The role of participation in the implementation of sustainable mass transport measures. The case of Florence Tramway System

“Guelfi against Ghibellini” by Paolo Uccello 1456

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Executive Summary

Mobility is one of the major needs of societies nowadays. However, the effects of an increasing number of trips are dangerously harming the environment. The transport sector is recognised as one of the top emitters of green house gases (OECD 2008). Taking into account the three pillars of sustainable development, namely economy, society and environment, public transport systems offer many advantages when compared to private means. On a social perspective they support social inclusion and guarantee mobility, thereby accessibility to all. On the economic side they are less costly for the community, both because they offer higher safety rates and because they are less energy intensive. As a matter of fact, this last aspect is directly related to their carbon footprint, which is reduced and therefore makes them less polluting.

Consequently, governments and local authorities should stimulate a modal shift towards more sustainable mobility habits providing attractive alternatives to private traffic. This is especially critical in urban contexts where the problem of traffic and the related emissions are the first cause of air pollution, which together with noise is causing a degradation of the quality of life. However, the implementation of new sustainable mobility measures is often debated due to the competing needs and values of the different interests concerned by such policies. For this reason the definition of effective urban policies requires a multi-level governance framework as well as a participative approach.

The involvement of stakeholders is more and more recommended by best practices and guidelines, and even imposed by law in several cases. However, it does not always guarantee efficiency and effectiveness of a decision making process. The participation of interest groups may have different impacts: in some cases it may be used to legitimize a decision already made or even to allow an over influence of economical powers, while in others it may solve an impasse the necessary societal support to progress in a project.

This study aims to investigate how and when the adoption of a participative approach impacts positively on the efficiency and effectiveness of a sustainable mobility measure. Therefore, the main research question focuses on what benefits participation can bring to a decision making process. The analysis of case studies has been used as a baseline for the first section. In particular, a World Bank empirical study (Rietbergen-Mc Cracken J., 1996) taking into account over a hundred participative projects, shows how higher sustainability of the results and a
quicker disbursement process are present in projects implemented with the involvement of the relevant stakeholders.

On the other hand, according to the experience described in the case studies, the involvement of stakeholders may result in a mere label or flag used to formally fulfil a requirement. Building the capacity of actual participation is different from simply giving the chance to participate, especially for the less powerful groups. Therefore, to actually evaluate the impacts of participation, it is necessary to define what level of participation can make a decision making process adequately participatory. To answer this question an extensive literature review has been conducted. Sherry Arnstein’s work “A Ladder of Citizen Participation” proved to be very significant in explaining how it is not possible to define an absolute best level of participation, but it varies according to the specific context. Arnstein proposes a five steps model including information, consultation, deciding together, acting together, up to supporting local initiatives. Each level has specific characteristics which qualify their suitability to the context. The relevant points to be taken into consideration for this purpose are – a true will to legitimize other options, a genuine commitment of the decision makers to share their power, as well as the availability of the necessary time and resources to implement the participative process with adequate tools. The level of participation to be encouraged and allowed in a process is strongly related to these variables. The adoption of a participation level which does not match with the actual resources and commitment may result in adverse affects on the decision making process. On the other hand, several scholars and practitioners point out the constraints and the risks of adopting a participatory approach. A specific research question explored this issue.

The final question refers to implementation matters and studies how to identify the relevant involvement methodologies to be used in specific cases. Thus, the research includes an extensive catalogue of the main tools and techniques used in participative projects explaining their features, their aims as well as their best application. Indications on how to conduct a stakeholder analysis are also provided.

The entire study is led by a main case study, namely the implementation of a tramway network in the city of Florence in Italy. The case has been chosen due to the intensive debate which the issue has raised among the city stakeholders as well as among the population in general. The Florence tramway is a perfect example of how a mass transit measure, theoretically improving
the quality of life in the served area, may be contested because of competing interests and lack of information about the project, therefore it can be considered a relevant case for this study.

After conducting an analysis of the historical background characterising the context, the local culture and the current mobility situation in the city are described. Moreover, the case analysis provides a critical report on the tramway project, both relating to its technical aspects and with regards to the civil society participation. The analysis showed how after an initial involvement from the administration, stakeholders as well as common people have been almost totally excluded from the decision process. This attitude progressively increased people’s doubts about the project and created a healthy environment for distrust. The peak of the protest was reached in February 2007, when the political opposition succeeded in organising a referendum against the project. The quorum of 50 per cent of voters, necessary to make results binding for the administration, was not reached. However, it cannot be ignored that the majority of the votes have been against the tramway.

To further investigate the feelings of citizens of Florence towards the impending tramway, a specific survey was conducted. The designed questionnaire contained also questions related to the level of participation expected by the civil society and the perceived one. The aim of the empirical research on the gathered data was to identify a possible correlation between people’s views about their involvement and their support toward the tramway project.

First of all, the data are analysed from a descriptive point of view. Relevant characteristics of the investigated population are presented, such as their mobility habits, their opinion about the tramway in Florence, their knowledge of the project as well as their attitude concerning civil society involvement in the project-related decision making.

The multiple regressions conducted finally showed that, keeping everything else constant, people’s opinion on a project is negatively influenced by disappointment due to the lack of involvement. According to the findings presented, citizens who experienced a level of participation different from the one they thought they ought to have, show a more negative attitude towards the project than others. Nevertheless, another relevant finding of the survey is represented by the correlation between the personal approval of the tramway and the intention to use it – respondents expressing a support to the project also declare a will to use it.
Therefore, as consistent with the literature presented, we can conclude that the case study shows the importance of providing an adequate level of stakeholders’ involvement in the implementation of a successful sustainable transport measure. Successful in its wider meaning of being able to shift people’s behaviour toward more sustainable mobility habits, thus contributing to an overall improvement of urban environment and social inclusion.
Introduction
Participatory methods are increasingly recommended by international institutions especially when dealing with sustainable development. However participation is a rich concept which can encompass different meanings according to the situation. In some cases it is simply a methodology or a process towards a goal, when in some other cases it can be considered as the goal itself.
The definition adopted in this work comes from the World Bank “Learning Group on Participatory Development”: “Participation is a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them.” Furthermore, this is the only level of real participation recognised by Arnstein (1969).
This study basically aims to answer to the question: what benefits can stakeholders participation bring into a decision making process?
Consequently research sub questions are: 2) what level of participation is recommended to consider a decision making process adequately participatory? In this context, the study tries to provide a reference framework to identify which main variables have to be taken into account in deciding about the suitability or not of a participatory approach for a given case. 3) what are the constraints and the risks of adopting a participatory approach. Finally, methods to properly manage the involvement process are also investigated and described, answering to the research question 4) How to identify the relevant involvement methodologies to be used in specific case.
Nevertheless, participative methods can be applied for a wide range of policies and measures. This study focuses on the sustainable developments related projects, in particular on the implementation of public transportation systems. The considered case study is the mass transit system currently under realisation in the city of Florence in Italy.
If we define sustainable development as the achievement of continuous improvement of the quality of life and well-being for present and future generations it is clear how public transport is crucial to fulfil these aims in the urban context. It is crucial in regards to the environment thanks to its lower level of emissions compared to the traffic of private car owner. Moreover, it plays an important social role as well, especially regarding issues such as social inclusion and equality.
Extensive interventions in this field have a great impact on the population, they shape the city effecting people mobility as it allows reaching a destination, moreover it affects the length of the journey time and its cost. Thus, transport systems influence working and studying perspectives, leisure time, real estate value, health and many other aspects of people’s everyday life. In other
words, they have an impact on the general quality of citizens’ lives (OECD 2008). Consequently their design, implementation and building phases interest the entire population. Nevertheless the relevant amount of resources required can also be a reason for an intensive debate. Consequently, all the relevant choices related to such important measures should be shared and possibly supported by the affected population through the involvement of the main stakeholders in all phases of the policy cycle. Participation methods seem to be the most suitable instrument for reaching this goal. Nevertheless, as illustrated in the study, laws and rules at different levels (both regional as well as local) require the involvement of civil society in environmental related measures.

