single unit of analysis: the mechanisms for managing stakeholders in this particular project, thus it will embrace a holistic type of design.

In conclusion, the strategy selected for conducting this research is a case study, which is considered critical for mobility management projects’ world. The rationale and most of the advantages of using this strategy were discussed in this subchapter. However, there are also a series of limitations that should not be overlooked. The most important limitations and the methods chosen to overcome them in this particular study will be presented in Chapter 3.8., when discussing the concepts of validity and reliability.

3.4. Time horizon: Cross-sectional vs. longitudinal
The time horizons of the research need to be defined in order to select the appropriate data collection methods. Saunders et al (2009) identify two types of time horizons: longitudinal and cross-sectional. It is important to remark that the choice between the two horizons is independent of any research strategy, taking into account other considerations, such as time constrain.

The longitudinal studies require an analysis in different time periods (Bryman & Bell, 2010, p. 68). Therefore, it can be catalogued as a study of changes and development over time (Saunders et al, 2009, p.155).

On the other hand cross-sectional studies refer to a single event or a specific period of time (Bryman & Bell, 2010, p. 68), a “snapshot” of a specific phenomenon (Saunders et al., 2009, p. 155). Different methods are employed in the cross-sectional studies. Qualitative interviews and qualitative content analysis of a set of documents related to a specific point in time are some of them. Due to its focus on a singular project, that was already implemented, this specific study clearly fits a cross-sectional time horizon.

3.5. Data collection methods
Two different fundamental types of data collection exist in business research: quantitative and qualitative. For Saunders et al. (2009, pp. 151-153) the most noticeable and simple manner to differentiate them is by comparing the type of data that they use. While quantitative research is usually based on numerical data, qualitative research entails non-numerical data.

However it is not necessary to limit the research to the use of one of the previous mono-methods. It is also possible to use more than one data collection technique at the same time (Saunders et al., 2009, pp. 151-153). The studies combining different techniques are denominated as utilizing multiple methods, which can be in turn subdivided in: multi-method and mixed-method.

The multi-method studies combine several techniques from the same stream, meaning the combination of either quantitative or qualitative methods. Meanwhile mixed-method coalesce qualitative and quantitative methods either at the same time, in parallel or one after the other. The current study will embrace a multi-method technique combining two main sources of qualitative data.
Tashakkori & Teddlie (2003) recommend the use of multiple methods only when the research question requires for it. Yin (2003, pp. 83-108) adds up to their idea, considering the use of multiple source of evidence as a principle to follow in case study research strategies, stressing the significance of the triangulation procedure: “the use of more independent source of data or data collection methods to corroborate research findings within a study” (Saunders et al., 2009, p. 154).

Yin (2003, p. 83) introduces six different methods of data collection that can be combined: documentation, archival records, interviews, direct observation, participant-observation and physical artifacts.

In view of all the general concepts previously introduced and the special interest in the opinion of the projects practitioners, a number of interviews will be conducted with the project team members. Several documents and archival records will be also collected in order to corroborate all the data gathered using a triangulation approach (Eisenhardt, 1989, p.538). The use of these methods will be further described in the upcoming subsections.

Other principle that Yin (2003) defines in order to maximize the benefits of a case study research, is the creation of a database that will organize and register the data gathered (Yin, 2003, pp. 83-108). The nature of this database can be diverse, such as notes, documents, tabular materials or even narratives. These data should be stored in a way that allows their recovering.

Thereby, a database originated from the collection of notes during the interviews (written and recorded), the documents and tabular materials provided by the project team will be also created.

A case study protocol will also be outlined with the intention of guiding the authors in carrying out this collection of data (Yin, 2003, p. 67-68).

3.5.1. Interviews
An interview is a purposeful discussion between two or more people (Kahn and Cannell, 1957, cited in Saunders et al., 2009). The most common classification of interviews’ types distinguishes among: structured, semi-structured and unstructured or in-depth interviews (Bryman & Bell, 2010, 466-467; Saunders et al., 2009, p.320). Considering this classification, Yin (2003, p. 89) and Rubin & Rubin (1995, p.19) explain that the rationale for the use of interviews in case studies is to let fluid the conversation rather than limit it to rigid inquires, focusing the questions in the desired topic. Most of the case studies interviews have an open-ended nature. This nature “encourages the interviewee to provide an extensive and developmental answer” (Saunders et al., 2009, p.337), allowing the interviewer not only to ask questions about facts that matter, but also about insight opinions (Yin 2003, p. 90). It is important to avoid the possible bias of the interviews, corroborating the data gathered with other sources of evidence (Yin 2003, p. 90; Saunders et al., 2009, pp.150-154).

Therefore, considering the mixed exploratory and explanatory nature of this study and the interest in project practitioners’ opinions, an open-ended, semi-structured interview has been selected to be utilized by the researchers as a main instrument to collect data (Saunders et al., 2009, p.323). It will be conducted for a period of time of approximately forty five minutes. The reason of this interview not being longer than the time specified
is to keep the interest and the attention of the interviewee (Saunders et al., 2009, p.325). The interviews will be face to face and they all will take place in the city of Umea. Eventually the data gathered will be contrasted with the secondary data obtained, carrying out the aforementioned triangulation process. The interview structure is included in the Annex 3.

In order to ensure the adequacy of the questions included in the interview, as well as avoid the problems in recording the data, the interview must be pretested. This will contribute to meeting the validity and reliability criteria during the data collection. The interview was tested following a three steps method consisting of: firstly the design of a pilot interview; secondly the tuning of this pilot interview, after a previous meeting with the project manager and consulting an expert (the thesis supervisor); and, thirdly, the continuous reassessment of the questions during the interviews period, in order to adequate the questions. The next figure illustrates this process:

**Figure 16. Process for testing the interview guide**

### 3.5.2. Documentation

Documentation as a data method may take the various forms, being generally used in case studies to corroborate other sources of information (Yin 2003, pp. 85-87). In this particular case the researchers will conduct a documents and an archival records collection, gathering the following documentation: the project proposal sent to the European Union, the detailed project description; the website (http://www.smartaresor.se), the YAPs (yearly activities plans), activities’ reports, steering committee and coordination committee meetings’ minutes, and an evaluation study of the project (realized by Trivector\(^1\)); as well as the next archival records: list of

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1 Trivector is a company carrying out consulting, research and development activities within the area of traffic and transportation.
co-financers, steering committee and other companies involved on the project; the template of the survey send to the citizens involved in the activities and other surveys used during the project life cycle.

3.6. Research process
After the selection of case study as a research strategy and the selection of the data collection methods, the authors will proceed to outline the research process designed.

The literature review has covered a wide spectrum of the project stakeholder’s theory and mobility management literature, aiming at deeply understanding the mechanisms available for stakeholders’ analysis and engagement in mobility management projects. Eventually, a step-wise model pattern grounded on the theoretical knowledge acquired has been designed. This predicted pattern consists of the expected sequence of mechanisms used to analyze and engage stakeholders in mobility management projects. Subsequently, following the case study strategy, all the documents mentioned in the previous section will be analyzed, in order to get a general knowledge of the project: Sustainable Travel in Umeå Region. Five interviews will be conducted in parallel with the project team to lastly contrast all the data collected by using both, interviews and documentation methods. Utilizing a triangulation approach, the authors attempt to ensure the unbiased data.

Once the data are corroborated, the analysis will be undertaken using a pattern matching procedure, testing the adequacy of the framework and propositions settled after the literature review. This analysis will provide the authors with a set of findings and consequent conclusions about the use of the stakeholders’ analysis and engagement methods in this project (Sustainable Travel in Umeå Region).

The following figure illustrates the research process formerly explained:

![Research Process Diagram]

Figure 17.-Research process

3.7. Sampling approach
Two main approaches to sampling, both participants and cases, were distinguished by the literature: probabilistic and non-probabilistic (Bryman & Bell, 2010, pp.170-173, Saunders et al., 2009, pp.214-217). The first emerges from the understanding of samples as a mathematical representation of large populations, while the second is mostly associated with qualitative data and with the social sciences research, encouraging the
purposive choice of participants/cases (Bryman & Bell, 2010, p.441). Considering the nature of the current study, a non-probabilistic approach was preferred: selecting one particular ‘critical’ case following the rationale described in the subchapter 3.3.3.

In regards, the sampling approach for the interviews conducted as part of the case study, as already mentioned, a non-probabilistic approach will be undertaken due to the small number of members of the project team and their availability. Thus, all the five members of the project team will be interviewed.

3.8. Method of analysis
In order to “gain familiarity with data and preliminary theory generation” (Eisenhardt, 1989, p. 533), the data within the case study has to be properly analyzed. As Yin (2003, pp.111-115) has specifically recommended, when starting to analyze the data collected for a case study, it is important to decide upon a general analytic strategy. He identifies three potential strategies: relying on theoretical propositions, thinking about rival explanations and developing a case description. He refers to the first strategy as the most preferred as it implies “following the theoretical propositions that led to the case study” (Yin, 2003, p111). The propositions are a reflection of the initial research questions, of the reviewed literature and of the new hypothesis emerged. Tracing them through the research will serve in the general organization of the case study, but also in shaping the plan for the data collection process and to focus on relevant data during the data analysis process and even in generating alternative explanations worth investigating (Yin, 2003, p.112). Those considerations stayed at the basis of the decision to rely on theoretical propositions as a general analysis strategy for the current case study.

Furthermore, most of the qualitative data analysis researchers (Yin, 2003, Stake, 1995, Silverman, 2001, Saunders et al., 2009) argue that in alignment with the chosen strategy, a mix of techniques and processes should also be designed in order to ensure an accurate and suitable data analysis process and through it increase the internal and external validity of the study. The specific techniques/procedures indicated by Yin (2003, pp.116-137) are: pattern matching, explanation building (a specific form of pattern matching), time series, logic models and cross case synthesis. In addition, Miles & Huberman (1994) propose data display and analysis as a procedure for analyzing data, while King (2004) advocates for template analysis.

Pattern matching is classified by Yin (2003, p.116) as ‘one of the most desirable techniques’ for a case study. It implies predicting a pattern of outcomes prior to initiating the data collection process, having as a basis the formulated propositions of the study. The empirical data will be further compared to this framework as a means of explaining the findings. If they match it generally serves to strengthen the internal validity of study (Yin, 2003, p.116). However, the task of looking for alternative explanation or negative examples is an essential part of the process, and should not be undermined, but carefully and rigorously performed as it might generate new insights into the topic.
Thus, for the current case study research, pattern matching is judged to be the most appropriate as it directly aligns with the general analysis strategy mentioned and it provides a relatively clear path to answer the research question. However, certain aspects of data display and analysis and of template analysis will also be covered through summarizing and categorizing the data. Furthermore, as suggested by Saunders et al. (2009, p. 503), this two stages of the analysis process are likely to be more useful when they are focused, at least at first, on existing theory, as it happens when selecting pattern matching as a analytical procedure.

Nevertheless, in addition to the already mentioned processes and procedures, additional ways of recording information, in the form of interim summaries and self-memos have also been utilized in order to supplement the transcripts, the notes and the categorized data (Miles & Huberman, 1994, Strauss & Corbin, 2008).

3.9. Ensuring validity and reliability
Bryman & Bell (2010, p.61) reveal two different perspectives when considering the significance of the classic research design criteria (i.e. reliability and validity) when evaluating a case study design. Some of the case study scholars, like for example Stake (1995), are barely referring to these concepts, while others such as Yin (2003) consider them extremely relevant, suggesting even methods to meet this criteria. However, they agree on denominating the external validity as a central concern for this type of studies.

Further, the four test proposed by Yin (2003): construct validity, internal validity, external validity and reliability, will be discussed in detail, highlighting the limitations that case studies usually have and the ways chosen by the authors to enhance the ability of the current study to overcome them and meet the four criteria.

Construct validity refers to ensuring accurate measurement instruments for the concepts employed in the study. The use of multiple source, in this particular case: interviews and documentation is used as tactic to increase the construct validity, as suggested by Yin (2003, p. 34).

The internal validity is mainly related to the causality (Bryman & Bell, p.42, Yin, 2003, p 34) of the relationship between two or more variables, thus a secondary concern for the current study, which is primarily exploratory. However, this aspect will be addressed, through analyzing the data using the pattern matching technique.

The external validity is concerned with the generalization of study’s findings outside the particular research context. Critics usually regard this aspect as the main barrier when conducting case studies. This consideration usually emerges from the comparison with the survey research, in which a large population can be characterized through evaluating a correctly selected sample. However, this analogy is not valid, as survey researchers rely on statistical generalization, while case study relies on analytic generalization (Yin, 2003, p. 37, Stake, 1995, p. 4). The analytic generalization principle translates into the necessary clarification that the results of this research are aiming to be generalized just to its propositions and to the theory behind it.

Reliability refers to the replicability of the results when repeating the operations of the study (Bryman & Bell, 2010, p.41). It is concerned with ensuring the consistency of the
measures that are designed for concepts assessment. Thereby this becomes the main concern of quantitative research (Bryman & Bell, 2010, p.41). Nonetheless, it represents a challenge also for qualitative research.

In regards the reliability of the data collection methods chosen, Silverman (2001, pp. 229-230) claims that documentation is generally highly reliable considering its availability in a written form. Regarding the use of interviews, he suggests to ensure that every respondent has the same understanding of the question and that their “answers can be coded without the possibility of uncertainty” (Silverman, 2001, p. 229). As previously stated and as also suggested by Silverman (2001, p.229), this will be achieved through pre-testing the interview and through a thorough preparation of the interviewers before starting conducting the interviews.

Lastly, for ensuring the overall reliability of the case study, Yin (2003, p. 34) recommends the development of a case study data base and the use of a case study protocol. This are regarded as crucial in the multi-cases research, but are also deemed as important in the single-case design. Both tactics have been employed in the current study in order to ensure a high degree of reliability.

The chapter has described the philosophical assumptions that represent the foundation of this study and the methodology followed in order to achieve the research aims. Once the general principles have been established, the data collection process can be conducted. The next chapters will explain in detail the data analysis performed and the findings resulted.
Chapter 4 – Data analysis

After the previous chapter has described in detail the philosophical assumptions of the authors and the research methodology process undertaken, concluding with the briefly explanation of the method selected for data analysis and the ways chosen by the authors to enhance the ability of the current study to meet the reliability and validity criteria, the data collection process was conducted. The current chapter will present the data analysis process that was subsequently undertaken. It will start with a brief presentation of the project Sustainable Travel in Umeå Region, will continue with a description of the data analysis process and will end with an overview of the findings.