This study begins with a deep analysis of the role of public transport, both referring to its role in the context of climate change as well as its importance for a city from a governance perspective. This point leads us to the assessment of several driving forces that motivates the needs of participation, both specifically regarding public transport interventions, and related to some general characteristics of society nowadays.

Then the focus shifts on the analysed case study: the implementation of a 3 line tramway system in the city of Florence (Italy). Firstly an historical background is provided in order to explain what the local urban situation is as well as the social setting and the culture. These in particular are traditionally characterised by a low degree of trust in the institutions and a high level of contestation. In the second part an extensive literature review of participation techniques and instruments is provided. Stakeholder analysis techniques are inspected as well. Finally, the case of Florence Tramway implementation is analysed from the participative perspective: the analyses is based on the theoretical elements provided in the first and in the second parts matched with a data analysis gathered from interviews with the citizens of Florence. The survey investigated both the opinions about the administration and the tramway projects, as well as the views on expected participation and perceived participation.

Following the above findings, the final sections try to provide a reference framework for those aiming to adopt a participatory approach in sustainable mobility projects.
The role of Urban Transport for sustainable development

What is Public Transport? Definition and characteristics

The term “Public transport” refers to all transport systems in which passengers do not travel with a private vehicle.

Regulations usually configure public transport as a common carrier with a scheduled service on fixed routes. In special cases, such as low demand areas or non-pick hours, it can eventually be operated on demand although it is usually on a non-reservation basis.

Rail and bus services are always part of the classification, while depending on the definition, wider approaches may include any system that transports the general public operated with any kind of non private vehicles. The latter classification thus includes ferries, taxicab services as well as car sharing or car pooling systems, or finally the recent bike sharing systems as “velolib” in Paris.

The majority of passengers travel within a local area or their region. The most common destination points are the places of employment, shopping areas or schools.

Public transport can be considered a sustainable means of transport as it offers many advantages over individual transport modes, namely:

- It is less energy-intensive
- It pollutes less
- It is less space consuming, a critical factor especially in a city context
- It costs less to the community
- It is safer than all other transport modes
- It improves social inclusion
- It guarantees mobility therefore accessibility to all

Public transport has contributed to the shaping of towns ever since the end of the 19th century. Its growing impact on the economic development of urban areas and its contribution to social inclusion has been widely recognised (UITP, 2008).

As cities grow their need for public transport increases, and despite the unparalleled flexibility and freedom a car might bring, a city cannot function without public transport.

The increased diffusion and use of private cars in the last 50 years has challenged public transport. Moreover, other societal factors have had an impact on the mobility behaviour of citizens and the role of public transport in urban areas is also changing. The spatial separation between the places of production and the places of consumption is a well detected tendency of
modern society, which is continuously increasing due to globalisation. Consequently, as clearly presented by OECD Environmental Outlook to 2030 (2008), the achievement of an adequate balance between all modes of transport is the only way forward to be able to maintain habitable cities and to provide mobility to all citizens in the short and in the long run.

**Reasons to limit the private traffic: the impact of traffic emissions on climate change**

Man-made emissions and increasing levels of carbon dioxide are altering the natural climate cycles bringing extremes in weather all over the world. The extent of the impact and how reversible these effects are may still be unknown, but the direct and indirect consequences of the changes that we are already experiencing present risks that should not be ignored. For example, the economic losses related to hurricane Katrina, which hit the United States in the summer of 2005, and its aftermath are estimated to be over US$200 billion. As global warming continues the annual toll could reach US$150 billion in the next 10 years and US$300 billion by 2050.

The transport sector, together with energy transformation, is one of the top emitters of greenhouse gases at global, regional and local levels. At present CO2 emissions from transport are growing despite improvements in technology (OECD, 2008). New engine technology, better fuels and other improvements have not had the required significant overall impact on reducing GHG as these gains are offset by the sheer growth in traffic, particularly in urban areas. Higher comfort levels in many vehicle specifications such as air conditioning and GPS also increase energy consumption and therefore increase emissions as well.

In the 21st century mobility is a fundamental necessity, it is essential for all aspects of life from working to getting access to primary services and leisure. However current patterns of provision and consumption of mobility are unsustainable and cities all over the world suffer from high levels of traffic related congestion, pollution and degradation of the quality of life including social dysfunction.

According to the OECD Environmental Outlook to 2030, in the “business-as-usual” scenario, transport and energy sectors will account for the massive increase in GHG emissions until 2050. Containing demand for transport services as much as possible thus plays a key role in containing GHG emissions. However, given the economic growth and the legitimate aspirations of developing economies, an absolute decline in the global consumption of transport services is unlikely.

The transport sector is projected to have the fastest emissions increase between 2005 and 2030. The main reason is that developing countries would expand both commercial transport flows and private car ownership significantly as they grow richer. Since the main transport fuels
are derived from oil and no ground breaking technology would come into mass service in the baseline scenario, emissions are expected to grow at a similar rate as the energy consumption in the sector. The following chart (ECD 2008) plots current and projected energy consumption in the transport sector for OECD countries, a group of large developing countries denoted as BRIC – Brazil, Russia, India and China – and the rest of the world (ROW).

![Figure 1 “Trends of energy consumption in the transport sector”](image)

Thus, given this evident major role of transportation, the reduction of GHG emissions will require a substantial decline in its carbon intensity. Primarily, this will most likely entail a range of policies in the transport sector to deliver reductions in transport emissions including behavioural, physical and fiscal measures that will help bridge the transition period until cleaner technology develops.

In more detail, transport is the first cause of air pollution in the urban context. It is particularly important considering that for the first time in human history more than 50% of the world's population now lives in urban areas (UNHABITAT 2007). Cities are indeed a primary driver of global climate change accounting for around 75% of global energy consumption and 80% of global greenhouse gas emissions.

On the other hand, dense urban areas are exactly where rail and public transport perform best and by forming the backbone of any sustainable transport network can thus reduce the carbon footprint of these fast growing metropolitan areas.
Public transport as the coping strategy for urban contexts
More than 50% of urban trips made by car are less than 5 km long, many could be changed to more sustainable modes such as public transport, walking or cycling. If one or two trips a month were changed, congestion, air pollution and energy use per capital in cities could be noticeably reduced.
Taking an average occupancy of 25% for public transport, the primary energy (and GHG emissions) consumption per passenger per kilometre of public transport is only one third when compared to a private car, even with the many recent improvements in automotive technology. In peak hours when most transportation problems in urban areas occur, public transport has an advantage of as much as 10:1 over the private car.
Shifting more trips from individual car use to public transport can help reduce national CO2 levels and stop the worsening trend.
Such a shift may only be obtained through a combination of innovative measures related to the integration of public transport within urban development policies, adequate demand and traffic management, and the sustained development of public transport.
A behavioural change is affordable while the cost of inaction is much higher: OECD Environmental Outlook to 2030 (2008) recommends strengthening the availability, frequency and safety of public transport in order to provide a viable alternative to private cars. Investment in transport infrastructure today will also affect future mobility options and their environmental impacts.
Such policy initiatives do not only make a huge difference in reducing a city’s carbon footprint, but can also greatly enhance a city’s attractiveness, overall efficiency, and thus their competitiveness in the global arena.
Governments and local authorities can stimulate this change, but without attractive alternatives and an integrated approach to land use planning and energy policies, this will not become a sustainable reality.