4.1. The project: Sustainable Travel in Umeå Region (Hållbart Resande i Umeåregionen)

The case study is focused on the mobility management project: Sustainable Travel in Umeå Region (Hållbart Resande i Umeåregionen). The project was developed between June 2008 and May 2011, as part of the special program for the general improvement of air quality in this region, which was created by the Umea Municipality in partnership with several national organizations. However 50% of the total funding necessary for this specific project, 13 100 000 SEK, was provided by the EU Regional Found. Umeå functional region is formed from six municipalities: Umeå’s Municipality, Vännä’s Municipality, Nordmaling’s Municipality, Robertsfors’s Municipality, Vindeln’s Municipality, Bjurholm’s Municipality. Out of the total of 114,000 households spread over the 9,370 km² surface of the region, 110,000 inhabitants live in the Umeå Municipality, from which approximately 75% live in the urban area. Thus more than 75,000 people’s health is directly endangered by the serious air-quality problems present in the city center, while most of the others also suffer the consequences of breathing the unhealthy air as they work daily in the city of Umea. The air-quality problems are caused by a unique combination of intensive traffic, especially through the city center and the climatic characteristics determined by the geographic position (i.e. high atmospheric pressures, especially during the winter time). Thus encouraging sustainable travel was envisioned as one of the key solutions to this problem, and this project as the vehicle to implement this vision.

Consequently, the overall project aim was to “promote sustainable travel” through developing a positive attitude towards it and ”new and expanded mobility and accessibility schemes in the Umeå Region” (STUR, 2011). The overall target group of the project were the citizens of Umeå Region. Thus a major aspect that has to be clarified from the beginning is that the good/freight transporters are not included in this project.

It was the first project of this type that was developed in Northern Sweden and it was generally regarded as a success by the project team, the co-financers (the European Commission, the six municipalities, Västerbotten County Council, Västerbotten County Administrative Board, Swedish Road Administration and Swedish Rail Administration) and other neutral organizations and specialists.
As a direct consequence of this project the Be green Umeå office of the Umea Municipality was created and four out of the five members of the project team continue working within the organization, including the project manager Carina Aschan.

4.2. Preparation for the data analysis
After discussing the overall context in which the project was developed, an overview of the interviews conducted, interviewees and the documentation collected is considered suitable

4.2.1. Interviews
As explained in chapter 3.7. Sampling approach, five interviews were conducted with all the five members of the project team. This will ensure the availability of the information required for the current study from a multiple and complementing perspective.

The table below presents the list of the interviewees and their role in the project. Three out of the five interviewees accepted their name to be used in this research project, while the other two will be identified only through their role in the project.

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Role in the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee 1</td>
<td>Carina Aschan</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Interviewee 2</td>
<td>NA</td>
<td>Project Coordinator</td>
</tr>
<tr>
<td>Interviewee 3</td>
<td>Martin Svensson</td>
<td>Project Communicator</td>
</tr>
<tr>
<td>Interviewee 4</td>
<td>Johan Lagrelius</td>
<td>Project Communicator</td>
</tr>
<tr>
<td>Interviewee 5</td>
<td>NA</td>
<td>Project Coordinator</td>
</tr>
</tbody>
</table>

Table 7. -Interviewee Sheet

As initially planned, the interviewees lasted in average 45 minutes and took place at the workplace of each of the interviewees (Be Green Umea office and Umea Municipality, respectively), following the structure from Annex 1.

The language of the interview was English, which is not the mother tongue of neither one of the interviewers or interviewees, thus might have constituted a barrier in the process of communicating ideas. However no important issues caused by this aspect were identified.

Furthermore each of the interviews was transcribed and summarized by the authors. During the process, self-memos were also used as an additional way of recording ideas of the authors.

4.2.2. Documentation
All the documents mentioned in section 3.5.2. Documentation were collected. In order to be able to track the sources of the data, the documentation will be labeled as it follows:
Table 8.- List of the documents analyzed

The documentation provided only in Swedish was translated in English by the authors. Additionally, in order to ensure the correctitude of the information, the translations were double-checked by one of the project team-members and some small modifications were done. Furthermore the data was analyzed in accordance to the process that will be further described.

4.3. Data analysis process

4.3.1. General overview on the data analysis process
As already mentioned and justified in the subchapter 3.8. Method for analysis, the first step that needs to be undertaken in order to develop an accurate data analysis is, according to Yin (2003, pp.111-112), deciding a general strategy. The strategy chosen for the current study is “relying on theoretical propositions”. As advised by most qualitative-research scholars (Yin, 2003, Stake, 1995, Silverman, 2001, Saunders et al., 2009), the next step carried out was identifying an appropriate mix of techniques and processes aimed at enabling a smooth, valid and reliable data analysis. In alignment with the chosen strategy, the pattern matching technique was selected, which will be blended with the processes of summarizing and categorizing. The choice of pattern matching as an analytical procedure and implicitly commencing with a set of propositions extracted from theory enables a more focused, thus efficient, summarizing and categorizing processes (Saunders et al.,2009, p. 503). Moreover, additional ways of recording information such as interim summaries and self-memos have also been utilized in order to supplement the transcripts, the notes and the categorized data (Miles & Huberman, 1994, Strauss & Corbin, 2008).
Figure 19 synthesizes the whole process of data analysis that was performed in the current study.

The upcoming sub-chapters (4.3.2. and 4.3.3.) will explain in detail the categorizing process. As suggested by Saunders et al. (2009, pp.492-493) the categorizing process has been divided in two steps: firstly developing the categories, secondly ‘unitising’ the data.

### 4.3.2. Developing categories

According to Berg (2004, p. 272), the process of developing the categories can be inductive, deductive or a mix of the two. A purely inductive approach implies deriving the categories directly from the data, thus ‘immersing’ into the collected data with the scope of extracting relevant themes (Abrahamson, 1983, p.285). On the other side, the deductive approach corresponds to basing the categories on a framework inspired from theory, the data representing a “means to assess hypothesis” (Berg, 2004, p. 273). However in most of the cases, the imminent interaction between theory and the collected data requires a mix between both deductive and inductive approaches when developing the categories (Berg, 2004, pp. 273-274). To some extent in agreement with the previous classification, Strauss and Corbin (2008) propose three sources for denominating the categories: (1) ‘in vivo’ codes – employing terms utilized by the participants in the research; (2) using terms that come out from the data; or (3) using terms revealed by the theory.

The current study will mix the deductive and the inductive procedures in order to develop the categories. In accordance to the principles of the pattern matching technique, it will derive the initial categories and their names from the reviewed stakeholders and mobility management research, more precisely from the predicted pattern model that had been illustrated at the end of the literature review chapter (Figure 13), which is a clear reflection of the theoretical propositions of the study. This will ensure the general structure and coherency of the analytical framework. The categories considered for initiating the data analysis are illustrated in the next table:

![Data analysis process](image)
## DATA AGGREGATIONS

<table>
<thead>
<tr>
<th>DATA AGGREGATIONS</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Planning phase</td>
<td>PL_P</td>
</tr>
<tr>
<td>A.1. Information gathering</td>
<td>INFO_GAT_PP</td>
</tr>
<tr>
<td>A.2. Identification</td>
<td>ID</td>
</tr>
<tr>
<td>A.3. Classification &amp; Prioritizing</td>
<td>CLASS</td>
</tr>
<tr>
<td>A.4. Characterization</td>
<td>CHARACT</td>
</tr>
<tr>
<td>A.5. Decide strategy to engage stakeholders</td>
<td>D_STRAT</td>
</tr>
<tr>
<td>A.5.1. Decide strategy to engage organizations</td>
<td>D_STRAT_ORG</td>
</tr>
<tr>
<td>A.5.2. Decide strategy to engage citizens</td>
<td>D_STRAT_CIT</td>
</tr>
<tr>
<td>B. Implementation phase</td>
<td>IMPL_P</td>
</tr>
<tr>
<td>B.1. Citizens’ engagement</td>
<td>CIT_ENG</td>
</tr>
<tr>
<td>B.1.1. Marketing mechanisms</td>
<td>MK_CIT</td>
</tr>
<tr>
<td>B.1.2. MM Mechanisms</td>
<td>MM_CIT</td>
</tr>
<tr>
<td>B.1.3. Classic engagement mechanisms</td>
<td>CLS_ENG_CIT</td>
</tr>
<tr>
<td>B.2. Organizations’ Engagement</td>
<td>ORG_ENG</td>
</tr>
<tr>
<td>B.2.1. Partners’ Engagement</td>
<td>PART_ENG</td>
</tr>
<tr>
<td>B.2.1.1. Marketing Mechanisms</td>
<td>MK_PART</td>
</tr>
<tr>
<td>B.2.1.2. MM Mechanisms (MM Services)</td>
<td>MM_PART</td>
</tr>
<tr>
<td>B.2.1.3. Classic engagement mechanisms</td>
<td>CLS_ENG_PART</td>
</tr>
<tr>
<td>B.2.2. Targeted organizations’ engagement</td>
<td>TO_ENG</td>
</tr>
<tr>
<td>B.2.2.1. Marketing mechanisms</td>
<td>MK_TO</td>
</tr>
<tr>
<td>B.2.2.2. MM Mechanisms</td>
<td>MM_TO</td>
</tr>
<tr>
<td>B.2.2.3. Classic engagement mechanisms</td>
<td>CLS_ENG_TO</td>
</tr>
<tr>
<td>C. Reassessment</td>
<td>REASS</td>
</tr>
<tr>
<td>C.1. Analysis Mechanisms’ reassessment</td>
<td>REASS_AN</td>
</tr>
<tr>
<td>C.2. MM mechanisms reassessment</td>
<td>REASS_MM</td>
</tr>
<tr>
<td>C.3. Classic engagement mechanisms reassessment</td>
<td>REASS_CLS_EN</td>
</tr>
<tr>
<td>C.4. Marketing mechanisms reassessment</td>
<td>REASS_MK</td>
</tr>
<tr>
<td>D. Challenges</td>
<td>CHA</td>
</tr>
</tbody>
</table>

### Table 9.- Initial categorizing

However, the indubitable emergent nature of the processes of generating and developing categories, which is build upon the backward and forward movements between categories and data (Dey, 1993, p.105), required several modifications during the data revision process, in order for the grouping to remain relevant for achieving the purpose of our research. Table 10 shows the final version of the categories.
As it can be spotted, when comparing the initial and the final version of the categories (Table 9 with Table 10), a more hierarchical approach to categorizing some of the data (King, 2004, Strauss & Corbin, 2008) (e.g. for B.1. Citizens’ engagement –CIT_ENG) was required and other categories were grouped, as there was not enough evidence to maintain them as individual categories or their boundaries were blurred (just one category for Organizations’ engagement mechanisms during the implementation phase ORG_ENG and for Engagement mechanisms’ reassessment RE_ENG).

The significance of those differences for the current study will be explained more in detail in Subchapter 4.4 and in Chapter 5, when contrasting the predicted pattern model with the model resulted from the empirical research.

Nevertheless, before moving further towards describing the ‘unitising’ data process and the findings of the study, it has to be mentioned the two criteria that are considered essential by Dey (1993, pp.96-97) when developing categories: meaningfulness in relation to the data (internal characteristic) and meaningfulness in relation to other categories (external characteristic) are met by the second template.

4.3.3. ‘Unitising’ data
As previously mentioned, the inherent activity that needed to be performed along with developing categories, in order to complete the analytical process, was ‘unitizing data’. This is translated into allocating ‘units’ of data (i.e. words, sentences, paragraphs, lines

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**Table 10.- Final categorizing**

<table>
<thead>
<tr>
<th>DATA AGGREGATIONS</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Stakeholders’ analysis and engagement in the planning phase</strong></td>
<td>PLAN_P</td>
</tr>
<tr>
<td>A.1. Information gathering</td>
<td>INFORM</td>
</tr>
<tr>
<td>A.2. Stakeholders’ analysis mechanisms</td>
<td>STK_AN</td>
</tr>
<tr>
<td>A.2.1. Identification</td>
<td>ID</td>
</tr>
<tr>
<td>A.2.2. Classification, Characterization &amp; Prioritizing</td>
<td>CLCHAPRI</td>
</tr>
<tr>
<td>A.2.3. Decide generic engagement strategy for stakeholders</td>
<td>D_GSTRAT</td>
</tr>
<tr>
<td>A.3. Customize &amp; start implementing the engagement strategy for organizations</td>
<td>C_OSTRAT</td>
</tr>
<tr>
<td>A.4. Customize the engagement strategy for target group</td>
<td>C_STRAT</td>
</tr>
<tr>
<td><strong>B. Stakeholders’ engagement in the implementation phase</strong></td>
<td>IMPL_P</td>
</tr>
<tr>
<td>B.1. MM mechanisms for citizens’ engagement</td>
<td>CIT_ENG</td>
</tr>
<tr>
<td>B.1.1. Marketing mechanisms</td>
<td>MK_MECH</td>
</tr>
<tr>
<td>B.1.2. MM Campaigns</td>
<td>MM_CAM</td>
</tr>
<tr>
<td>B.1.3. MM Activities</td>
<td>MM_Act</td>
</tr>
<tr>
<td>B.1.4. Interactive engagement mechanisms</td>
<td>INTER_MECH</td>
</tr>
<tr>
<td><strong>B.2. Mechanisms for organizations’ engagement in the implementation phase</strong></td>
<td>ORG_ENG</td>
</tr>
<tr>
<td><strong>C. Reassessment of stakeholders’ analysis and engagement mechanisms</strong></td>
<td>REASS</td>
</tr>
<tr>
<td>C.1. Analysis mechanisms’ reassessment</td>
<td>RE_AN</td>
</tr>
<tr>
<td><strong>C.2. Engagement mechanisms’ reassessment</strong></td>
<td>RE_ENG</td>
</tr>
<tr>
<td><strong>D. Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase</strong></td>
<td>CHA</td>
</tr>
</tbody>
</table>

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55
of the transcripts or other ‘chunks’ of data) to appropriate category/ies. It was a selective process constantly guided by the research purpose and aimed at reducing and rearranging the collected data in a more convenient and understandable manner (Saunders et al., 2009, p.493).

The use of checklist matrices

Dey (1993), Miles & Huberman (1994), Wengraf (2001) and other scholars, support the idea of using visual displays in order to facilitate this process. Miles & Huberman (1994) distinguish between two main types of displaying data: matrices and networks. For this study, the use of checklist matrices was deemed as relevant. The rationale of this choice was based on the fact that this type of matrix, not only helps in standardizing and condensing the information, but also enables a clear comparison of the two data sources and their divergence or convergence, potentially revealing emerging patterns or trends. These matrices consist of evidences that take the form of both direct quotes and inferential remarks; thus they are considered by the authors to be extremely suitable for reflecting the linkage between the units of analysis – the paraphrased statements identified in the data sources - and the empirically-based pattern-matching model resulted. The checklist matrices directly resulted from the data analysis process are reproduced in Annex 4.

Figure 19 shows an example of how the units of analysis were allocated to the correspondent categories:

"On my opinion the transport companies, were the hardest stakeholders to deal with due to the complicated structure of these organizations. The municipality was planning how to organize the bus services, a different organization applied those services, and a third part carry out the work that was planned. So on this mess, none of them seem to care about having more costumers. And also because of this structure, it was difficult to communicate with them, which generated other problems, since these companies provided information about effective bus lines, areas of action, target groups or data regarding what customers thought about the buses. This is the reason why we use all the means we had to reach them: telephone calls, surveys, emails, face to face meetings (...). Eventually, after collaborating with us in this project, a change occurred and now they became one company and they are working together, being more effective. I like to think that this change happened because of the influence of our project."

Figure 19.- Example of analysis from interview No.3

The chapter 4.4. will explain the findings resulted from the process of data analysis: the empirically-based pattern model illustrating the process of utilizing analysis and engagement mechanisms through the planning and implementation phase of the analyzed project.

4.4. Findings: from checklist matrices to the empirically-based pattern-matching model

As explained in the previous chapter, in order to develop the empirically-based pattern matching model required by the pattern matching technique, a content analysis based on the process of categorizing data was performed. This subchapter will show the findings in the sequence of the four main categories developed: (1) Stakeholders’ analysis and
engagement in the planning phase (PLAN_P); (2) Stakeholders’ engagement in the implementation phase (IMPL_P); (3) Reassessment of stakeholders’ analysis and engagement mechanisms (REASS); (4) Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase (CHA).

For each of the categories the correspondent findings will be presented. The findings are the result of interpreting the data displayed in the checklist matrix (Annex 4). The matrix exhibits in parallel the Evidences from the interviews, the Evidences from the documentation and their potential convergence for each category identified, represented through its code.

4.4.1. Stakeholders’ analysis and engagement in the planning phase (PLAN_P)
As mentioned by several stakeholder management scholars (e.g. Jepsen & Eskerod, 2008, Yang et al, 2011) and also agreed by the scarce mobility management research available on this topic the stakeholders’ analysis process is usually composed from the following processes: identification, classification, characterization, prioritization and deciding the engagement strategy. These were the initial categories envisioned inside the planning phase. However, during the data analysis process the need for grouping the evidence for classification, prioritization and characterization categories into one sole category emerged because of the too blurry separation made by the project practitioners, when discussing these three stages. On the other side, the necessity of detailing the processes of deciding the engagement strategy was revealed by the interviews and documentation analysis. Furthermore the findings resulted from interpreting the evidence collected and presented in the first part of Annex 4: PLAN_P, will be explained, following the logical order of the analysis and engagement process, reflected through the categories.

Information gathering mechanisms (INFORM)
The first category identified initially in the literature review and subsequently confirmed by the empirical evidence, corresponds to the process of information gathering. Both interviews and documentation agree in clarifying that an important source of information for the project were similar projects developed in other cities/regions from Sweden that were more experienced in terms of mobility management. The project manager points out clearly towards Lund and Malmo. She also reveals the importance of the direct contact with the target group, the citizens, and the significant contributions that this has brought to the project.

On the other side, the project proposal discloses, in addition to the already-mentioned study visits to other cities, two other techniques for exchanging (i.e. both gathering and disseminating) information with external entities: “Participate in national and international conferences and trade fairs” and “be a member of ‘strategic networks for sustainable travel’”. The internal mechanisms used for gathering information during the project will be discussed more in detail in the reassessment section.

Identification (ID)
In regards, the first stage of the stakeholders’ analysis process: identification, the interview with the project manager revealed the use of brainstorming during the meetings of the team, and also the “consultation of other comparable projects” and the “personal past experience of herself and of the other project team-members” as the main mechanisms employed. As anticipated, these aspects were not covered by any of
the documents reviewed. However, the availability of the lists of co-financiers (D2) and of all the companies (D6) was considered a verification of this stage’s appropriate execution.

**Characterization, classification and prioritization (CLCHAPRI)**

Even though the project team, did not explicitly denominate any mechanisms for classifying, characterizing and prioritizing the stakeholders (“I don't think we have used a tool (...)”), several comprehensive classifications could be depicted through analyzing the data gathered as a whole (i.e. reviewing in parallel the project proposal (D1), the activity plan (D4) and the interviews). This classification would have not been possible without previously carrying out a thorough characterization. First of all a special category distinguished by all the interviewees are the co-financers listed in D2. Furthermore, two types of organizations can be differentiated: potential partners and targeted organizations, which are subsequently characterized, especially in terms of needs (e.g. “a survey is applied inside the organizations to identify the needs in terms of mobility management) and their expectations (e.g. the bus company is expecting an increase in number of citizens travelling by bus instead of personal car, but also the feedback of the participants in our activities (...)”).

However, most of the attention is clearly paid to the citizens. This particularity is to some extent understandable as citizens are the target group of MM projects. However the conclusion of the evaluation report made by Trivector (D5) that the project has not involved the partners in the most efficient way, might have one of its roots in the lack of consideration given to this specific phase.

An attention-grabbing tool revealed by the first interviewee, was the initial classification of the citizens in three groups: red, yellow, green “according to their predisposition for behavioral change”. Nevertheless the match between the criteria used for classifying citizens, mentioned by the five interviewees and verified by the documents (e.g. travel destination: workplace, leisure; specific residential areas), and the parameters suggested by the MM literature is also remarkable.

**Decide generic engagement strategy for stakeholders (D_GSTRAT)**

A generic engagement strategy is decided by the project team during the meetings held at the very beginning of the project, as explained by interviewee 1, 3 and 5 and certified by D4 - the activity plan (e.g. “General strategies: (1) A reduction in car traffic environmental impact by increasing the number of trips by bicycle; (2) Reduce car traffic and environmental impact through diminishing the growth of short or unnecessary journeys; (3) Reduce environmental impact in the region through increasing availability by increasing the proportion of those who use public transport bus / train / carpool; (4) Reduce environmental impact and improve health status of the workers from the region through encouraging them to switch to sustainable commuting”). As it can be spotted from these statements, even at a generic level, the strategies to engage citizens, clearly require close collaboration with organizations such as partners or targeted organizations (e.g. Interviewee 1: Engage citizens through engaging their workplace. Citizens are the primary target group; targeting the workplaces is an effective way to engage citizens. It can be say that we consider organizations as intermediaries, a target group to reach another target group). Thereby, furthermore a more detailed strategy is thought for involving each of these
organizations, which will further significantly contribute in designing a more accurate strategy to engage the citizens. In consequence breaking down this stage was required in order to develop an accurate understanding of stakeholders’ engagement process.

**Customize & start implementing the engagement strategy for organizations (C_OSTRAT)**

A slightly different approach is required for engaging different organizations, especially considering the time horizon and the intensity of the relationship envisioned. Consequently three major categories were distinguished after confronting the evidence from the interviews with the evidence from documentation: partners, targeted organizations and co-financers.

In terms of partners, the two main partners presented by all the interviewees were: the bus company (that initially was divided in three different companies) and the department in charge of planning the infrastructure development inside of Umea Municipality. Their role was indeed deemed as essential by interviewees in order to further ensure the engagement of the target group, citizens, and through it the success of the project, as explained by the project manager: “the consultation with bus company to see where they have good bus services, in order to select areas and the consultation with the ‘planning department’ of the municipality that creates and improves bike infrastructure, were essential to decide upon exact areas, with potential for the further successfully engaging the citizens”. Once the initial negotiations were finished, the coordination meetings have ensured a smooth collaboration between the project team and the partners, as explained by interviewee 5.

For the targeted organizations the generic strategy was based on “(...) showing them an opportunity to save money at the same time they are improving their employees’ health and taking care of the environment”, as comprehensively explained by one of the project coordinators - interviewee 2. As clarified by one of the project communicators, interviewee 4: the first step was to make a list with all the companies from Umea Municipality that have more than 50 employees and with the companies from the other municipalities that have more than 10 employees. Moreover, as confirmed also by the sixth document- D6 – the list of the companies and their status, the next step was to divide the companies among the members of the team. As explained by one of the project communicators - interviewee 3, every member tried “to reach the management team” (i.e.as mentioned also by the interviewees: 2 and 5) and/or the Health Responsible (i.e. as explained by interviewee 1 and 4) “in different ways: by phone and with brochures, but the most effective manner were always the face to face meetings”. Furthermore, after being “explained the specific reasons why they (i.e. the companies) should participate” (Interviewee 1), in accordance to the extent to which they are interested in the proposal, a customized strategy for collaboration is designed. A special case is represented by the co-financers. One or two representative from each of the co-financers have been appointed to be part of the steering committee, as both project coordinators mentioned (interviewee 2 and 5) and confirmed by D2: list of project co-financers. Interviewee 3 claims that “most of them (i.e. the members of the steering committee) were really helpful in answering questions and providing information and knowledge”.

**Customize the engagement strategy for target group (C_STRAT)**

As clearly stated by the evaluation report –D5, and confirmed by all interviewees: “partners are considered to have a strong influence on the planning of activities, both
through the reference group and through direct contact with the working group”. They usually point out potential successful target groups to be addressed, through indicating areas of the city where the bus/bike infrastructure has been recently improved (interviewee 1, 2, 3, 4; D4, D5). Moreover, they also bring an important input through contributing with material support, such as one-month free cards for riding a bus, for test travelers (Interviewee 2, 5; D5).

In regards targeted organizations, they are normally viewed as intermediaries (interviewee 1) between the project and the target group: the citizens, more precisely those citizens working within that company. Thus together with the management team/health department of the organizations that accept becoming a part of the project, the general strategy for engaging work-places, is customized in accordance to the particular needs of the company in terms of mobility management measurements and their potential for adopting sustainable ways of travelling to work. Usually, as explained, by the second interviewee, this strategy is customized based on the results of “applying an initial paper survey with questions like: Do you have a driving license? Do you have a car? How often do you drive? How often do you go by car? How often do you go by bus? These questions help to evaluate the transport behavior of the employees” (i.e. D3).

In conclusion, it can be stated, as suggested by interviewee 5, that the meetings and negotiations that are held with the organizations in this phase of the project, followed by the surveys applied to business’ employees or to the chosen area of residence, play an essential role in the success of citizens’ engagement strategy implementation, and of the project itself.

4.4.2. Stakeholders’ engagement in the implementation phase (IMPL)

The interviewees revealed the importance of partners and the targeted organizations, since ‘most of them were really helpful in answering questions and providing information and knowledge’, as Martin Svensson has affirmed. Therefore they were considered as a strategic support for the citizens’ engagement as Carina Aschan explained ‘citizens are the primary target group; targeting the workplaces is an effective way to engage citizens. It can be said that we consider organizations as intermediaries, a target group to reach another target group.

B.1) MM mechanisms for citizens’ engagement (CIT_ENG)

While conducting the interviews the researchers have found several evidences that show a collection of complementary mechanisms to engage the citizens during the implementation phase that will be further presented in the following sections.

Marketing mechanisms (MK_MECH)

The interviewee no.3 defines the marketing mechanisms as ‘a part of the communication process; they are complementary to the internal and external communication and aim to raise the awareness, to get people to sign up for the activities’. Therefore, by using these marketing mechanisms, the project team tries to achieve one of the aims of the project, as it is stated in the project proposal (D1): ‘the purpose is to increase awareness and generate positive attitudes towards sustainable travel’.
One of the systems the project team members believed as mainly to increase this awareness was the creation of a website where they have collected information such as: bus network and schedule (in different languages), cycling routes, advertisement of activities and campaigns programmed, ideas to save money or/and being healthier at the same time with being sustainable (spreadsheets that help you to calculate the good results of those ideas). Besides during the third interview a new mechanism was brought up that was afterwards double-checked by the researchers: the use of social networks as Facebook or Twitter.

As mentioned before in the INFORM section, an important source of ideas were the similar projects developed in other cities. In this regard, the website (D8) also contains the reports of all the activities performed here in Umeå as a potential source of inspiration for other municipalities.

All the interviewees emphasized the helpful interests that the local press showed: ‘Everything was new here in Umeå, so during the beginning of the project we had many press covering us, writing several reports and publishing advertisements of the events, campaigns and activities -the project manager stated . All these reports and advertisements are recorded in a register in the Be Green Umeå organization office, which was also reviewed by the researchers.

Martin Svensson assured that the main objective of using these marketing mechanisms was to cover the majority of the population so: ‘letters, brochures, flyers, notice boards, emails and posters were spread all over the region holding information about the objectives of the project and aiming to enhance the visibility and create an attractive image for the citizens’.

**MM campaigns (MM_CAM)**

While the marketing mechanisms try to address all the population in all the possible manners, keeping them informed and trying to attract them, the MM campaigns enhance this capacity of attraction focusing on more strategic target groups.

Therefore campaigns such as ‘Pedal for Medal’ and ‘What is your most ridiculous car trip’ were formerly promoted through marketing mechanisms like sending out information or promotional materials (e.g. cinnamon buns) to the selected target groups as recorded in each activity plan (D4) and in the Trivector evaluation (D5).

The aim of these campaigns also consists in raising the level of awareness, but the means to do it were more visible, usually turning into a large competition, giving prices to the winners and creating an entertaining atmosphere. ‘After the big campaigns we were in everyone lips’ declared Carina Aschan –project manager– during the first interview. Trivector, in its report –D5, also evaluates positively these campaigns, however identifies problems in measuring the success, even if there are some techniques to determine the number of people involved and their behavioural change; the evidence regarding this topic will be showed more in detail in the section 5.4 Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase.
**MM activities (MM_ACT)**

During the interview no.3, Martin Svensson summarized the complementary character of the mechanisms: ‘it’s a strategic promotion, you start with these big advertising campaigns and then you follow them up with smaller activities’.

The project proposal (D1) states that every activity focuses on a specific group within the target group. These groups range from private companies or schools to people living in a particular area or a specific demographic category. The process to engage the different target groups has to be tailored; however a sequence of stages to follow has been identified.

The sequence begins with a deeper analysis of the target group, carrying surveys out the people who accepted to be involved. These surveys help to identify the candidates matching the profile sought. In other occasions they may show the necessity of reassessing the activity according to the final selected group. ‘The group was selected after analyse the surveys that was sent to the workers, being a requirement for them to have at least a driver among the team’ - explained interviewee 5 referring to one of the activities realized within a company. Johan Lagrelius, project communicator, also showed other evidence of this selection referring to the ‘Test traveler activity’: ‘the monthly free card was given to 100 selected people among all the applications’.

Once the composition of the group is decided an introductory meeting is carried out. This meeting usually has an educative nature, but also seeks to reach the citizens in a more individualistic manner, promoting the innovative character of the sustainable travel and all the benefits that it may provide such as money savings, health improvement or time-travel reduction. During these meetings it is also important to keep the commitment of the participants, ‘we required them to come to the office, sign a contract and attend to a meeting where we explained the benefits of traveling by bus, and which are the conditions to get the free travel card’ –Carina Aschan exemplified during the interview conducted with her.

The third step consists in the coordination and control of the participants, trying to keep their interest through the time that the activity last, which usually it is not more than 6 months. ‘We call them personally to remind them to fill a survey, or to come to the office to pick up something, or even to ask them how the experience is being’ -expresses one of the project coordinators during the second interview.

All the interviewees agreed that the next action undertaken is obtaining the feedback of the participants, trying to measure at the same time the behavioral change thus the effectiveness of the activity. ‘In the end of the activity you give them a survey in order to evaluate the activity and the new practices in sustainable transport they have acquired’ –asserted Martin Svensson. Generally it is accomplished with a closing meeting, where individual/group interviews or surveys are carried out, depending on the size of the group.

Eventually, the participants are contacted again six months after the activity finished in order to double check whether the activity profoundly influenced their travel decision or it was more a transitory change. Some of examples of questions appearing in these
surveys are: *How often do you drive? How often do you go by car? How often do you go by bus?, Do you drive to your job?* (D2)

**Interactive mechanisms (INTER_MECH)**

These mechanisms are the base of all the methods for stakeholders’ engagement. Therefore, in this section, the researchers aimed to identify evidences of the use of these basic mechanisms, with the intention of discussing their use during the implementation process in the next chapter.