Mass transit system design and implementation: a governance perspective
Following the above described risks and related coping strategies, investment in innovative and mass transit systems represents a big opportunity for a city, however they also present some big challenges.
Indeed, despite its several benefits, PT suffers from unpopularity. Disadvantages play the bigger role in people’s minds both when it is time to take a modal decision as well as when it is time to
devote resources to building a new system, which also means giving up space and freedom. People tend to focus on the small short term costs of mass transit systems while overlooking the greater long term consequences of a mobility system based primarily on private vehicles. So far political and public acceptance has proven to be difficult to gain mostly because there is not always a consensus that the problem is serious enough. Moreover there may also be simple distrust that the systems will work reliably.

Municipal leaders thus should have a strong motivation when they decide to advance smart, energy efficient transportation systems. However, the planning and the implementation phases need to be managed carefully to design sound solutions, address social impact and gain the necessary support. As proven by the previously stated evidence, climate change must be considered as an additional risk in normal decision making with every citizen recognizing their responsibility for their transport choices and taking actions to reduce their individual carbon use. There is no single policy that best fits the circumstances that different cities and towns face. As stated by the UITP (Union International Transport Public) the factors that affect the optimal policy mix include:

- The objectives of that city’s transport policy, that is the degree to which it wishes to focus on different and sometimes conflicting aims of the speed and reliability journeys, possible economic impacts, greenhouse gas emissions and private traffic freedom. A pricing scheme can also take into account the environmental characteristics and the energy efficiency of a vehicle in order to serve objectives in these fields;
- Public acceptability: the political situation, plus the culture and heritage of the city, including the weight that decision-makers wish to give to distributional and equity impacts of different types of charge;
- Type and size of city: the bigger the urban area, the more likely that traffic congestion is a significant problem that imposes significant costs;
- The nature of the traffic patterns: where through traffic is substantial, for example, parking charges are less likely to be an effective solution;
- Costs: cities will have different abilities to afford the set up costs and will have a different response to the operational costs thereafter;
- The degree of sophistication required to meet objectives through for example differential prices by time of day or level of consumption.

Modern societies have growing needs, a central tradition governance approach shows its limits when it is called to plan and to project these kinds of territorial problems. Effective urban policies require flexible, multi-level forms of inter-governmental joint action. The need for a multi-level
governance framework for urban development policies is particularly critical for addressing climate change related issues. City and regional leaders are generally best suited to design strategies for addressing their own local climate change risks although not all leaders are keen to undertake such actions. Central governments can complement these efforts by assisting cities to better respond to climate change and providing scientific assessments that justify such intervention. Likewise, local governments are needed as partners to implement nation-wide climate change response policies, while at the same time designing their own policy responses that are tailored to local contexts.

However, as Meersman, Van de Voorde and Vanelislander (2005) explain the relation between transport demand, transport policy and transport supply is a complex one. The objectives of the public administration, the customers and the providers are often not mutual when not even competing, therefore any instrument or measure will hardly receive the universal support of all the stakeholders.

Moreover the mobility arena is characterised by an intertwined relationship between the source of the problem and the social behaviour, the first in terms of traffic and congestion and the latter of modal choice. Compliance is therefore essential to evolve towards the right direction.

Sustainable transport projects need to be implemented in a transparent and comprehensible manner involving key stakeholders, so that their costs and benefits are visible and understood by those who pay and those who benefit.

A pluralistic and negotiated decisional system that puts in evidence spread knowledge must be adopted. These new kinds of relationships are characterised by synergy among the different actors and by the lack of a clear-cut between the public and private sector.

Any intervention in order to be effective requires the active cooperation of different stakeholders and coercion is not an effective measure to obtain it. Consequently, from such a perspective, it is essential to listen to the sometimes competing needs and values of all the three social components involved in this process, namely the market, the citizens and the state (in this case represented by the local administration competent for such measures).

At the earliest possible stage of the development of a traffic calming scheme, all the actors should be consulted, and participate in the design of the scheme. This includes: the authorities, the public transport operators, the road administration managers, in general terms all relevant stakeholders, defined with proper techniques as illustrated in the following chapters of this study.

The implementation of the new tramway network in the city of Florence in Italy offers a significant example of how stakeholders and local administration can have competing ideas. The introduction of this new transport infrastructure, crucial in a city paralysed by traffic, has been
highly debated since its very beginning. The level of contestation was finally so high that the political opposition succeeded in holding a public referendum against it.

Florence Transport System and the new Tramway

An historical background
In the fourteenth century, at the time when Dante Alighieri walked around Florence, the city counted approximately 100,000 citizens. In 1865, when it became the capital of Italy, the population increased only by 50,000 inhabitants. Although the status of capital lasted for seven years, this event marked the beginning of the modern era for the city. The urban expansion began, characterized by a rapid population growth as well as all the problems connected with this phenomenon such as lack of accommodation, prices increase, traffic and pollution (Cefaratti 2007).

Mr Giuseppe Poggi received the assignment to redesign Florence in order to meet the new needs and make an European capital out of it. He provided his plan in two months only and its implementation was concluded in less than six years. Nevertheless it did not receive citizen’s support, as they were afraid of losing the typical medieval atmosphere of their city.

Basically the project removed the ancient medieval walls and replaced them with large modern ring roads the “viali”, following the model of Paris and Wien. This allowed the creation of big traffic arteries able to connect the ancient centre with the new bourgeois districts recently developed next to the old city. Along the ring roads, in correspondence with the ancient city gates, some new prestigious French style squares were also created, such as Piazza della Libertà (at that time Cavour) and Piazza Beccaria. Some minor interventions concerned the historical centre as well. Finally the city expanded outside its boundaries with the creation of some new sub-urban districts, which can be called the outskirt of Florence.
The fascist period, until 1944, added some other big infrastructures to Florence such as the central railway station, the stadium and the national library. Interesting enough, despite the restriction to freedom of contestation imposed by the regime, Florence citizens found their way to express their opposition to those interventions. Some spectacular episodes such as a man chained at the old station to prevent its destruction were reported by the press.

After the end of the Second World War the city went through the necessary reconstruction works. The debate about the restoration started immediately, involving all the major public figures of the time. The two main positions were represented by Bernard Berenson and Ranuccio Bianchi Bandinelli. The first standpoint sustained the concept of building structures exactly “where they where, as they where it was”, the second school of thought was more flexible however the only style allowed was the Tuscan one to match the design of the remaining buildings. Clearly neither of them was in favour of introducing ambitious radical interventions such as the ones ongoing in other European cities facing the same situation.

After that time the city went on growing in population and density. However, no other major intervention has been made since the 1950s.

What is important to take into account from these past experiences is that some common features have always been present. A great sense of respect for the original architecture of the city always leads to proposal and adoption of conservative measures, which however at the end receive a lot of criticism, leaving a feeling of another lost chance to really innovate. The debate about the implemented measures has always been very animated; Florentines are highly keen on following what is done in their city and always wish to express their opinion.
The current mobility situation in the Florence area

The city of Florence is the main hub and the attraction point of the whole province, region as well as the destination for many national and international tourists.

At the peak morning hours (7.30-8.30) the flow of ingoing and outgoing commuters has been calculated, for a total of about 148,000 trips including all transport modes (Florence Municipality Mobility Plan, 2001). On top of this, almost 1,000,000 total trips are made within the Florence area in a standard working day with motorised modes, out of which almost 1,000,000 by private car.

The means of transport preferred by Florentines is without any doubt the car accounting for more than half of the total city trips, with public transport representing a significant percentage scoring around 14% of the total traffic. Pedestrians and the remaining vehicles, such as, motorbikes and bicycles, take up the remaining 30% all together.