Mechanisms such as: fairs, public meetings, telephone calls; offering breakfast bags; giving lecture with long coherent information; meetings with opportunities for discussion and questions; unique website, including clicks on web banners; posters; mailings and brochures; subscribers to the newsletter were recorded in the Trivectors’ report (D5). The use of web based tools or the competition carried out within each activity and campaign was also added to the previous list by some of the project team members during their interviews (see Annex 4, section INTER_MECH).

**B.2) Mechanisms for organizations’ engagement in the implementation phase (ORG_ENG)**

The organizations’ engagement started during the planning phase, but it was carried out during the whole project life cycle, using different methods of communication and coordination. As Martin Svensson recognized: *‘the way to communicate with the partners during the project was a trial and error process’*. Several techniques and channels were used: presentations, meetings, letters and IT tools as confirmed in the Document 5; having different success among the organizations. Meanwhile in the interview no.2 has indicated the use of internal communication among the project team members and the steering committee. Martin Svensson concluded that *‘a monthly newsletters was the most effective way to communicate with the steering committee members and the partners in general’*. On the other hand Johan Lagrelius stated that the best way to communicate with the targeted organizations were the face to face meetings.

It is also important to distinguish among the objectives leading to achieve regarding the organizations’ engagement in the implementation phase. *‘Regarding the targeted organizations – Carina Aschan introduced- the good practices generated during the activities create synergies that continue afterwards’*. Those synergies direct the employees towards the behavioral change. On the other hand, the partners participate more actively in the coordination of the activities so the objective in this case is generating commitment and participation via communication (D5). But also these partners can be influenced by the good practices performed during the project as Martin Svensson suggests: *‘I would like to think that the change in the transportation system organizations and their fusion in one entity with more clear objectives was thanks to our project’*.

**4.4.3. Reassessment of stakeholders’ analysis and engagement mechanisms (REASS)**

In the previous sections the reassessment concept has been introduced several times, this fact shows the evidence of the presence of reassessment as a continuous process throughout the whole project lifecycle.

This reassessment might be done at the moment of the implementation or during the annual planning phase. The interviewee no.5 stated that *‘it is necessary to tune the activity in order to achieve success’* -explaining the importance of adjusting an activity
to match the correspondent target group after the analysis made during the first steps of its implementation. However in the most of the cases this reassessment is realized in the end of the year, as Martin Svensson explained: ‘there is an evaluation at the end of the year, based on the success achieved and the feedback obtained from the participants’. Lagrelius summed up an interesting factor regarding the reassessment of the activities, he considers four procedures to follow with the activities: include exactly the same activity in the next year plan; implement the activity in a different target group, modify it in order to improve its effectiveness; or discard it due to its misalignment with the stakeholders.

‘However the success in the campaigns is not easy to evaluate’ - agreed both project coordinators- ‘even if there is some methods to measure it’, referring to the possibility to introduce in the behavioral change analysis system the people applying for the correspondent competition usually introduced within the campaign.

4.4.4. Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase (CHA)

The introduction of a new category was regarded as necessary, while categorizing the data collected from interviews: Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase. However the checklist matrix correspondent to this category contains mostly Evidence from the interviews, as the documentation does not contain many aspects clearly connected to this aspect (see Appendix--)

Several specific challenges and problems emerged during the project lifecycle, however only some of them were jointly seen as a problem by all the project team members. Some of these challenges were originated in communication problems. Sometimes the citizens, due to the use of the wrong channel of communication, considered the information provided as an intrusion in its private life that generated negativity and rejection. ‘When calling them directly by phone, they were feeling as threatens their privacy- assure interviewee no.2. This is related with the voluntary nature of the citizens’ engagement, as Carina Aschan exemplified with this comment: ‘We try to tell the doctors to oblige people obesity problems to use the bike, but the result was completely negative’. For this reason it is important to create a friendly image and a reputation that generates positivisms and attract the citizens to collaborate within the project, as Martin Svensson emphasized during the interview no.3.

Communication issues were also identified when dealing with the partners, as the evaluation report (D5) confirms: Several different communication channels were used for exchanging information between business partners through the project, but most of the information is exchanged through informal contacts’. These informal contacts generated a difficulty in the commitment of the partners with the project, thus to ensure each party's involvement.

It was also accentuated the completely different approach utilized during the targeted organizations’ engagement: ‘some managers rejected our collaboration, even this being for free, they thought everything was perfect as it was’ -Johan Lagrelius clarified. The rejection of the companies has been identified as one of the most difficult barriers to overcome, since they are considered as the most valuable intermediaries to citizens’ engagement.
Citizens’ behavioral change was also identified as one of the main barriers by both of the project coordinators during respective interviews: ‘The problem was never to involve people in the activities or campaigns, they are usually receptive, over all in the funny things and in competitions; the problem was how to change their behavior when travelling’.

The last barrier recognized, and the most difficult one to overcome, comes from the misalignment created by the regulations, both at the local and national level, between the hard and soft tools used in sustainable urban travel. Martin Svensson and Carina Aschan exemplified this misalignment during the interviews:

‘The fact that some companies or municipalities allow the commuters use the parking for free, doesn’t help to make them change their habits’ - the project manager stated.

‘The existent of a tax oriented problem that difficult our job, such as the existent tax-cut that some drivers are beneficiaries because of the distance that their commute; or there are also taxes to pay when it comes to get free bus cards for the employees or the same with bikes services. You should receive a discount not being penalized for doing these initiatives’ - explained the project communicator.

This chapter has presented the process of the data analysis and the findings resulted from it. The use of the checklist matrices are considered relevant for illustrating the clear linkage between the evidence resulted from the interviews and documentation and the pattern identified and further portrayed in the empirically-based pattern-matching model. The following chapter will proceed with discussing the findings of the study, by looking in parallel at the initial theoretically-based predicted-pattern model and the empirical one resulted from the data analysis process.
Chapter 5 – Discussion of the findings

The previous chapter has explained in detail the data analysis process, showing and analyzing the evidence selected from both the interviews and documentation and subsequently presenting the findings resulted from it. This chapter will discuss the findings, developing a new model, which will be further contrasted with the existent literature through being compared with the theoretically-based predicted-pattern model.

5.1. Predicted theoretically-based pattern-matching model vs. empirically-based pattern-matching model

The variant of the data analysis technique selected (pattern matching) involves predicting the values of a set of variables, based on the theory and further comparing it with the empirical reality in one or more particular cases (Yin, 2003, p.116). Thus on the basis of project stakeholders’ theory and of the mobility management literature, the theoretically-based predicted pattern-model, explained at the end of the literature review chapter, has been synthesized and reproduced in the first column of the next table. Subsequently, the process of data collection and analysis was carried out, revealing some interesting findings explained in the previous chapter and synthesized in the second column of the following table.

Thus at this point the outcomes resulted from the data analysis process, which are outlined through the empirically-based pattern-matching model, need to be discussed in parallel with those predicted based found on the existent theory. The discussion will be elaborated throughout the whole chapter, having as a starting point table 11 and its visual representation: figure 20.
<table>
<thead>
<tr>
<th>Theoretically-based predicted pattern model</th>
<th>Empirically-based pattern model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLANNING</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Identification</strong></td>
<td></td>
</tr>
<tr>
<td>Table 1 - Row 1</td>
<td>The following techniques were used in this phase:</td>
</tr>
<tr>
<td></td>
<td>• Brainstorming</td>
</tr>
<tr>
<td></td>
<td>• Knowledge from previous projects</td>
</tr>
<tr>
<td></td>
<td>• Previous experience</td>
</tr>
<tr>
<td>Classification, characterization &amp; prioritization</td>
<td></td>
</tr>
<tr>
<td>Table 1 - Row 2</td>
<td>Just MM parameters for citizens (e.g. workplace, area of residence) + other special groupings</td>
</tr>
<tr>
<td>+ MM parameters for citizens</td>
<td></td>
</tr>
<tr>
<td><strong>Decide engagement strategy</strong></td>
<td></td>
</tr>
<tr>
<td>Table 1 - Row 3</td>
<td>• Unwittingly use McElroy &amp; Mills (2003) – commitment matrix model adapted to the MM context</td>
</tr>
<tr>
<td></td>
<td>• Decide which factors are significant for attracting the stakeholder targeted (money, health, time or environment)</td>
</tr>
<tr>
<td><strong>Start implementing the engagement strategy for organizations using:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phone calls, E-mails, Informative brochures, Presentations, Meetings, Negotiations, Contracts</td>
</tr>
<tr>
<td><strong>Not explicitly available</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Customize engagement strategy for citizens</strong></td>
<td>(Coordination) meetings; Negotiations</td>
</tr>
<tr>
<td><strong>IMPLEMENTATION</strong></td>
<td></td>
</tr>
<tr>
<td>Differentiation among the mechanisms used in stakeholders’ engagement process:</td>
<td>• Use of complementary mechanisms to engage citizens and organizations: Marketing mechanisms, MM Campaigns, MM Activities, Interactive engagement mechanisms</td>
</tr>
<tr>
<td>• Marketing mechanisms &amp; MM Services for citizens</td>
<td>• The importance of communication and coordination, when dealing with organizations</td>
</tr>
<tr>
<td>• Consultation, Coordination, Collaboration &amp; Communication mechanisms for organizations</td>
<td></td>
</tr>
<tr>
<td><strong>REASSESSMENT</strong></td>
<td></td>
</tr>
<tr>
<td>Review of both stakeholders’ analysis and engagement mechanisms</td>
<td>Review of stakeholders’ engagement mechanisms:</td>
</tr>
<tr>
<td></td>
<td>• Readjustment during implementation</td>
</tr>
<tr>
<td></td>
<td>• Yearly reassessment after data collection analysis (data collected via: interviews, surveys)</td>
</tr>
<tr>
<td><strong>CHALLENGES</strong></td>
<td></td>
</tr>
<tr>
<td>The lack of alignment between MM project’s objectives and some of the regulations at the national and supranational level.</td>
<td>Besides the lack of alignment, other challenges were identified: communicational issues with the partners, the difficulty to build up a strong positive image and the reluctance of targeted organizations to get involved into their employees personal choices, such as travelling</td>
</tr>
</tbody>
</table>

Table 11.- Theoretically-based predicted pattern model vs. empirically-based pattern model
Theoretically-based predicted pattern model

Empirically-based pattern model

Figure 20.- Visual representation of the theoretically-based predicted pattern model vs. the empirically-based pattern model
Each of the elements of the model enclosed in the table and in the figures will be discussed in detail in the following sections.

5.2. Stakeholders’ analysis and engagement in the planning phase

At first, in agreement with the project stakeholder literature (e.g. McElroy & Mills, 2003, Jepsen & Eskerod, 2008, Aaltonen, 2010), it is essential to perform an accurate stakeholders’ analysis process in order to achieve the engagement of stakeholders. Furthermore, most of the authors consider that the stakeholders’ analysis process is composed from four essential steps: identifying stakeholders, characterizing them in terms of, for example: needed contributions, expectations, power, followed by classifying and prioritizing them and lastly decide upon the appropriate strategy to engage them with the project (Jepsen & Eskerod, 2009, p. 337). Many mechanisms were developed and recommended by both the stakeholders’ and MM literature for being employed in this type of projects. Thereby the initial model (Figure 13) was based on the assumption that these phases and the correspondent mechanisms can be individualized. However, the data collected showed that there is no very clear distinction in practice between these phases, and that the ‘Decide strategy for engagement’ phase is much more complex than initially predicted.

5.2.1. Identification

In regards to stakeholders identification, several mechanisms were extracted from the literature, as for example: generic stakeholder lists (Pouloudi and Whitley, 1997, cited in Jepsen & Eskerod, 2009); brainstorming (Achterkamp and Vos, 2008, Jepsen & Eskerod, 2009); lessons learned reports (El-Gohary et al., 2006); guidelines from governments or one’s own organization, being directed by a superior, focus group meetings of the project team, asking the clear stakeholders to identify others (Yang et al., 2011, p. 906). Those were the type of outcomes expected to be identified in the empirical study too. However, from the enumerated mechanisms, only brainstorming was confirmed to be used, while two new mechanisms were spotted from the evidence: the personal past experience of the project team and the consultation of similar projects.

5.2.2. Characterization, classification and prioritization

Furthermore, after confronting the project stakeholders’ literature with the mobility management research, it was remarked that a special emphasis was put on the processes of characterizing, classifying and prioritizing and numerous mechanisms were constructed in the attempt to deliver an accurate result. Thus before initiating the data collection, it was anticipated that the project team has also paid a special attention to these processes and it has explicitly employed some of the classic mechanisms, such as Power/Interest matrix (e.g. Johnson & Scholes, 1999, Rupprecht et al., 2011) for classifying and prioritizing the stakeholders.

This expectation has been just partially confirmed in the sense that comprehensive classifications are inevitably developed, most often requiring a thorough characterization process. However most of them are focused on citizens, ignoring the other stakeholders. This particularity is to some extent understandable as citizens are the target group of MM projects.

Moreover the project practitioners seem to be rarely aware of the value and importance of this phase. The lack of consideration given to this phase in general, and to other stakeholders than citizens in particular, puts at risk the efficiency of the stakeholders’ engagement strategy, and, with this, even the overall success of the project.
It is also recommended to interactively engage stakeholders in the analysis phase, especially in order to identify their needs, their interests and their expectations, thereby a data gathering process is regarded as fundamental for a successful stakeholders’ analysis process (Yang et al., 2011, Jepsen & Eskerod, 2009) and it was also been performed by the project team.

5.2.3. Information gathering mechanisms
Hence, the label (INFORM), represented in figure 20 by ‘Data gathering’ encloses a continuous process developed through the lifecycle of the project, and visibly more intensive at the beginning of the project. This is confirmed by the empirical evidence. Moreover, the analysis of the data has also revealed an essential particularity of the information gathering process in the MM context, which is constantly exchanging information with other similar projects, all throughout the lifecycle of the project.

5.2.4. Design an engagement strategy for stakeholders
The last stage of stakeholders’ analysis, which represents basically the aim of all the previous phases, is deciding the engagement strategy. Several tools, most of them directly interconnected to the classification modality chosen, were proposed by the literature. Still none of them has been wittingly used. But when analyzing all the evidence provided by both interviews and documentation, it could be concluded that they have intuitively used the model proposed by McElroy & Mills (2003, pp. 111-113), and supported by other scholars such as Müller & Turner (2010), Jepsen & Eskerod (2008): the commitment matrix. The project team constantly aims at changing the level of commitment of the citizens and of the organizations in general (both partners and targeted organizations) from active opposition, passive opposition, neutral position, or even passive support to offering active support to the project.

However, even at this level of generality, they usually go more in deep than that in specifying the general ways in which this increased level of commitment can be reached. as for example, Interviewee 1: The best way to attract citizens to participate in the activities is make them fun, it has to be a competition, or a humoristic topic (e.g. – what’s your most ridiculous car trip?). You cannot make people feel guilty of their behavior; Interviewee 4: “We started thinking that the main factor to set up the strategies around was the money, but the health and time turn up more and more interesting for them”.

Moreover, the empirical evidence has also revealed that the nature of the mobility management imposes the need to firstly, distinguish between deciding generic strategies to engage organizations (i.e. partners and target organizations) and citizens; and secondly start implementing the strategy for involving the companies prior to launching any activity, as they have most of the time a crucial role in engaging citizens.

Thus, once the generic interrelated strategies for engaging both citizens and organizations are decided (e.g. involve citizens through engaging their workplace, engage citizens from areas with good/recently improved bike/bus infrastructure - interviewees 1, 2, 3, 4, 5), partners and/or targeted organizations need to be contacted and informed about the project. The next steps are slightly different between the two types of organizations.
With the partners the aim is generally the development of a long-term relation. Thus it must be based on a clear advantage that both parts can gain from the collaboration. The collaboration is mostly based on exchanging information – consultation, in order to identify areas where citizens are offered the possibility to travel sustainable, but also on material support such as one-month free cards for riding a bus, thus the classic type of MM services described by mobility management researchers (EPOMM, 2011, Gronau & Kagermeier, 2004). Negotiation, meetings, signing a contract, followed by periodic coordinating meetings were identified by the interviewees as the main mechanisms used to facilitate the establishment and consolidation of the partnership, as also recommended by the project stakeholders’ research for this particular phase(Yang et al., 2011, Aaltonen, 2010, p.68, El-Gohary et al., 2006).

In respect to the targeted organizations, the overall goal is, as clarified by the project manager, to “teach companies to become interested in the same questions (...) so that they will keep on doing the work for us”. After creating a database with the companies and assigning a responsible for developing the relationship with the particular organization, that person contacts by phone, brochure, or usually the most efficiently through a face-to-face meetings representatives of the Health Responsible of the company or directly the management team. Furthermore, in accordance to the results of this discussion, a survey evaluating the travelling habits of the employees is undertaken. In accordance to these results, a personalized strategy for encouraging the employees of the organization to travel sustainably is jointly designed by the MM specialists inside the project team and the representatives of the company.

A special case is represented by the co-financers, which were constantly involved in the major decisions concerning the project through governance mechanisms, such as steering committee, as also recommended by stakeholders’ scholars such as Spitzeck & Hansen (2010).

5.3. Stakeholders’ engagement in the implementation phase
During the analysis of the stakeholders’ theory and more specifically during the MM literature review, many classifications of stakeholders in MM projects have been identified. Carter (2009, pp.6-7) considers the stakeholders in a general manner, distinguishing among: Supra-national, National, Regional and Sub-regional. Nevertheless, this classification can be characterized too broad for projects that are implemented exclusively at the regional level. Therefore, the interpretation of this particular case study, that only gives an account for the local level, is closer to the urban mobility projects perspective that Rupprecht et al.(2011, p.31) provides, dividing the stakeholders needed to be engaged in three groups: Primary stakeholders, Key actors and Intermediaries. However, since all the efforts towards engagement have a common goal: citizens, only a simple division in two streams has been considered in this case. The first stream identified is formed by a collection of mechanisms to directly achieve citizens’ engagement within the project. The second stream consists in engaging citizens through engaging different organizations, transforming them in partners. Moreover a strong link was identified between both streams: the mechanisms are common, thus a functional overlap exists in many occasions. These particularities will be further explained in the upcoming sections.
5.3.1. MM mechanisms for citizens’ engagement

Rupprecht et al. (2011, p.43) besides citing several involvement tools, emphasize as essential the use of the marketing, so do the researchers that have constructed the European Platform of Mobility Management (EPOMM). EPOMM (2011, pp. 24-29) also gives an account of MM services as a mean to target citizens in a direct manner, dividing them in: Information, Consulting, Awareness, Education and Sales and reservations. Therefore, meanwhile the MM literature differentiates these services and considers the activities inside of them as separated procedures, the interviews conducted in this case showed the use of a mix of complementary mechanisms trying to create a spider web based on the image generated around the project in order to catch citizens’ collaboration. These complementary mechanisms are illustrated in the figure 20 (Empirically-based pattern model) as the MM engagement mechanisms, forming four different layers. This figure represents how all the collection of mechanisms aims to cover all the possible channels, tools and techniques for citizens’ engagement. From the outer to the inner layer the group of citizens targeted becomes more specific. While the mechanisms of the external layer try to cover a broad range of different citizens, the mechanisms represented inside the inner layer are focused on a selected target groups. Finally the centre of the circle represents the basic mechanisms of stakeholders’ engagement identified in the stakeholders’ theory.

Marketing mechanisms

The aim of the marketing mechanisms identified in this case, is to increase the awareness of the people about sustainable travel and its benefits, at the same time with creating a positive image surrounding the project initiatives. This concurs with EPOMM’s (2011, pp. 24-29) point of view, that highlights the importance of intensively using marketing due to the voluntary nature of the activities which need to be promoted.

In order to spread out the consciousness among the population it is crucial the use of several tools and channels of communication that will allow to reach all the large range of different citizens. One of the crucial mechanisms identified in the literature review and clearly explained in EPOMM (2011) is the website. It answers quickly to the need of making the information accessible to the citizens in an easy manner through gathering information such as: bus network and schedule (in different languages), cycling routs, advertisement of the activities and campaigns programmed, ideas to save money or/and being healthier at the same time with being sustainable and even spreadsheets that help to calculate the good results of those ideas. Besides, new techniques, not mentioned in the literature review, were identified during the empirical study, such as the use of the social networks: Facebook and Twitter; or the use of an online data base that sums up the activities realized during the project to facilitate the consultation with other similar projects undertaken in other regions.

A vital tool emphasized in the MM literature and also employed during the implementation phase of the project is the promotion of the project using mass media (Rupprecht et al., 2011, p.43). Moreover, a clear strategy adjustment has been recognized during this stage of the engagement process. Initially the project attracted the local press due to its innovative character. However afterwards it was necessary to continuously call the attention of mass media with a combination of advertisement techniques (e.g. reportages) designed for attracting a significant number of participants for the campaigns and/or activities.
Eventually, a wide range of mechanisms: letters, brochures, flyers, notice boards, emails and posters were spread through all the channels all over the region holding information about the objectives of the project and aiming to enhance the visibility and create an attractive image for the citizens. The use of such a large variety of channels to promote the project is in line with Rupprecht et al. (2011, p.43) detailed practices for the process of citizens' engagement.

**MM campaigns**
The aim of the MM campaigns also consists in raising the level of awareness among the citizens. Several authors believe that campaigns are part of the marketing mechanisms (EPOMM, 2011, Rupprecht et al., 2011), considering them just as a more aggressive type of marketing mechanisms. However, after conducting the empirical research, the authors have considered the campaigns as special mechanisms due to its different characteristics that distinguish it from the basic marketing mechanisms. The first differentiator postulated is the possibility of implementing these campaigns throughout a more specific target group selected. This observation aligns with Scheurer’s (2008) theory that by reducing the scope, the effectiveness of the mechanisms will be enhanced, leading to behavioral change (Scheurer, 2008).

The second differentiator is the possibility of tracking the people participating in the campaign, hence measuring their behavioral change. This is achieved by giving to the campaign a specific structure. Most often a competition is set up. This competition not only is a tool to attract people but also it is used to raise their commitment with the project. Most of the time the participants in the competition have to complete one or more surveys at the beginning and at the end of the campaign, as well as a behavioral change review-survey six months after the campaign is finished. Nevertheless they are not the only ones that get involved in the campaign. The high visibility of these campaigns makes aware much more people than just the participants.

**MM activities**
Continuing the path towards the inner layers of the MM mechanisms’ onion represented in the figure 20 (Empirically-based pattern model), the next complementary level schematized for the researchers is formed by the MM activities. This third layer consists in a cluster of customized activities that represent the peak point of the engagement strategy, closely following the marketing mechanisms and the MM campaigns. The activities, as Scheurer (2008) recommended, reduce even more the scope of action, engaging just a particular and very limited group of citizens, previously selected. Moreover, in concordance with Scheurer’s (2008) statement, these mechanisms are considered the most successful in achieving the goal of the project: citizens’ behavioral change.

It is important to emphasize that none of the authors analyzed during the literature review have detailed a specific process due to the diverse nature of the customized activities (EPOMM, 2011; Rupprecht et al.,2011; Scheurer, 2008; Carter, 2009 ). However, in spite of this customization, and the miscellaneous compound and characteristics of the target groups (e.g. private companies, schools, people living in a particular area, a specific social sector of the population) a basic activity’s stepwise process has been identified in the activities undertaken in this case study. These progressive steps allow the customization of the activity and the personal tracking of the participants.
The next figure details the general steps of the spotted pattern, the aims of each step and which of the stakeholders’ engagement/involvement mechanisms, identified during the literature review, was used during this process:

<table>
<thead>
<tr>
<th>STEP</th>
<th>AIM OF THE STEP</th>
<th>STAKEHOLDERS’ ENGAGEMENT/INVOLVEMENT MECHANISMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential target group identification</td>
<td>Identify a possible target group (usually realized during the planning phase)</td>
<td>Brainstorming; steering committee consultation; use of previous knowledge; information gathering from other similar projects.</td>
</tr>
<tr>
<td>Information provision</td>
<td>Promotion of the activity using marketing mechanisms.</td>
<td>Letters; brochures; flyers; notice boards; e-mails; posters; website; social networks; mass-media</td>
</tr>
<tr>
<td>Gathering and analysis of data</td>
<td>Interpret the data collected to define the final target group, using different tools to gather the information.</td>
<td>Surveys; meetings; personal/group interviews.</td>
</tr>
<tr>
<td>Activity introduction</td>
<td>Inform and educate the activity participants</td>
<td>Face to face meetings; group meetings;</td>
</tr>
<tr>
<td>Activity commitment</td>
<td>Assure the commitment of the participants</td>
<td>Competitions; contracts</td>
</tr>
<tr>
<td>Control and coordination</td>
<td>Keep the interest of the participants within the project</td>
<td>Telephone calls; e-mails; SMS; letters</td>
</tr>
<tr>
<td>Stakeholders’ engagement measurement (activity ended)</td>
<td>Measure the success of the activity and the behavioral change achieved at the end of the activity</td>
<td>Individual/group interviews; surveys.</td>
</tr>
<tr>
<td>Activity feedback</td>
<td>Check the success of the activity in the long term.</td>
<td>Electronic/telephone surveys</td>
</tr>
<tr>
<td>Behavioral change review (six months after the end of the activity)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 21.- The general structure of a MM activity

**Interactive Mechanisms**

The interactive mechanisms are considered by El-Gohary et al. (2006) as part of the base for the stakeholders’ engagement mechanisms. The authors tend to divide them in two main categories: *provide information* mechanisms and *interactive engagement* mechanisms. In the previous figure, showing the generic activity process, several of these mechanisms were represented illustrating the use of them throughout the whole project as the basic unit of engagement.

However, not all of the mechanisms identified in the literature are utilized, but also new mechanisms not acknowledged by the authors through the reviewed literature, appear. These new mechanisms are: first the use of social networks, previously highlighted; and also the use of competitions and contracts as mechanisms to keep the interest of the citizens during this stakeholders’ engagement process.

**5.3.2. Mechanisms for organizations’ engagement in the implementation phase**

As it was justified in the stakeholders’ analysis section, the strategies to involve the citizens in the project derive in many occasions from those used for involving organizations. This involvement starts during the planning phase of the project, but continues during the whole project life cycle, nurturing a relationship based on the
communication and coordination, as recommended also by the MM literature (e.g. EPOMM, 2011, Rupprecht et al., 2011).

However, there are some divergences in the way MM scholars approach this type of stakeholders. While Rupprecht et al. (2011) make a clear differentiation between key stakeholders and intermediaries, EPOMM (2011) calls them partners, due to the fact that they collaborate with the project and also because the techniques used to communicate with all of them are the same. Therefore after confronting the empirical evidence with the specialists view, the authors have concluded that dividing the mechanisms for organizations’ engagement in two: targeted organizations and partners, is appropriate.

It is considered as a partner, within the engagement framework, any organization that actively collaborates within activities of the project. Therefore this partners help to identify possible stakeholders, provide information and/or facilities and help to set up the strategy to engage the citizens. Therefore all the organizations collaborating in an activity or campaign during the project are treated as partners at least for a period of time – the time the activity lasts -. However, after this period of time the partnership may finish, thus stopping to be considered as a partners. Therefore only by continuous communication and collaboration is possible to keep the interest of these organizations, nurturing the partnership and creating synergies and good sustainable travel practices.

There are also other partners that are considered as having permanent partnership due to the nature of these organizations, such as the different transport companies.

5.4. Reassessment of stakeholders’ analysis and engagement mechanisms
The continuous reassessment of stakeholders’ analysis is deemed as extremely important by the stakeholders’ literature (e.g. Jepsen & Eskerod, 2008). The MM researchers emphasizes the special importance of reassessing the tools and techniques used for engaging stakeholders in this type of projects, especially the citizens; and the measurement of the mechanisms’ success (Rupprecht et al, 2011).

This reassessment is normally realized at the end of the year, after evaluating the success of the activities using the feedback and the data collected. However, as it is represented in the figure 20(Empirically-based pattern model) through the lateral discontinuous arrows, in some occasions it is necessary to adjust the strategy, the target group, or the mechanisms used to the emergent conditions in order to match them.

5.5. Challenges in analyzing and engaging stakeholders’ throughout the planning and implementation phase
Several specific challenges and problems emerged throughout the project lifecycle. However, many of these specific issues seem to have a common source: the communication style. Project stakeholders’ specialists (e.g. Müller & Turner, 2010, p.62) as well as MM researchers (EPOMM, 2011, Rupprecht et al, 2011) agree in indicating this aspect as one of the vital issues for many projects that should be continuously and carefully treated. Regarding the communication with partners, the first issue identified was the informal character of the relation that increased the difficulty of engaging the partners with the project. Therefore, as recommended by Müller & Turner (2010, p.62), the use a carefully-designed communication plan instead of using
counterproductive informal contacts, would have significantly eased and improved the communication process and its alignment with the project strategy,

As it was mentioned in the previous sections, creating and communicating an appropriate image of the project is vital. Thus this was presented as one of the main challenges that the team members had to face. The image built was based on innovation, sustainable behavior and trust. This trust, as Müller & Turner (2010) explained, is built by communication and it is essential for developing and maintaining fruitful relationships with all type of stakeholders. Moreover, considering the voluntary character of the participation in these activities (EPOMM, 2011), in order to build trust, the engagement mechanisms have to constantly be perceived as helpful and entertaining, thus not being intrusive, disturbing or alarming.

It has been proved that most of the challenges originated from the communication framework are relatively easy manageable. However, there are other sources of problems whose scope is out of the control of the project team. One of these problems comes from the unwillingness of targeted organizations to interfere in the personal traveling choices of their employees, thus their refuse to collaborate.

The second one is generated by the misalignment between the hard tools and the soft tools that Scheurer (2008) and Kaufmann (2000) have identified and discussed. The regulations at local and national level contradict sometimes the measurements proposed by the MM project, jeopardizing the efforts of the project team and the alignment between MM project’s goals and Traffic System Management’s goals.