The current offer of public transport in Florence is articulated as follows:

- a medieval style road network, characterised by narrow streets and high buildings that prevent pollution from being dispersed;
- two motorways surrounding the city also used as a city by-pass and for this reason over congested;
- a railway system, with “Santa Maria Novella” as main central station plus four small urban stations, all of them served by national and regional connections although the S. M. Novella alone covers more than 80% of total passenger traffic;
- the suburban and urban bus system operated by five transport companies, with one bigger operator, ATAF, and four minor companies;
- the international airport “Amerigo Vespucci” operating some 100 flights per day and which is constantly growing in terms of yearly passengers;
- a below the average number of taxis (with ratio of 613 inhabitants per vehicle against a value of 286 in Milan);
- a car-sharing service with 19 parking points and about 50 cars.

Due to the absence of a real efficient alternative in terms of public transport, the private traffic has continued to grow creating an unsustainable high pressure especially in areas close to the centre. To overcome the problem of traffic congestion Florentines switched to the use of
scooters, for which the city now holds the absolute primacy in Italy with 580 per 1,000 inhabitants, compared with only 377 in Genoa, the next city in the category (ARPAT Tuscany Regional Agency for Environment 2008).

Furthermore, the Regional Plan for Mobility and Logistics for 2003-2015 forecasts an additional 30% increase in mobility. However, data on traffic flow in relation to the size of roads shows the presence of a constant congestion which might not leave any margin for any further growth of traffic. Nevertheless, citizens can no longer tolerate this degradation and ask for concrete interventions that are able to restore the urban habitat.

Related to this, the following table summarises some sustainability indicators for Florence. The source is the 2008 report on the Urban Ecosystem issued by “Legambiente”, the main Italian environmental NGO. The data are provided directly by the different Italian provinces and refer to the year 2006. The red colour highlights the indicator for which Florence scores below the national average.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Florence</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian areas (Mt2/pp)</td>
<td>0.82</td>
<td>0.32</td>
</tr>
<tr>
<td>Restricted access areas (Mt2/pp)</td>
<td>10.11</td>
<td>4.1</td>
</tr>
<tr>
<td>Green areas (Mt2/pp)</td>
<td>29.31</td>
<td>10.3</td>
</tr>
<tr>
<td>Bike lanes (MT/pp)</td>
<td>3.42</td>
<td>5.9</td>
</tr>
<tr>
<td>Vehicles 100/pp</td>
<td>55</td>
<td>63</td>
</tr>
<tr>
<td>NO2 Emission (µg/mc) Average of yearly values</td>
<td>46.2</td>
<td>40.7</td>
</tr>
<tr>
<td>Pm10 (µg/mc) Average of yearly values</td>
<td>34.8</td>
<td>37.9</td>
</tr>
<tr>
<td>Number of days over the ozone threshold value (120 µg/mc)</td>
<td>41.3</td>
<td>34.1</td>
</tr>
<tr>
<td>Public transport passenger (N of trips per year/pp)</td>
<td>178</td>
<td>220*</td>
</tr>
<tr>
<td>Public Transport Offer (Km-Vehicle per year/pp)</td>
<td>43</td>
<td>44.6*</td>
</tr>
<tr>
<td>Public transport environmental quality (low emission fuel share)</td>
<td>38</td>
<td>23*</td>
</tr>
<tr>
<td>Fuel consumption (Kep per year/pp)</td>
<td>445</td>
<td>452</td>
</tr>
</tbody>
</table>

* Average for medium size cities

As clearly shown by the table, Florence’s worst performances all refer to sustainable means of transport which consequently lead to an inadequate value for most of the emission indicators.

In this context the Municipality of Florence decided to redesign the local mobility both improving the offer of public transport and in the meantime reorganising the service. The new system should be multimodal with several interchange points connected by an efficient tramway network.
The new system aims to shift a substantial share of private traffic to public transport, in order to reduce pollution in the environmental situation and therefore the general quality of life as well. As stated in the Florence Municipality Mobility Plan the system has the following main objectives:

1. to provide an alternative mode efficient in terms of routes, frequency, quality of service
2. decentralize the attraction points from the centre to other parts of the city;
3. discourage the use of cars and motorcycles acting primarily on charges of car parks;
4. secure access and parking to the entitled vehicles.

Central for the implementation of the plan is the realisation of a 3 line tramway system which once completed will represent the backbone of local public transport. The project is part of the urban development strategy of the city of Florence, which foresees urban renewal actions and the improvement of the environment in the historic centre. Creating a new high quality tram system in Florence would also enhance the economic potential of the whole metropolitan transport system. Effective passenger transportation in Florence and its area of influence is necessary to ensure the smooth functioning of the urban economy and the city’s ability to maintain its role as a major international tourist centre in the Mediterranean basin.

The project should contribute considerably to the overall improvement of mobility and public transport quality standards in Florence, alleviating excessive reliance on cars and its negative environmental implications.

**The Florence Tramway System**

The need for a new tram system in Florence was identified in the 1980s after the original tram network built at the turn of the century has been removed in 1958. A new tram system, based on a radial hub intersecting in the city centre, was considered as the best sustainable solution to the growing urban transport problems in the city. In 1995 Florence Municipality approved the preliminary project of the tramway system giving birth to an extensive process of renovation for the mobility in the Florence area. The Municipality identified Line 1 to Scandicci as a priority as this is a growing residential and commercial area with no rail access at present. The other identified lines, Line 2 going to the airport and Line 3 towards the Carregi hospital, connected areas already served by the surface rail network. However, the existing local rail services will now be rationalized as part of the High Speed Train (Treni Alta Velocita - TAV) Milan-Naples project through Florence. The possibility is under study that a part of the existing railway near the centre will be utilised for line 2. Further extensions to line 3 are foreseen at a later stage,
eventually possibly linking Florence to the neighbouring industrial cities of Prato and Sesto Fiorentino, while for line 2 and extension is foreseen to the main eastern area of Florence, Coverciano and the municipality of Bagno a Ripoli.

The tramway project envisages the construction of three lines linking the centre of Florence with the main attraction points of the entire area.

- Line 1: from Scandicci to the main station of Santa Maria Novella across the Arno at the Cascine Park. 7.6 km route and 14 stops (including terminals).

- Line 2: from Peretola the airport arriving at Piazza della Libertà through the city centre, it interconnects with line 1 at the central station. 7.2 km route and 18 stops, including the terminus.

- Line 3: from Careggi (location of the main city hospital) to Santa Maria Novella station through the Fortezza da Basso exhibition centre. 4 km and 10 stops, including the terminus.

The following picture shows the three lines including their possible extension over Florence.

![Figure 4 “Florence Tramway System”](image)

Tramway services will operate, as buses currently do, from 06.00 a.m. to 11.00 p.m. during weekdays; possible extensions of service hours are currently under study. Headways will be between 3 and 8 minutes. The network will have 41 stations (some of them shared by two or
even all three lines) and the commercial speed is estimated at 20 kph. To assure this service pattern the yearly production is estimated at about 2.7 million km. Expected demand, after a start-up period of three years, will be at least 30 million passengers per year.

The project aims to deliver high quality public transport services likely to generate important environmental advantages. These will include reduced bus use and, to a minor extent, private car use and road congestion. Traffic levels are expected to reduce by 20% in the city centre, enough to alleviate congestion and hence dramatically reduce local emissions and improve efficient energy use and quality of life for the citizens. Therefore, the project should result in a reduction in greenhouse gasses when compared with the do-nothing trend and will contribute to mitigating climate change.