The current chapter has discussed the findings of the study, developing a new model based on the pattern identified for the use of stakeholder analysis and engagement mechanisms identified while analyzing the planning and implementation phases of the MM project: Sustainable Travel in Umeå Region. The pattern was benchmarked against the relevant theory. Furthermore, the last chapter will present the conclusions of the study: updating the propositions, discussing the answer to the research questions, presenting the strengths and weaknesses of the study and its implications on further research.
Chapter 6 - Conclusions

The last chapter will present the conclusions of the research through attempting to synthesize the newly developed model on the use of stakeholders’ analysis and engagement mechanisms throughout the planning and implementation phases of the MM project. Thereby firstly the initial formulated propositions will be updated; further the research question will be answered, followed by a discussion on the strengths and weaknesses of the study and its implications on practice and on theory and lastly some suggestions for further research.

The research paper aimed at investigating and explaining the use of mechanisms for analyzing and engaging the stakeholders throughout the planning and implementation phases of the mobility management project Sustainable Travel in Umeå Region. In alignment with researchers’ epistemological and ontological assumptions, an abductive approach and the case study strategy were selected. Furthermore the data collected through interviews and project’s documentation review were analyzed using the pattern matching technique, leading to the findings presented in Chapter 4 and discussed in Chapter 5.

6.1. Revised propositions
The empirical study was based on a thorough review of the literature available on project stakeholders and MM. As a result of this process, five propositions were formulated, which have constituted the basis for the further structuring the research in order to provide a consistent and accurate answer to the research question. The propositions were further revised in accordance to the findings resulted from the current case study. The updated propositions and short explanations are presented below

Proposition 1 - There are various mechanisms for stakeholder analysis and engagement available in the literature, but only few are wittingly utilized in practice.
The reviewed project stakeholders’ literature has revealed several mechanisms for analysis, while the MM research presents a consistent set of engagement mechanisms. However, there is a doubt about the applicability of these tools in practice. The current empirical research has confirmed this initial proposition formulated by the authors, showing that from the vast range of mechanisms available, only few are employed in practice, usually unconsciously (e.g. McElory & Mills’ (2003) commitment matrix).

Proposition 2: Practitioners perform a stakeholders’ analysis, covering all the classic phases: identification, classification, characterization, prioritization and deciding a generic engagement strategy, unwittingly using both analysis and engagement mechanisms.
The project practitioners interviewed, did not seem to have explicitly performed a stakeholders’ analysis phase. However, from the general discussion corroborated with the information available from the documentation, it could be inferred that an identification phase (based mainly on brainstorming, the previous experience of the project team and similar projects) as well as a classification and characterization stage, clearly adapted to the MM context, were performed. Moreover, the process of deciding the engagement strategy could have also been identified, showing a much higher complexity than expected after the literature review.
Proposition 3: Customized mechanisms for engaging citizens are designed and employed jointly by the project team, partners and targeted organizations in accordance to the local contextual particularities. The proposition formulated after reviewing the literature (i.e. customized mechanisms for engaging citizens and targeted organizations are designed and employed jointly by the project team and partners in accordance to the local contextual particularities) needed to be reformulated in order to remain valid in this context. Thus, it was concluded that targeted organizations also collaborate in designing, customizing and employing appropriate mechanisms to engage different categories of citizens.

Proposition 4: The stakeholders’ engagement mechanisms are constantly reassessed. The initial statement (i.e. the stakeholders’ analysis and the engagement mechanisms are constantly reassessed) proved to be only partially real, in the sense that the engagement mechanisms are indeed constantly reassessed by the project team through the implementation phase of the project (e.g. through follow up surveys, discussions). This aspect is understandable considering that those are directly related to project’s aim. Thus some techniques are further utilized, others are directly excreted and most of them are improved or redirection to another target group. This last case indeed might imply some modifications in the initial stakeholders analysis performed, but this cannot be considered an explicit reassessment of the stakeholders’ analysis mechanisms.

Proposition 5: The main challenges in engaging stakeholders in MM projects are related to the lack of alignment between projects’ objectives and some of Transport System Management’s (TSM) regulations developed at the national and supranational level; but also to the difficulty to engage targeted organizations and to the communication issues, especially with partners. The interviews with the project team members have indeed revealed significant problems determined by the lack of alignment between several regulations imposed from the national/supranational level and project’s aims. These regulations threaten the success of the stakeholders’ engagement process and implicitly the project. However those were not perceived as the most dangerous challenges, being overtaken by the difficulty to involve targeted organizations, which is caused by their unwillingness to interfere with the personal choices of their employees, such as their travelling behavior; but also by the need to create a friendly image of MM in order to encourage citizens’ and organizations’ engagement. Meanwhile, Trivector’s evaluation report underlines the lack of formalization of the communication with partners as a main issue.

6.2. Research question
The updated version of the initial propositions represented the foundation of the answer to the research question that has stayed at the basis of this study: What are the mechanisms employed for stakeholders’ analysis and engagement and how were they used throughout the planning and implementation phases of the mobility management project: Sustainable Travel in Umeå Region?

Considering that there has not been any previous attempt to academically tackle this research question, it can be concluded that through this study a new emergent theory has been generated as an answer to the formulated research question. The model reflecting
this theory has been explained in detail and benchmarked against the existent theories, in the previous chapter, table 11 summarizing the main ideas resulted from the study.

6.3. Discuss the implications of the study on both practice and theory

6.3.1. Practical implications
As previously mentioned, the authors have not aimed at providing any standard procedures for dealing with the stakeholders during MM projects. However, the research reveals the managerial practices undertaken in analyzing, and engaging stakeholders in a successful MM project: Sustainable Travel in Umea Region. These practices can prove helpful for some of the MM practitioners, especially to those involved in projects developed in a similar context to this one, as it offers some guidance on the mechanisms that can be employed for stakeholders’ analysis and engagement as well as on the sequence of their use.

Thus firstly, the study sets up a model for the process of stakeholders’ analysis, providing a register of several mechanisms, tools or techniques that may serve MM practitioners to design accurate strategies to engage different types of stakeholders.

Secondly, the study raises the awareness on the mechanisms used for stakeholders’ engagement, and on the potential barriers/challenges that might appear during the process of engagement. For example, MM practitioners should pay a special attention to the communicational issues, using a diverse and adequate range of channels to communicate with the different stakeholders. Moreover, it is essential that they launch an attractive message. In this regard, the study also contributes through providing a mix of complementary engagement mechanisms, able to create a spider web around the project aimed at developing a strong positive image, which will further translate into attracting citizens’ collaboration.

6.3.2. Theoretical implications
From a theoretical perspective, the study develops a model, described in chapter 5, referring to the use of mechanisms for stakeholders’ analysis and engagement through the planning and implementation phases of MM projects. Even though the newly developed theory was aimed at contributing to project stakeholders’ literature, it can clearly play an important role in the development of the MM academic research field as it will be further explained.

From the project stakeholders’ theory perspective, the research opens a new challenging direction of study, different from the previous mainly ‘construction projects’-orientated research: MM projects. Moreover, the study reveals which of the stakeholders’ analysis mechanisms proposed by the existent literature are actually employed in practice, more precisely in this project, and in which sequence. Furthermore it complements the existent research through offering a deep insight on the engagement process, which has been only scarcely tackled so far by the previous project stakeholders’ research.

Regarding the younger MM literature, the current study has a pioneer role, offering a new, more academic, perspective on the study of stakeholders. More precisely, it presents the attempt of creating a first model for the use of stakeholders’ analysis and engagement mechanisms, which can be further tested, revealing also some basic challenges that might arise, while conducting these processes, which can in turn be further investigated.
However, there is an important consideration that should be always kept in mind while discussing both the theoretical and managerial implications, which is the fact that the newly developed theory was based just on one particular case, therefore it should not be in any way generalized, unless further research in this direction confirms the findings.

6.4. Strengths and weaknesses of the study

Some of the particularities of the study emerged during the research process can be presented as its strengths, setting the study apart from previous ones. Firstly, the topic of the current study is unique as it combines the two areas of knowledge of project stakeholders and mobility management. While the first domain is formed from an extensive literature, the MM domain is a relatively new field, characterized by much debate and little available literature. Therefore the mainly inductive approach suits an area, where the previous research seems to be fragmented, thus in need of new theories.

Moreover, this mixed approach fits perfectly with the chosen case study strategy. The case study allowed the researchers to gain an in depth understanding on the mechanisms used in the project to analyze and engage stakeholders, on the complexity of the process and on the uniqueness of the case. The type of case study chosen: a combination between exploratory and explanatory has also allowed seeking new insights in the use of these mechanisms. Moreover the interviews conducted with the members participating in the project and the access to a consistent set of documents and archival records permitted the use of triangulation, minimizing misperception or invalidity of the findings (Stake, 1995, p. 134).

Likewise, some limitations and weaknesses of the study were recognized by the authors. From the time horizon perspective, the cross-sectional research corresponds to a “snapshot” of the mechanisms used during the already finished project, while a longitudinal study would have been able to cover also the changes and development of the mechanisms during project’s life cycle.

Moreover, the number of interviewees was limited to the project team members, therefore for future research might be useful to also directly consult the external stakeholders’ addressed through the mechanisms. Furthermore, based on the consideration of this research as a pioneer study, the lack of existent research in the MM stakeholders’ field made complicated the discussion of the findings.

Finally, it is important to mention two considerations related to the authors. Firstly, as Stake (1995) affirms: “the researchers do not step outside of their ordinary lives when they observe, interpret and write up the working case”, meaning that the results of the study are opened to authors’ interpretation. Secondly, the authors’ lack of experience in the MM area, might have affected the processes of interpreting and analyzing the data collected.

6.5. Suggestions for further research

The current study has generated a new theory regarding the mechanisms used for analyzing and engaging stakeholders through the planning and implementation phase of MM projects. However this is just a first step in this direction. Thus a further testing of the model in a “polar case” (Ma-Tay & Fascina, 2010) – a project considered a failure,
in this situation, could reveal new insights or confirm the current findings. Furthermore extending the study to other MM projects developed in medium to large cities, and observing to what extent the analyzed process similar, can also lead to interesting results. Also the comparison between equivalent MM projects developed in different countries (e.g. Civitas Archimedes in two or more different cities) can also conduct to remarkable findings, especially regarding the impact of culture differences on the choice of mechanisms for analyzing and engaging stakeholders.

The current study can be considered a starting point for further research in the field of stakeholders’ management in MM projects, taking into account that it has not been a great academic effort previously orientated in this direction. The authors have attempted to create a new model regarding the use of mechanisms for stakeholders’ analysis and engagement through the planning and implementation phases of such a project, which was presented and benchmarked against the existent theory in chapter 5. They hope that the study and its results will contribute to both the practical and the academic world through inspiring MM and project stakeholders’ practitioners and scholars.
Annexes

Annex 1- Project Stakeholders Definitions

<table>
<thead>
<tr>
<th>Authors</th>
<th>Project stakeholder definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleland (1986)</td>
<td>“Individuals and institutions that share a stake or an interest in the project.”</td>
</tr>
<tr>
<td>Cleland (1998)</td>
<td>“People or groups that have, or believe they have, legitimate claims against the substantive aspects of the project. A stake is an interest or share or claim in a project; it can range from informal interest in the undertaking, at one extreme, to a legal claim or ownership at the other extreme.”</td>
</tr>
<tr>
<td>Turner (1999)</td>
<td>“All the people or groups whose lives or environment is affected by the project but who receive no direct benefit from it. These can include families, people made redundant and local community actors.”</td>
</tr>
<tr>
<td>McElroy and Mills (2002)</td>
<td>“Person or group of people who have a vested interest in the success of a project and the environment within which the project operates.”</td>
</tr>
<tr>
<td>Newcombe (2003)</td>
<td>“Groups or individuals who have a stake in, or expectation of, the project’s performance and include clients, project managers, designers, subcontractors, suppliers, funding bodies, users and the community at large.”</td>
</tr>
<tr>
<td>Boddy and Paton (2004)</td>
<td>“Stakeholders are individuals, groups or institutions with an interest in the project, and who can affect the outcome.”</td>
</tr>
<tr>
<td>Kolltvist and Gronhaug (2004)</td>
<td>“Individuals and/or organizations that are involved in or may be affected by the project activities, e.g. the project client, project sponsor, project manager and the employees involved in the project.”</td>
</tr>
<tr>
<td>Cova and Salle (2005)</td>
<td>“Project marketing thinks of stakeholders from the standpoint of “markets as networks”, i.e. stressing the relationship between stakeholders rather than the players themselves.”</td>
</tr>
<tr>
<td>Bourne and Walker (2005)</td>
<td>“Individuals or groups who have an interest or some aspect of rights or ownership in the project, and can contribute to, or be impacted by, the outcomes of the project.”</td>
</tr>
<tr>
<td>Boyd and Robinson (2005)</td>
<td>“People or organizations who have a vested interest in the environment, performance and/or outcome of the project.”</td>
</tr>
<tr>
<td>Boomstra (2006)</td>
<td>“Any person or group who can affect or is affected by the change [brought by the project].”</td>
</tr>
<tr>
<td>El-Gohary et al. (2006)</td>
<td>“Individuals and organizations that are either affected by or affect the development of the project.”</td>
</tr>
<tr>
<td>Olander (2007)</td>
<td>“A person or group of people who has a vested interest in the success of a project and the environment within which the project operates. Vested interest is defined as having possession of one or more of the stakeholder attributes of power, legitimacy or urgency (adapted from Mitchell et al. 1997).”</td>
</tr>
<tr>
<td>IFC (2007)</td>
<td>“Persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.”</td>
</tr>
<tr>
<td>Fraser and Zhu (2008)</td>
<td>“Individuals and groups affected by their actions and behaviors”</td>
</tr>
<tr>
<td>Chinnioe and Akinnoye (2008)</td>
<td>“Individuals or groups with an interest in and influence on an organization (adapted from Thompson, 2002).”</td>
</tr>
<tr>
<td>PMI (2008)</td>
<td>“Individuals and organizations that are actively involved in the project or whose interests may be affected as a result of project execution or project completion.”</td>
</tr>
<tr>
<td>Walker et al. (2008)</td>
<td>“Individuals or groups who have an interest or some aspect of rights or ownership in the project, and can contribute to, or be impacted by, either the work or the outcomes of the project.”</td>
</tr>
<tr>
<td>Ward and Chapman (2008)</td>
<td>“Various parties who may affect the form, progress and outcomes of a project.”</td>
</tr>
</tbody>
</table>

Annex 2.- Typical groups of stakeholders in mobility management projects

<table>
<thead>
<tr>
<th>Government / Authorities</th>
<th>Businesses / Operators</th>
<th>Communities / Local Neighbourhoods</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local authorities</td>
<td>Transport operators/providers</td>
<td>National environmental N00s</td>
<td>Research institutions</td>
</tr>
<tr>
<td>Neighbouring cities</td>
<td>Transport consultants</td>
<td>Motorist associations</td>
<td>Universities</td>
</tr>
<tr>
<td>Local transport authority</td>
<td>Car sharing companies</td>
<td>Trade unions</td>
<td>Training institutions</td>
</tr>
<tr>
<td>Traffic police</td>
<td>Bicycle rental operators</td>
<td>Media</td>
<td>Experts from other cities</td>
</tr>
<tr>
<td>Other local transport bodies</td>
<td>Other mobility providers</td>
<td>Local authority Forums</td>
<td>Foundations</td>
</tr>
<tr>
<td>Other local authority bodies</td>
<td>National business associations</td>
<td>Local community organisations</td>
<td></td>
</tr>
<tr>
<td>Politicians</td>
<td>Major employers</td>
<td>Local interest groups</td>
<td></td>
</tr>
<tr>
<td>Other decision-makers</td>
<td>Private financiers</td>
<td>Cyclists/walking groups</td>
<td></td>
</tr>
<tr>
<td>Partnering organisations</td>
<td>International/national business</td>
<td>Public transport user groups</td>
<td></td>
</tr>
<tr>
<td>Project managers</td>
<td>Regional/local business</td>
<td>Transport users</td>
<td></td>
</tr>
<tr>
<td>Professional staff</td>
<td>Local business associations</td>
<td>Citizens</td>
<td></td>
</tr>
<tr>
<td>Emergency services</td>
<td>Small businesses</td>
<td>Visitors</td>
<td></td>
</tr>
<tr>
<td>Health &amp; safety executives</td>
<td>Retailers</td>
<td>Citizens in neighbouring cities</td>
<td></td>
</tr>
<tr>
<td>European Union</td>
<td>Utility services [e.g. electric, telecommunication]</td>
<td>Disabled people</td>
<td></td>
</tr>
<tr>
<td>Ministry of transport</td>
<td>Engineers/contractors</td>
<td>Landowners</td>
<td></td>
</tr>
<tr>
<td>Other national ministries</td>
<td></td>
<td>Transport staff</td>
<td></td>
</tr>
<tr>
<td>Regional government</td>
<td></td>
<td>Parents/children</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Older people</td>
<td></td>
</tr>
</tbody>
</table>

Source: Rupprecht et al. (2011), p.33
Annex 3 – Structure of semi-structured interview

Part 1 – General introduction
Could you please start by explaining, which was your role inside the Sustainable Urban Travel in Umea Region?