The main impact and mitigating factors on the environment are as follows:

- In general, the visual impact of the project is mitigated by the fact that at present the corridors carry heavy traffic (buses and private cars), which is likely to be reduced. However, the Historic Centre of Florence forms part of Unesco World Cultural Heritage and thus it was decided to not install aerial power supply in this area.

- The enhancement of the public transport network is likely to reduce street noise and vibration levels and, in order to maintain coherence with ancient stone pavements, some special materials have to be used in the city centre.

- No permanent negative impact on the physical environment (soils, aquifers, air, etc) or on wildlife-stock has been identified, due to the placing of the project into a well-consolidated urban framework. Nevertheless, the project runs in certain areas potentially subject to flooding (namely near the Peretola airport and in some new underpasses) and thus specific prevention measures have to be placed in relation to electric isolation safety.

Therefore, overall, apart from some temporary inconvenience during the construction phase, the project will have a positive effect on the environment.

In 1997, a Memorandum of Understanding for the implementation of the work was signed between the main institutional players namely the Ministry of Transport, the National Railway Company., the Region of Tuscany and the Province and the Municipality of Florence. From that moment on the decision became official. Two years later a second agreement, signed between the city of Florence, the neighbouring municipality of Scandicci (reached by line 1) and Ataf, the
local public transport company, nominated the latter responsible for the realisation of the infrastructure as well as owner and contractor.

Once identified as a national priority project and eligible for central government subsidies, ATAF put Line 1 out to traditional public procurement starting in 2000. Unfortunately, the tender dossier was prepared by the engineering division of the national rail network operator and hence was based on outdated design concepts more adapted to rail than modern tramways. The winning bidder, a consortium of local and French construction companies and a rolling-stock manufacturer, proposed a large number of design changes more suited to a modern, high specification tramway. At this point, the Municipality received government approval for grant support to Line 2 and 3, but it was clear that an integrated solution for the tram system was needed. RATP International, in collaboration with the winning consortium for Line 1, then presented a private promoter developed project for construction, and project finance of Lines 2 and 3, and operation of the entire tram network. The Municipality reserved the right for ATAF to become a partner in the operating company.

According to the first works programme approved by the Municipality, Line 1 was planned to be completed by the end of 2008. However, according to the last official communication from Ataf, line 1 will start its operations in October 2009, while the entire system will be completed not before 2012.

This was the technical side of the story. In the same period, in different arenas, the political and public debate about the tramway was also on.

The Florence Tramway System: the public opinion side
The choice of the tramway was initially welcomes with satisfaction by the public. The tramway was seen as an ecological form of public transport that would not involve too many heavy interventions on the city. In addition the return of tram to Florence, with technologically advanced vehicles and higher comfort, received the enthusiastic support of the population.

In particular, in 1993 when Florence was still uncertain between the tramway and the underground, the town of Scandicci strongly supported the tramway option, sustained by the Green Party and by many environmental organizations who gathered 10,000 signatures in its favour. Nevertheless, in those years, all over Europe the alternative of undergrounds was generally abandoned in favour of the more economic one of tramways.

This initial positive popular driving force behind the project probably justified the original lack of information on the project and about its general aims that characterised the first phase of
Florence tramway. The project passed over people heads leaving them badly informed both about details and general benefits of the system.

On the other hand the political opposition did not miss the chance of proposing an alternative. They immediately opposed the administration choice, and organised a strong campaign based on the “Micrometro”, a sort of innovative underground system with a reduced size. The project never implemented before was supposed to be simpler and cheaper than a traditional underground therefore suitable for the size and characteristics of Florence. A working group involving the University of Florence and other experts was created to evaluate its feasibility and to build credibility on the idea. From that moment on the ghost of the underground has never left the project of Florence tramway. The campaign against the tram also included specific criticism on the proposed path of the different lines and about the opportunity to realize the Scadicci-Firenze line first. The anti tramway movement developed over time collecting different interests and supporting all sorts of complaints against the project, although surrounded by the initial indifference of the project promoters convinced of having the public approval.

Finally, the first public protests came in 2000 regarding the cutting down of trees. Furthermore, things became more serious when the actual road works for line 1 started. Families whose homes were expropriated in order to be demolished joined forces with the owners of the private gardens that would be destroyed to create space for the tracks and together they founded the first committee against the tramway. With the support of the political opposition over a thousand signatures of protest were collected. Following these events some public meetings were organised during which the possibility to hold a popular consultation on the tramway emerged for the first time. The protest carried on throughout the year, adding that the route failed to provide adequate connection with the area near the hospital of Torregalli.

For the first time the Administration was accused of lack of transparency in decision making and of lack of information. Towards the end of the year a second committee was setup in Scandicci, however not getting much support, as in that area the majority of citizens were still in favour of the project.

Another point of controversy, a purely political one rather than popular, was opened against Ataf and its role as managing authority. In any case, Ataf was never replaced mainly because of a lack of alternatives.

In 2001 the road works in Piazza Vittorio Veneto, a critical traffic junction, revitalised the protests because of noise and some other tree felling.
The protest stand continued to grow with the progress of construction work. The administration put in place a coping strategy creating a special office for Tramway Communication, in charge of information and civil society relations. A strong media campaign was developed however it was not successful in fully recovering people’s trust.

The opposition finally found its peak in autumn 2006 when all the different groups gathered together to collect signatures in order to organise a referendum to stop the project of lines 2 and 3. No referendum strategy was applicable for line 1 because works were already at an advanced stage. At that moment some 25 official committees against the tramway could be counted, while only a single one could be recorded in its support, although collecting together several environmental NGOs.

Besides the project itself, the most contested point refers to the track of the second line which will cross the historical centre and will pass right next to the Florence cathedral the Duomo. The vibrations with their risks of damaging its structure and decorations, the power system and its inelegant utility poles as well as the vehicles with their visual impact are the main arguments proposed by the opponents. Due to the importance of the monument this issue has grown from a local relevance to a national one.

The campaign was very active on both sides. Citizen’s post-boxes were literally invaded by leaflets claiming for the Yes or the No vote. Informative events and exhibitions were organised to describe benefits and threats of the Tramway. Several official and unofficial web sites were created. The tramway became the most debated news for all local newspapers.

The referendum held in February 2007 included 2 questions, each one asking to express support or rejection about tramway line 2 and 3 line respectively. The following table illustrates the final results.

<table>
<thead>
<tr>
<th>Question</th>
<th>Line 3 Careggi - Europa</th>
<th>Line 2 Peretola - Liberta’</th>
<th>Voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (I want to stop the project)</td>
<td>51,87%</td>
<td>53,84%</td>
<td>39,35%</td>
</tr>
<tr>
<td>No (I want the project to proceed)</td>
<td>48,13%</td>
<td>46,16%</td>
<td>39,35%</td>
</tr>
</tbody>
</table>

Figure 5 “Results of 2007 Tramway referendum”

As shown by these results, the referendum did not succeed in reaching the threshold of 50% of voters necessary to be binding, however it cannot be ignored that the majority of votes were against both line 2 and line 3, with a higher opposition against the first one probably because of the Duomo issue.
Overall, it seems that unlike other European cities where the local stakeholders played a big role in the decision making, Florence population was not really actively involved by the process. At the first stage, the participation was spontaneous and enthusiastically supportive, however it turned into negative and limitative as the projected developed. Important enough to mention, stakeholders mobilized mainly around private interests, adopting the typical so called “nimby” (not in my back yard) attitude.

On the other hand, for what the political opposition is concerned, they immediately adopted a total rejection position. They supported any kind of argument against the tramway without selecting between valid and pretentious ones, qualifying each protest with a political flavour.

Perhaps the lack of a preliminary detailed information campaign compromised the initially idyllic relationship between the citizens and the tramway. However, a simple one way giving of information could be a starting point for a more structured involvement process. The population of Florence had expected to claim more involvement in the key decisions and their massive participation in the referendum. As emphasised by the concept of sustainable development and all emerging social trends, there is a diffused drive towards participatory democracy in apposition to the mere representative democracy, as well as an increasing scepticism towards traditional bottom down governance methods. This is particularly true in the field of public transport where decisions affect the daily lives of millions of people and the investment and operation costs of complex systems often amount to millions of euros. They also have a determining impact on the economic dynamism and environmental quality of urban areas. Consequently decisions do require the active involvement of the relevant stakeholder as well as their feedback in the process. This constraint cannot be overlooked by the administration, otherwise the claim for a voice in decision making will emerge anyway and it will most likely to be marked by a negative attitude due to the lack of trust. Florence tramway represents a clear example of such cases.

Techniques and methodologies grouped under the label of “direct public participation” seem to be the most suitable strategy to reach this aim. A literature review on the topic is provided in the following sections.

**Driving forces towards participation**

Participation is one of the key features required by good governance, both because it promotes consensus and because it builds legitimacy. In every society several points of view and several interests, each represented by different actors or groups of actors, are present. A mediation
process among all these interests is necessary to identify which of the possible available alternatives can maximize the welfare of the whole society, as well as to guarantee the successful implementation of the chosen measure. In order to achieve the above goals a more collaborative approach is necessary, therefore the involvement of the relevant player, the so called stakeholder, is necessary.

Direct public participation began to emerge in the last decades due to the incapability of traditional societal steering strategies to meet their goals with a consequent claim for more voice from the citizens. Public protests, demonstrations, petitions, all forms of organised actions including boycotts and lobbying are all expressions of this need and their growing presence in the news is a sign of their increasing popularity.

In addition to this bottom up societal pressure for more influence in the decision making process, other drivers pushed towards participation. A first factor is imbedded in the concept of sustainable development, which due to the growing evidence of climate change is becoming an increasingly influential value. Together with the need of revising our current consumption patterns, sustainable development also promotes other principles including the importance of partnership which links the market, the state and the citizen to deliver sound measures. Principle 10 of the Rio Declaration (1992) clearly states the superiority of participation especially in environmental issues. As a result, traditional top-down methods became more and more perceived as “illegal, ineffective and undemocratic” (Bulkeley and Mol 2003). During the years, the adoption of new forms of governance implying a more horizontal approach, as well as an involvement in the decision making process of all the concerned actors, started to become legally mandatory both at regional and local level. An example is the Aarhus Convention adopted on 25 June 1998 as part of the "Environment for Europe" process. The Aarhus convention and the following Aarhus Regulation establish a number of rights of the public based on three pillars: access to information, public participation and access to justice in environmental matters. Specifically on participation, the "Aarhus package" commits all public authorities to allow the public concerned by measures affecting the environment (or NGOs which meet specific criteria on their behalf) to comment on proposals for projects, plans and programmes. These comments have to be taken into due account in decision-making, and information must be provided to them regarding the final decisions and their reasons.

Provisions for public participation in environmental decision-making are furthermore to be found in a number of other environmental directives, such as Directive 2001/42/EC of 27 June 2001 on the assessment of plans and programmes on the environment and Directive 2000/60/EC of 23 October 2000 establishing a framework for Community action in the field of water policy.
Exploring the local situation the Tuscan Regional Council recently passed, in December 2007, law 69 regarding the promotion of participation in the elaboration of regional and local policies. Participation is defined as a right and the law aims to concretely allow the exercise of this right. As far as the Florence case is concerned, the Statute of Florence Municipality officially commits the local administration to participation. In particular, article 4 claims the adoption of participative methods for relevant choices which have a high impact on citizen life, although unfortunately only in selected fields which are not specified. For this purpose the article calls for specific and innovative forms of public involvement to be set up. Finally, the text argues for extensive and objective information about the measures and choices adopted by the administration. In order to deal with the above objectives a specific councillor for Participation Projects has been appointed. However, it is worth mentioning that this department has surprisingly not been involved in participation activities related to the tramway project.

The role of science is another driver which influenced the change towards participation. An increasing scepticism characterises the current relationship between the public and the scientific community. Expertise alone is not enough to address complex and uncertain challenges nowadays, therefore technocracy is questioned more and more. Knowledge went through a “democratisation” process (van Asselt and Rijkens-Klomp 2002), educational levels raised and powerful means of information such as internet appeared on the fore. Consequently, people lost their blind faith in experts’ options, often considered imprecise, unreliable or even non objective. Local and lay knowledge gained more consideration as well as perspectives of different stakeholders which therefore claim to be included in the decision making process.

**Benefits of participation**

In addition to answering to a legal requirement and to the above described societal pressure the adoption of a participative approach brings along several benefits illustrated both by literature and by case studies.

Participation helps to improve decision-making establishing a common ground among the different actors. The involvement of multiple stakeholders in the joint definition of a problem helps to promote a cooperative approach rather than an adversarial one. Competing goals often represent the starting point of a decision making process. Through joint involvement, representatives of different interests can get to know each other and eventually reframe their perception of the problem based on other points of view. This process, if implemented with proper techniques and with a trained facilitator, has succeeded in many occasions to reach a mutual understanding and finally to match the initially competing goals over a common solution.
A success story is represented by the implementation of the Water Framework Directive (2000/60/EC) which benefited from a collaborative involvement of stakeholders to define sound solutions based on shared experiences. The consequent mutual learning on the topic consolidated the commitment of the parties concerned and the effective implementation of the agreed measures.

Social learning is considered to be one the more important side effects of participation by van de Kerkhof and Wieczorek (2004), particularly important for its ability to induce a behavioural change towards sustainability.

Furthermore, the emerging mutual understanding leads to an outcome that reflects different values and needs thus able to obtain a higher degree of ownership from multiple stand points. In addition, bottom-up approaches are more likely to provide a context specific outcome given their nature of being rooted in local values and vision. As a result the implementation of agreed measures will be facilitated and will benefit from the support of a bigger coalition. A World Bank empirical study which examined over 120 participation projects (Rietbergen-Mc Cracken and others, 2002) shows how most of them were quicker in the disbursement phase thanks to the higher commitment and to the improved project performances.

The above matter appears to be especially critical when dealing with local issues (Richards, Sherlock and Carter 2004) where the debate is always more intense. As stated in The Green Paper on Territorial Cohesion (European Commission 2008), local mobility definitely belongs to this category, the European Commission labels transport policies as the most “territorialised” together with telecommunications, sustainable development and the environmental ones. “Territorialised” refers to the importance of the territorial aspects, therefore local aspects, in the programming exercise.

What level of participation?

Participation deals with situations where someone is willing to involve other actors in the process at some level. The choice of the exact level of involvement implies how much power this someone is prepared to share. Different methodologies have been developed by several scholars in order to categorise levels of participation.

The first one, in terms of age, can be considered the Amstein’s Ladder dating back to the late 60s (Amstein, 1969). Amstein is quite critical about the misuse of participation as a mere form of public relations. Often power holders argue for participation just to seek endorsement of already made decisions or to benefit from people’s feedback and input without leaving them any real possibility of influencing the decision. Different stages of participation can be represented as a
ladder, where the highest steps refer to citizens’ situations of power, while the lowest are defined by Amstein as non-participative. In between the two, a middle stage called “tokenism” is also present. Analysing the ladder from the bottom first of all we find “manipulation” and “therapy”. Both aim is to educate the citizen, the idea is to modify their incorrect perception about what the administration is doing for them, even blaming them for criticism. Step 3 is information, a first form of participation, although too frequently only one way with no channel for feedback. The following step is “Consultation” which finally opens a window for public enquiries and input. However, according to Amstein this approach risks being only rhetorical. The natural evolution of consultation is “Placation”, although the right of the final decision is still in the hands of those who hold power, citizens are allowed to provide advice and critical comments with no limits. From stage 6 on we start to find concrete participation, with “Partnership” the power is shared thanks to a real negotiation between citizens and power holders. “Delegated power” refers to citizens holding the majority of seats in committees thus affecting the final decision. On the top of the ladder lays “Citizen Control” where the public is in charge of the planning, the decision making process and even for managing a programme.