Follow up questions:
- Did you participate in both planning and implementation phase of the project?
- Were you directly responsible for the stakeholders’ engagement process?

What is your understanding about the concept of ‘stakeholders’ in mobility management projects in general and in this project in particular?

How would you distinguish between the planning and implementation phase of this project?

Part 2- Planning phase
How would you describe the processes of stakeholders’ analysis that was undertaken in the planning phase of the project?
- How have you identified the stakeholders?
- How have you classified, characterized, grouped and prioritized them?
  How have you decided the strategy to engage them?

How have you engaged the different stakeholders’ in the planning phase?

How would you evaluate the efficiency of the analysis and engagement mechanisms used in the planning phase?

Part 3- Implementation phase
Please explain the mechanisms that you have designed & used for engaging stakeholders (citizens and organizations) during the implementation phase of the project.

How would you evaluate the efficiency of the engagement mechanisms used in the implementation phase?

Have you explicitly constantly reassessed your initial stakeholders’ analysis and the engagement mechanisms during the implementation phase?

Part 4- Overall
Which (group of) stakeholders do you consider as being the hardest to involve?

Follow up questions: Why?

Which do you consider that were the toughest challenges you have faced in the stakeholders’ engagement process?

Follow up question: How did you overcome them?

Which mechanisms for stakeholders’ (citizens and organizations) engagement would you rate as the most efficient?
Follow up question: Why?

Part 5: Participants’ details (optional)
Name:
Position:
Role in the project:

Would you like to remain anonymous, or you would not mind being quoted by name and/or position?

Thank you for your time and valued contribution!
## Annex 4 – Checklist matrices

<table>
<thead>
<tr>
<th>Code</th>
<th>Evidence from the interviews – Units of analysis</th>
<th>Evidence from the documentation</th>
<th>Convergence of Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORM</td>
<td>(4) 'Sometimes we got the inspiration from other cities, e.g. more ridiculous car trip campaign was copied from Malmö region, but tailored to Umeå'. (1) Office visits, e.g. there was a citizen suggesting the idletaxi activity (..) More people, including citizens, came with ideas “ (1)(...) we were inspired by other projects. Lund and Malmö were the two main sources, as they are very developed in terms of mobility management</td>
<td>(1) Organize study-visit in successful cities/regions in Sweden and Europe (1) Participate in “national and international conferences and trade fairs” (1) Be a member of &quot;strategic networks for sustainable travel&quot;</td>
<td>Partially</td>
</tr>
<tr>
<td>STK_ANAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>(1) Sometimes we did brainstorming(...) in other occasions we just took the knowledge from other cities or previous experiences. Identification of target groups: (3) Depends, sometimes we targeted an area, due to the conditions of that specific area or the characteristics of the people living there. In other occasions we targeted the employees of a company or sometimes even pretty vague target groups</td>
<td>List of co-financers available → (2) List of all the companies contacted available → (7)</td>
<td>NA</td>
</tr>
</tbody>
</table>
Classification, characterization and prioritization of target groups for both, MM campaigns and MM activities:

(1) "I don’t think we have used a tool or anything. We select different target groups for different activities when we plan the activities. Sometimes the target group is all citizens, what usually occur when we realized informative campaigns. In other occasions this target group is car drivers living in a specific area of the city where the bus traffic is very good. Or when we use the workplaces to reach a target group: the workers which are working there (they work in a specific area & they all commute there)."

(3) We design a plan. In the beginning of the year (TAP), where we select different target groups for different activities, trying to cover all the different target groups during a year.

(4) We perceived a division between individuals and companies.

(1) We classified the citizens in red, yellow and green groups – regarding the predisposition of behavioral change. Other types of classification were by areas, regarding the conditions of the bus and/or bike infrastructure or even type of flats. Also we consider the workplaces or schools location. On the other hand the partners change depending on the activity or campaign we were aiming to do.

(4) (...) for instance, some of the characteristics to decide which companies to target are: organizations with more than fifty employees in Umeå municipality and more than ten in Umeå region.

(5) Target groups as described in project proposal: Workers and workplaces; Schools; Test travelers in specific areas and workplaces; People taking leisure activities; Sustainable travel for newly arrived refugees and immigrants;

(5) Taxi companies are an important target group.
Strategic consideration for stakeholders’ engagement mechanisms design:

(3) During the research process of the project we identified three main aspects the people care about: money, time, and health. In the beginning we thought the money was the highest rated factor among them, but nowadays I’d say that is pretty close something between health and time.

(4) We started thinking that the main factor to set up the strategies around was the money, but the health turn up more and more interesting for them.

The environmental aspect by itself is a weak manner to reach people. Everyone cares about the environment but nobody wants to do anything about it. But if I can do something for my health and at the same time for the environment, that is ok. So probably a mix of the environmental together with the previous factors is the best way to involve them.

(1) The kind of message is different depending on to who concerns. (...) generally, “the real argument of the project is that there is really bad air quality in Umeå, but doesn't seem to work at all. Time I think is the most convincing argument (you will save time if you bike), probably more important than money.

(3) People need motivational factors that should be consider as the base of all the mechanism used to attract them to participate in this projects.

(3) The participation of this activities has a voluntary character

(1) Target group activities as presented in the proposal:
- Workers and workplaces: travel behaviors’ analysis, travel policy, traveling test persons, contests to win bicycles, car and bicycle pool, health and wellbeing activities, bicycle companies, etc.
- Schools: school bus itineraries, coordination of school buses, “Europe’s walks”, etc.
- Test travelers in specific residential areas, municipalities and workplaces. The aim is to increase the collective transport’s share.
- Sports and recreations facilities. The aim is to reduce the share of car users taking part in leisure activities.

General activities as displayed by the activity plan
(4) A reduction in car traffic environmental impact by increasing the number of trips by bicycle.
Reduce car traffic and environmental impact through diminishing the growth of short or unnecessary journeys.
Reduce environmental impact in the region through increasing availability by increasing the proportion of those who use public transport bus / train / carpool:
Reduce environmental impact and improve health status of the workers from the region through encouraging them to switch towards sustainable commuting:
Increase awareness and knowledge about sustainable travel
<table>
<thead>
<tr>
<th><strong>D_GSTRAT</strong></th>
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<tbody>
<tr>
<td>(1) Let the people make their own choice.</td>
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<tr>
<td>(2) We create a strategical promotion (...) we create an image around the project, where we want to be seen as innovative in the area of mobility management, as well as being seen as a friendly partner for the citizens that never force them to change, but encourage them to try to change.</td>
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<tr>
<td>(3) The best way to attract citizens to participate in the activities is make them fun, it has to be a competition, or an humoristic topic (e.g. – what’s your most ridiculous car trip?). You cannot make people feel guilty of their behavior.</td>
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<td>(4) The way to involve companies was showing them an opportunity to save money at the same time they are improving their employees’ health and taking care of the environment.</td>
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<td>(4) For the managers you use the money. (...) that will make the employees perceiving the work atmosphere healthier therefore being more satisfy with the work situation.</td>
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<tr>
<th><strong>C_OSTRAT</strong></th>
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<tr>
<td><strong>Strategical considerations for organization's involvement mechanism design:</strong></td>
<td></td>
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<tr>
<td>(5) There is access to different communication channels for exchanging information between business partners (equipment for telephone and web conferencing, IT tools for communication, etc.) but most of the information is exchanged through informal contacts.</td>
<td>Yes</td>
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<tr>
<td>(6) Stakeholders they were worried about the negative message and they let us know about the importance of the positive messages.</td>
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<tr>
<td>(7) Engage citizens through engaging their workplace. Citizens are the primary target group; targeting the workplaces is an effective way to engage citizens. It can be said that we consider organizations as intermediaries, a target group to reach another target group.</td>
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<tr>
<td>(8) Consultation with professional in the transportation branch</td>
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<tr>
<td>(9) Recommendation: Formalize cooperation with various parties further, e.g. with the letter of intent and written agreements on work effort and</td>
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</table>
COSTRAT

1. Teach companies to become interested in the same questions as us so that they will keep on doing the work for us.

Inform, consult, and collaborate - first step of organizations’ engagement:

1. Co-financers are involved as partners from the very beginning of the project.

1. The way to engage the companies explain them the specific reasons why they should participate.

1. Contact Health Responsible & Management

4. When you working with companies you deal with people in charge making decisions, so you try to offer them a travel survey to help people commuting to work. We tried to reach the managers in different ways, by phone with brochures, but the most effective manner were the face to face meetings. They were the ones most useful to help people to shift habits of travel and also to get useful information.

4. You give them easy starting points in a brochure

4. Discussions and small projects implementation help to shift the policy of travel within the company. You help them by doing simple things, for example include shower facilities, or let the employees check in before they take the shower. Then you start with the travel survey, in order to identify a group of people who would like to use the bus.

commitment.

1. Provide information and encourage telephone and video conferences aimed at reducing the need to travel.

The availability of the surveys applied inside the companies for identifying the ‘travel behavior’ of the employees. ⇒ (3)
C_OSTRAT

(2) When we targeted an organization the first step was applying an initial paper survey with questions like: Do you have a driving license? Do you have a car? How often do you drive? How often do you go by car? How often do you go by bus? Applying these surveys we evaluate the transport behavior and identify the necessity of a more sustainable travel plan.

(1) Consultation with bus company to see where they have good bus services, in order to select areas.
(1) Consultation with 'planning department' of the municipality that creates and improves bike infrastructure

(1) Engage citizens people from areas with good/recently improved bike/bus infrastructure

(4) Promotion of the car pooling concept in Umeå region, in collaboration with Sunfesit company.

C_STRAT

(1) “Sometimes, we decide the target group, then the adequate activity to involve them in the project (...) or we want to do an activity and then we decide through which target group we will implement it. (...) sometimes, we decide regarding the areas among the city with car problems (...) what can we do? Which people can we target?”

(2) We plan for the whole year (one plan each year and decide which activities) then one planning process for each activity. The activity plan describes the activity, what are the goals, the target group, which organizations or companies we can cooperate with during this activity, time-plan, materials (i.e. ads, surveys, presentations for meetings)

(3) (...) we wanted people biking to work during the winter, so we start an activity to increase this number of people (...) We decided to include in the activity a maximum of one hundred people, therefore we chose among all the applications those that belonged to habitual car drivers.

(5) Partners are considered to have a strong influence on the planning of activities, both through the steering group, reference group and through direct contact with the working group that is responsive to local initiatives.

The accessibility to the activity plan → (4)
<table>
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<th>Code</th>
<th>Evidence from the interviews – Units of analysis</th>
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<tr>
<td>CIT_eng</td>
<td>Aim of the Marketing mechanisms:</td>
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<td>(3) Marketing mechanisms are a part of the communication process; they are complementary to the internal and</td>
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<td>external communication and aim to raise the awareness, to get people to sign up for the activities.</td>
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<td>(4) Make people aware of the project, and questioning their behavior</td>
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<td>MK_MECH</td>
<td>(2) so instead of going to the politicians we do it through the media.</td>
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<td>(3) I consider as external communication the one aiming the citizens, the companies, other cities and other</td>
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<td>municipalities within Sweden.</td>
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<td>Marketing mechanisms:</td>
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<td>(3) sometimes we make our own design, sometimes we do it in collaboration with subcontractors (...) websites,</td>
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<td>news, letters, brochures (...) also we sum up all the activities in reports for the other municipalities in</td>
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<td>case they show interest.</td>
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<td>(1) At the beginning everything was new: new activities, new project. Nothing like this was done before in</td>
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<td>Umea, so we have got a lot of media to cover us, so we didn’t need to do anything for people to find us.</td>
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<td>(2) We had also had articles in the newspaper written about us.</td>
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<td>Especially at the beginning they were really interested in what we are doing</td>
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<td>(1) Informative texts and footage on sustainable travel are also available on the website. The purpose is to</td>
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<td></td>
<td>increase awareness and generate positive attitudes towards sustainable travel.</td>
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<td>(1) Bus schedules and information available in several languages.</td>
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<td>The access to the register containing ads and the articles published in the local newspapers → (7), to the</td>
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<tr>
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<td>website, to the blog and to the Facebook and Twitter groups → (8)</td>
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<td></td>
<td>Convergence of Sources</td>
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<td></td>
<td>Yes</td>
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<td>Group</td>
<td>Text</td>
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</table>
| **MK_MECH** | (2)(...) actually advertisements in the local newspaper were really successful, as it was posted on Facebook and Twitter, the website, notes in shops and work places.  
(2) Before start an activity or campaign we send out information to the selected targets: group emails and flyers. (...) we also put posters, notice boards. It's different for every activity  
(1) You have to show them how to save money, time and be healthier (...) they have all the tools and the information in our website. |
| **MM_CAM** | (3) We do it together with an advertisement agency (subcontract) and work close with them. We design the idea, the sort of message we want to communicate, and they adapt it to Umea.  
The aim of the campaigns:  
(3) After the biggest campaigns they recognize us, they recognize what we are stand for, what we are trying to get them to do. Also to raise the awareness level of the problems, so it makes easy people involvement the activities.  
(3) (...) trying to create an image around these projects; We want to be recognized as an organization who encourage people to make a choice. We want them to try first before tell them to change.  
(1) The big campaigns also raise awareness, but you do not have the possibility to evaluate the results |

| **MM_CAM** | (1) Developing information campaigns, campaigns supporting cycle or walk to work (...) The aim is to reduce the number of unnecessary short-distance car travels and increase the proportion of people who are walking and cycling.  
(5) Organize campaigns to increase awareness and use of sustainable transport, such as Pedal for Medal and What's your most ridiculous car trip. |

Yes
94

MM camps charactertistics:

(4) The campaigns embrace a broader spectrum of audience but it is difficult to monitor and evaluation of invidious.