A simplified version of the Amstein’s ladder is proposed by Wilcox (1994). He proposes a 5 only stances model going from “Information” (a one way communication), through to “Consultation” (when the possibility to comment on selected options is offered), “Deciding together” (a situation where the fore is open for new ideas therefore some shared power with a joint decision making method), and “Acting together” (creating partnership to both decide together and work together), finally reaching “Supporting independent community interests” (the administration provides resources to implement community defined measures).

Nevertheless, Wilcox also appears to be more flexible about judging the different steps. Although he labels only the last two stages as “substantial participation”, thus considering them as superior levels, he also states that it is not possible to define an absolute best choice. Different levels of participation are suitable for different situations which vary according to the expectations and attitude of the involved stakeholders as well as at the different phases the participatory process is going through. Consequently, two additional dimensions should be added to the ladder to complete the framework. The first is the process phases (divided in preparation, initiation, participation and continuation), while the second is defined by the interests, in terms of the stakeholder that represents them. In the following figure an overview of the 2 models is provided starting from Arnestein’s ladder to the complete Wilcox’s framework.
In order to guide the choice of the right level of participation Wilcox provides a sort of check list defining features which characterise appropriate and non-appropriate circumstances for each level. The following table summarises the elements.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>Appropriate when</th>
<th>Inappropriate when</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION</td>
<td>One course of action has already been defined. There is no room for other options.</td>
<td>There are alternatives. Other actors have a legitimate interest in developing other options.</td>
</tr>
<tr>
<td></td>
<td>The aim is merely to report on the course of action.</td>
<td>The aim is to empower the community.</td>
</tr>
<tr>
<td></td>
<td>The action doesn’t affect others than the implementer.</td>
<td></td>
</tr>
<tr>
<td>CONSULTATION</td>
<td>A project or programme needs to be improved.</td>
<td>There is no commitment to handle the feedback.</td>
</tr>
<tr>
<td></td>
<td>The alternative options are limited and they are understandable by the stakeholders.</td>
<td>Resources or skills to carry out other options are not available.</td>
</tr>
<tr>
<td></td>
<td>Implementation plans are already clear.</td>
<td>The need is to have new ideas.</td>
</tr>
<tr>
<td></td>
<td>The feedback can be duly handled.</td>
<td>The aim is to empower the community.</td>
</tr>
<tr>
<td>DECIDING TOGETHER</td>
<td>It is important to develop ownership on the measure.</td>
<td>There is no room for other options.</td>
</tr>
<tr>
<td></td>
<td>The need is to have new ideas.</td>
<td>The decisions cannot be implemented autonomously.</td>
</tr>
<tr>
<td></td>
<td>The necessary time is available.</td>
<td></td>
</tr>
<tr>
<td>ACTING TOGETHER</td>
<td>One party cannot achieve the goal autonomously.</td>
<td>One party is able to impose its own solutions.</td>
</tr>
<tr>
<td></td>
<td>Acting together is beneficial for all various interests involved.</td>
<td>The power and the resources are concentrated in its hands.</td>
</tr>
</tbody>
</table>

Figure 6 “The original model of Amstein’s Ladder of Participation and Wilcox framework”
There is commitment to develop a partnership
Time and resources are available

There is not enough commitment to partnership
Stakeholders are not keen to invest resources in carrying out solutions.

There is commitment to empower individuals and groups is present and strong
Stakeholders are interested in being so actively involved

The choice of delegation is imposed from the top to down
There is no commitment to training and support.
The resources to maintain initiatives in the longer-term are lacking.
Stringent deadlines

**SUPPORTING LOCAL INITIATIVES**

As shown by the table above it is not possible to define an absolute best level of participation, the choice of the proper degree is strongly related to the local situation and the actual commitment of the decision-makers. If the above indicated requirements are lacking an involving approach may result as detrimental.

In order to overcome the idea of a hierarchy in the levels, other scholars adopt the model of a “wheel of participation” instead of that of the ladder, thus the levels can roll over and over until the appropriate one for the specific context is found.

On the other hand, other classification methodologies instead focus on the different purpose to which participation might aim for. Michener (1998), in his case study about the application of participative techniques to implement an education project in Burkina Faso, basically divides the different approaches according to the logic behind their adoption. He identifies a “planner-centred approach” which is targeted to a defined outcome, in this case participation is simply the selected mean to reach it. On the opposite side we find the “people-centred” approach where the final scope is to empower the community therefore participation is a goal itself. An evolution of this categorisation is proposed by van Asselt and Rijkens-Klomp (2004). Their typology is built on two axes. Similarly to the Michener mentioned model, the first axis refers to the aim behind the adoption of participation, where we find participation as the final scope contrasting with participation as a mean. Furthermore, the second axis is instead related to the output we are trying to reach adopting a participatory approach: namely to discover new options through stakeholders involved and contribution or to reach consensus on one defined option. The two axes draw 4 quadrants; different instruments will then be more suitable to be implemented according to which quadrant our situation belongs to.


**Constraints and challenges of participation**

However, the participatory approach also presents challenges that might threaten the successful conclusion of a decision making process. Lofthsteadt (2005) focuses on risk management but his theories and findings can be generalised to other situations when a reform is implemented. He advises to carefully evaluate risks and opportunities arising from the involvement of stakeholders. According to him the most relevant aspects that should be taken into account are the cultural setting, the level of uncertainty related to the topic under discussion, as well as the current degree of trust in the government or institution. Trust must be assessed through a specific survey. According to the reasons of distrust and the perceived risks linked to the issue different strategies for the decision making process should be adopted. In particular, if the regulator is perceived as unfair some form of deliberation is definitely required to balance the process.

Moreover, it is also important to mention that this strategy can be highly consuming in terms of time and resources, although a World Bank empirical study on over 120 participatory projects claims opposite evidence (Rietbergen-Mc Cracken J., 1996). This extensive study calculated the average extra cost related to the adoption of a participative approach, which can be estimated in 15% of the total cost. However, when comparing the implementation phases, participative projects proved to be quicker in the disbursement and in delivering more sustainable solutions also in terms of efficiency. Therefore the initial extra costs were almost entirely recovered by the successive gains.

Some situations are however just unsuitable for participation methods. An increasing call for participation coupled with a poor quality of the process can lead to the development of public cynicism.

When, despite their efforts, stakeholders see that participation does not have any impact because it is only used to legitimise the status quo or to validate decisions already taken, their trust towards this approach declines, therefore the context would not be adequate for further applications. In order to avoid these situations, participants’ expectations must be carefully managed. It is important to set boundaries of non negotiable issues in order to avoid hopes for non reachable solutions.

The capacity of participants is also an important variable. Capacity of participating is different from giving opportunity to participate. It deals with time, resources, knowledge and motivations. Particular problems can arise when dealing with problematic groups of the population and socially isolated people such as the elderly, young, migrants or disabled. Nevertheless silent voices should be considered as part of the process, future generations’ needs and natural
resources should have their role as well. For a successful participation process it is important to arrange specific trainings and to fill the gaps in order to actually assure equal representation to all the stakeholders. Howlett and Ramesh (2003), when analysing stakeholder participation as a policy instrument pointed out how the over-representation of some points of view as well as the lack of other ones can compromise the overall outcome of a policy.