(3) Actually there is a way to measure the success of the campaign, but it is not really practive. There is always a competition involved with the campaign, so it is possible to get the feedback of the people involved in the competition using surveys when they apply: (...) How did you see Umea before the campaign? How do you perceived now after?

(2) The campaigns as well as some activities include competitions among the participants in order to make them more interesting and funny.

(1)(2)(3)(4) Biggest campaign: What's your more ridiculous car trip?

(5) in the most ridiculous car trip is a big campaign where we give 100 bikes to the most ridiculous car trips that the people have done (...) they have to apply for the competition in the websites and fill a survey (...) 

(4) A bike parade was also one of the most visible campaigns we did, but we continuously tried to be visible for the citizens (...) we advertise the parade during a whole month, with flyers, posters everywhere, the website (...) it was difficult to measure the success of the campaign regarding the behavioural change, but regarding the attention, it was definitely successful.

(1) We wanted to be as visible as possible, and make everybody speaking about us and our actions, so sometimes we gave away cinnamon buns and coffees to the bikers in the street, or we deliver a customize cake to the winner of one of our competitions in his/her work place.
(3) It's a strategic promotion; you start with large advertising campaigns and then you follow them up with smaller activities.

(3) In the activities you have a specific target group or audience (…) the success of the activity can be evaluated at the end, or even later on.

(5) We have realized many activities, either focusing in companies or in a selected target group (…) in "pedal for medal" the group was selected after analysis the surveys that was sent to the workers, being a requirement for them to have at least a driver among the team.

(4) The applications to the activities and the competitions in the website and the corresponding surveys the people completed were the way we select the target group (…) the monthly free card was given to 100 selected people among all the applications (test travellers).

(1) Many activities, we start with No idling taxi then Test travellers on bus also School activities and Pedal for Medal

(4) Promotion of the car pooling concept in Umeå region, in collaboration with Sunfleet Company.

(2) We all were collaborating in all the activities in different ways, but I personally focus more in the Bike Rental & Bike service and the Bike School for Immigrants (…) this activities were different.

(3) In No idling taxi activity we offered the taxi company the option to save money, then we started with educational meetings with the taxi drivers (…) the company made this meetings mandatory. (…) obviously the taxi drivers were not obliged to follow our tips but we create a competition among them (…) we track the emissions savings in the end of the activity asking for the fuel consumption statistics.

(1) Health and well being activities, that take the form of contests. The aim is to reduce the number of unnecessary short-distance car travels and increase the proportion of people who are walking and cycling.

(1) Cycling classes for female immigrants.

(1) Target group: The Umeå Region’s citizens. Every activity focuses on a specific group within the target group.

(5) Sustainable travel works primarily with so-called “Soft” measures (…). Examples of activities are:
- Provide information and advice on sustainable transport choices for local residents, such as information about Sunfleet (carpool) and education for sustainable travel
- Education, such as cycling school in Bjarholm and cycling school for immigrant women.
- Provide and inform local residents about alternatives to the car by way of example, car-sharing service, car pool, testing, company brochure, etc.
- Location-based travel surveys and assistance to businesses and schools, such as walking school bus project and corporate RTU
- Provide information and encourage telephone and video conferences aimed at reducing the need to travel.

(5) Sustainable travel working with schools through, for example School-start-packages and walk-bus. However, there are only a few schools where mobility management is included in school education in other ways.
(2) Depending on the activity, but after selecting the group we usually have an informative meeting where we make them sign a contract, where they engage themselves to accomplish the requirements of the activities.

(1)(...) we required them to come to the office, sign a contract and attend to a meeting where we explained the benefits of traveling by bus, and which were the conditions to get the free travel card.

(2) Sometimes we call them personally to remind them to fill a survey, or to come to the office to pickup something, or even to ask them how the experience is being.

(4) (...) after three months the activity end, then we had another meeting with them to get the personal feedback of the experience.

(1)(2)(3)(4)(5) In the end of the activity you give them a survey to evaluate the activity and the new practices in sustainable transport they have acquired.

Six months after we sent them a survey, trying to get information on the ways they travel and check their behavioral change.

(3) There were meetings at the beginning, at the end and 5 months after the end.

(3) Sometimes, there is not more option that relaying in people answers, why are they going to lie?

(1) There is a device measuring the number of people biking, and it is increasing year by year even if it isn’t really precise.

The availability of the surveys applied for identifying the ‘travel behavior’ of the citizens before becoming part of the activity, immediately after the activity finish and 6 months after →(3)

Yes
(1) letters to people to fill in and send them back, to see how people are travelling (…), thus when we want to reach everyone, we prefer letter not email (…) with the letters they will draw for a green-bike.

(2) we use surveys, even personal interviews to involve people in the activities

(3) surveys were designed for Trivector

(3) presentation for the whole group of people accepted in the activity

(3) meeting the health coaches in the municipality of Umeå, asking them for collaboration to identify target audience within the organization.

(4) Meetings with the target groups identified after the surveys realized in the companies

(5) The evaluation was done with surveys and personal interviews, either in paper or online material

(3) besides 20 of them were also selected to realize a health test

(2) we give brochures for immigrants-ride a bike

(1) Our office in the city center was open to everyone to come a propose us but hard to find, so not too many people came.

(1) one of the projects’ objectives it to “increase the use of technological solutions for sustainable travel (telephony, Internet, videoconference)”

(1) The development of the Web based tool allows individuals to assess the effects of their travel choices. The tool illustrates the consequences on the environment, time, economy and health, based on the transportation mode (walk, bicycle, moped, car, etc.) The tool is used in most of the target group’s activities and is accessible on the project’s webpage www.smartaresor.se

(5) Fairs, public meetings, shorter calls, etc.; Breakfast Bags: Lecture with longer coherent information; Meetings with opportunities for discussion and questions; Unique web visits, including clicks on web banners, posters, mailings and brochures; subscribers to the newsletter
INTER_MECH

1. we made them to sign a contract in order to assure their collaboration, and surprisingly, even if the contract was a non legal one, made them feel attached to accomplish its requests.

2. the nature of the human being make the people feel the competition attractive.

3. we deliver cakes to the winners in their offices.

4. We create a link to the car pool company (...) also send flyers to the areas surrounding the stations.

5. I sent out a survey after 2 weeks & we also get info about the amount of trips they have done with this card. So if I notice that someone hasn’t been using the card, I call them and ask them “what’s up?"

6. (...) for some other activities we send them SMS.

7. The people was going by bike to work in order to train before the pedal for medal competition.

8. The school ask us for help during the meetings with the parents, as the managers also do, to explain the activities we want to undertake.

9. Website in combination with the bigger campaigns were the most successful mechanism in engaging large numbers of people. But I wouldn’t say they were the most effective in changing people behaviour which is one of our goals, probably then I can say it was test travellers activity.

10. Keep personal contact through the activity, usually through emails, but also blogs. We surprise the active people on the blog with a bus cake (...) the whole office started to speak about that cake.
Creating synergies.

(1) We usually become friends in time with this partners or companies when collaborating with them. (...) at the beginning is harder (...) the bus company at the beginning they were skeptical to give free tickets, but we convince them using this argument: not a cost, but a potential revenue since these tickets are not going to be sold without this activity(...) not a problem anymore. We do it twice a year and they want us to do it every month.

(1) Buses help us to find the good area is good to target, now that we know who to target. Also we have a very close collaboration with the Traffic Department with works on the bicycles strategy & roads building/improvements. This is something we try to do: if there is a good improvement on bikes lines in an area we will make a bike campaign in this area to promote this.

(3) During that project was really difficult to communicate with the transport company, due to its structure divided in three sub companies. After our collaboration during this project, I want to think that they change in a way the manner they were doing things.

(2) We often collaborate with the companies that finance the project. Those that plan the bus transport give us the bus tickets, because they think it was a very good activity to encourage people to go by bus instead of taking the car. They see the change - more and more people travel by bus (...) they get information, feedback on the bus - how it works, what could be better.

Methods:

(3) After a trial error process we identify the monthly newsletters as the most effective way to communicate with the steering committee members and the partners in general since they were easily forwarded and spread out throughout the organization.

(5) Several different communication channels for exchanging information between business partners (equipment for telephone and web conferencing, IT tools for communication, etc.) are utilized through the Project, but most of the information is exchanged through informal contacts.

(5) The steering group saw in 2010 a need for more regular feedback from the Working Group on the finished and ongoing activities. Therefore, began working in 2010 to compile the monthly newsletter with information. This has facilitated information sharing (...). The newsletters are considered estimates of the steering group. The working group has continued to actively use the website to disseminate information, but this has been supplemented by newsletters. Dissemination of information deemed to be less vulnerable and more widely available.

(5) The steering group has also had more frequent meetings during 2010, primarily to discuss the anchoring of the project.
(3) An internal communication was undertaken among the project team members and also with the co-financers, people who are directly involved in the project on the working aspects, as the bus companies and transport coordinator.

The ways to communicate with the partners during the project was as trial and error process (...) Design a website for internal communication but it wasn’t effective. (...) monthly newsletter were well appreciated (...) contact one person at the organizations and the newsletter were spread out internally within the organization.

(3) (...) many Presentations for each scenario, presenting the results.

(3) (...) Some meetings, but not many

(1) We had coordinating meetings, 1 per month with the representatives from the traffic department & planning department.

(1) Meetings for the start/end of activities

(1) the steering committee was formed by representatives of the co-financers, and we meet them three times per year

(1) Meeting with the co-financers and partners to discuss Trivector evaluation report

(2) A representative of the bus company attended to the final meeting when we discuss with the test travelers.

(5) In addition to the steering group(...) There is also a collaboration relationship developed with the officials from other municipalities and with some companies in the Umeb region. This cooperation is done through the reference group and through the activities carried out. No conflicting interests between the partners have appeared, but the team should be prepared if such should occur.

(5) Weakness:
Partner’s participation in various activities and meetings was based on their commitment and their ability and willingness to prioritise work in addition to other duties. This means that the division is somewhat unclear, participation from various partners varies and you still have not managed to ensure each party’s involvement.

(5) Recommendation:
Formalize cooperation with various parties further, e.g. with the letter of intent and written agreements on work effort and commitment.
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<th>Evidence from the interviews – Units of analysis</th>
<th>Evidence from the documentation</th>
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</table>
| RE ASS | *(3) Evaluate at the end of the year how the activity worked with the correspondent target group, and if this target group should be change for the next year planning.  
(4) Next year they change the campaign to no more ridiculous car-trip-trying to go to the next stage of behavioural change, but maybe too early to reach that stage and we can of fail, so we came back to the success one.* |                                                                                                  | NA                     |
| RE_ANAL| *(1)(...) we are reassessing them (the activities). The ones with good results we repeat them yearly, the others we either discard or renew them  
(2) We apply a survey at the end of almost all activities and one 6 months after, to evaluate the change in the behavior of the participant  
(3) This target groups change during the implementation phase of an activity. Sometimes when we get more accurate data and they (the target groups) do not really fit with the description that we have at the beginning of the year. Then they have to be revised and be changed at that precise moment in order to be more effective.* | Temporal availability of the surveys applied for identifying the ‘travel behavior’ of a participant in an activity after the activity finish and 6 months after. | NA                     |
<p>| RE ENG | <em>(5) Trinector presents an annual report evaluating the activities we did (...) this inform helps to identify where the problems with some activities were and what we might improve.</em> |                                                                                                  | NA                     |</p>
<table>
<thead>
<tr>
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<tr>
<td>CHA</td>
<td>(2) When calling them directly by phone, they were feeling as though it threatens their privacy.</td>
<td>(5) Partners’ participation in various activities and meetings was based on their commitment and their ability and willingness to prioritise work in addition to other duties. This means that the division is somewhat unclear, participation from various partners varies and you still have not managed to ensure each party’s involvement.</td>
<td>NA</td>
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<td></td>
<td>(1) I try to tell doctors to advise fat people to use the bike, but the result was completely negative</td>
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<td>(1) Male car drivers 55 years old are the most difficult target group to engage in these activities.</td>
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<td></td>
<td>(1) Working with companies is probably the most difficult area to engage people, but if the success may be high as long as it is achieved.</td>
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<td>(2) The problem never was to involve people in the activities or campaigns, they are usually receptive, over all in the funny thing and in competitions; the problem was how to change their behavior when travelling</td>
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<td>(2) We’ve done a lot of surveys, but most of the times it’s hard to start an activity afterwards, because the managers are maybe afraid to tell their employees: you should travel like this or like that.</td>
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<td>(2) It is more difficult to make people bike in the winter time, (...) but also go by bus more, instead of using the car. Many of the services we offer during the summer time or the spring have to stop because of the weather, as bike rental or the bike maintenance service.</td>
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<td>(2) car drivers that have been driving their car for all their life and they don’t think they do anything wrong with that, they can’t do anything to make a change for the environment and they can’t live without their car. They have to have started thinking about that issue before (use other type of transportation), usually men between 45-50.</td>
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<td></td>
<td>(2) The managers sometimes seemed to be afraid to tell to their employees about the sustainable transport, probably due to the current economical situation.</td>
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</table>
(3) The biggest challenges when engaging stakeholders, for me personally, I'd say it was to get them to view us as a partner and not something temporarily, and it was hard to make them understand that the work that we do actually make the difference.
(3) New people coming to work in the taxi company, so they did not attend the educational presentations, therefore they are not aware about our job.
(3) Hardest citizen to engage? Probably the white straight man.

(4) For neighbour municipalities were the ones having more than 10 employees (...) difficult to reach companies in Umeå region. (...) probably because of the low number of employees or the distance too.
(4) Problem: some managers reject this travel plan even being for free, they thought everything was perfect as it was.
(4) It is important and difficult to influence the general opinion

Barriers for the project
(1) The fact that some companies or municipalities keep letting the commuters use the parking for free, doesn't help to make them change their habits

(3) exists a tax oriented problem that difficult our job, such as the existent tax cut that some drivers are beneficiaries because of the distance that their commute. (...) there are also taxes to pay when it comes to get free bus cards for the employees or the same with bikes services. You should receive a discount not being penalized for doing these initiatives.

(4) The influence of the regional regulations was a limitation of the project since we are doing only soft things. (...) this soft mechanism is a good thing to focus on since nobody was taken care of them before this project
References


http://album.umu.se/F/4JSY72E3E4FA83849ST7RNLGHJQ4IRFS63A5GFVMNM1DBAATMF-06727?func=service&doc_library=UME01&doc_number=000942495&line_number=0001&func_code=WEB-FULL&service_type=MEDIA