Possible negative consequences can be either the promotion of personal powerful interests, contrasting with the general ones, or an increase of public distrust.

Finally, the overlook of the above constraints may lead the process to what Fernandez (2004) calls a "participation trap", which happens when participatory mechanisms do not lead to the expected outcome in favour of sustainable development. Main reasons are either the absenteeism or the lack of participation due to the limited interest about the discussion. Nevertheless an incorrect popular decision following the deliberative process is also possible, the majority simply decides not support the project.

The participation trap could be avoided setting the proper level of participation, as previously claimed the best processes are not those with the broadest participation but the ones adequate to the context and commitments of the decision-maker. If the stakeholders do not have the necessary capacity to influence the decision at such a high level it is better to adopt a more limited form of participation. On the other hand, it can be totally inappropriate to use the rhetoric of participation when the decision has already been taken and there is no space left for stakeholders’ influence.

It is necessary to balance between the participation levels and the types of constituencies. Being aware that lack of participation can cause loss of trust and enforcement problems. Adopt a participatory approach only if you are willing to adopt its outcome.

**Who to involve: the stakeholder analysis**

Despite the risks, participation is one of the key features required by good governance, both because it promotes consensus and because it builds legitimacy. In every society several points of view and several interests are present, each represented by different actors or groups of actors. A mediation process among all these interests is necessary to identify which of the possible available alternatives can maximize the welfare of the whole society, as well as to guarantee the successful implementation of the chosen measure. In order to achieve the above goals a more collaborative approach is necessary, therefore the involvement of the relevant player, the so called stakeholder, is necessary.
To call a process participatory it is necessary that all relevant interests are involved and committed to participate through the perception of advantages. People are the key determinant of a participatory process, to guarantee a comprehensive variety of views is essential for the process outcome.

Stakeholder theory originally began in the management sciences in order to understand who could influence the achievements of firms. Freeman classic definition (1984) viewed stakeholders as “any group or individual who can affect or is affected by the achievement of the organisation objectives”. Further stakeholder theory developed in a field on its own that nowadays interests economics, political theory, decision theory and environmental science. In policy making it is used to facilitate the implementation of a policy reform taking into account the interests of those who have a stake in the issue. First of all, it provides an overview about which social, political and economic groups are more affected by a reform. Furthermore it shows the different points of view and possible behaviours toward the proposed measures. Finally it helps to locate where the potential struggle and obstacles might be. Through stakeholder analysis it is possible to collect information about groups’ interests, their will to oppose or support a reform as well as their actual power to mobilise resources. Based on these inputs the decision makers will be able to plan strategies to best involve the relevant groups in the process and, most important, to channel information and resources in order to build coalition, negotiate and finally overcome oppositions. As a result the achieved choices will have realistic chances to be accepted, supported and therefore implemented.

However, stakeholder analysis should not be viewed as a simple single tool, on the contrary, it encompasses different methodologies which may imply both quantitative and qualitative analysis (Crosby 1991).

Ideally the stakeholder analysis should be conducted at the very early stage of the policy formulation, in order to immediately identify possible threats and to prevent them. However, the reform process may be seriously threatened if the above issues are not considered before starting the implementation phase.

Furthermore the analyses must be constantly revised during the process, as the stakeholder position may change because of political incentives or negotiation strategies implemented. Several approaches can be found in literature, some of which are simple but quite restricted while others are very complex but comprehensive. Brinkerhoff (1991) adopts a basic framework which focuses mainly on the resources each group can mobilise in favour or against the program, even if the lack of consideration about the concept of salience limits this approach. On the other hand Honadle and Cooper (1989) propose a matrix with the list of stakeholders on the
horizontal axis and the issues related to the project on which they can have an impact, either positive or negative. Nevertheless the model fails to specify the direction of the interest. Gamman’s (1991) model is more analytical and comprehensive, as it lists all the stakeholders, their objectives, their relationship as well as their relative importance. In addition, a third approach, based on political mapping techniques, is proposed by Linderberg and Crosby (1991). According to their model for each group the following information is collected: level of resources, capability of mobilising these resources, the attitude towards the issue at stake. The World Bank instead designed a dynamic model called the “Expected Utility Stakeholder Model” (2004). Starting from a continuum of policy options for a defined reform, the model simulates a round by round negotiation to empirically predict the degree of support for each outcome. The impacts of political incentives are an input of the model together with power, influence and attitudes toward the measure of each stakeholder; the interactions, coalitions or conflict situation between the groups are considered as well. This latter approach is highly accurate although it heavily relies on the accuracy of the information used as input and it requires a specific software tool to be applied.

Combining the different theories it is possible to draw some practical guidelines to carry out a stakeholder analysis.

The first step is about building a picture with all the interests that might have a stake in the process. At this stage it is recommended to be very inclusive and to list all individuals, groups, communities, organisations, institutions and agencies which are impacted by the project or are involved in its implementation; the list might be narrowed in the following steps of the analysis. A break down of the group into sub-groups, such as ethic groups, local communities, departments can help to better understand their dynamics and attitudes.

The stakeholder matrix should include: main characteristics (their resources, their size, their capacity and will to participate); their relationships with the other stakeholders (conflicts, coalition, converging interests…); what level of contribution they might be able or willing to provide (information, be consulted, become partners). The final point to include is the score indicating the importance of the group in the project. In particular, the group which is specifically meant to benefit from the project is defined as the “target group”, and should also be identified.

Information is usually collected by means of face to face interviews with as many local sources as possible, according to time constraints. Other techniques used include brainstorming, focus groups or workshops. Key informants may belong to plenty of categories, such as: the local administration, political parties, the media, interest groups, the university, labour leaders, religious leaders, management institutes, think tanks, military officials, consultants and so forth.
The second step focuses on determining what the attitude is of each group toward the project, as well as on trying to identify to what extent they can influence the project.

The attitude is usually categorised according to five classes:

1. strongly in favour
2. weakly in favour
3. neutral, indifferent or undecided
4. weakly opposed
5. strongly opposed

The concept of influence deals with the power of a stakeholder: three quantitative categories as high, medium and low can effectively describe the situation. The first is reserved for the groups which can exert a power of veto (either informal or formal), those able to actually stop the project. The medium influence refers to relatively powerful stakeholders which can influence the process, however not being able to control its outcome. The last category includes those who are not strong enough to affect neither the process nor the outcome.

Combining attitude and power we can categorise stakeholders into six classes and define the responsive priority list as well as the involvement strategies. The following table summarises the categories.

<table>
<thead>
<tr>
<th>POWER</th>
<th>ATTITUDE</th>
<th>In favour</th>
<th>Indifferent not decided</th>
<th>Opposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to affect the outcome</td>
<td>Supporters</td>
<td>Latents</td>
<td>Opponents</td>
<td></td>
</tr>
<tr>
<td>Not able to affect the outcome</td>
<td>Defenders</td>
<td>Apathetics</td>
<td>Attackers</td>
<td></td>
</tr>
</tbody>
</table>

Supporters are the most powerful allies of the reform; they should definitely be involved in the process in order to use their support to spread confidence in the proposed measures. It is necessary to build a positive partnership with them.

On the other hand, the Opponents are groups with a strong interest in the process and with enough resources to actually stop it. They need to be addressed and involved as soon as possible and as effective as possible. Strategies to tackle their opposition and to try to relax their attitude should be planned carefully and a considerable level of resources should be devoted to this task. Defenders are groups with a great interest in the issue but with a low level of power. Usually representatives of civil society are part of this category. Since those stakeholders might become key players and good allies, special initiatives targeted at them should also be planned.
in order to benefit from their support. Attackers lie on the opposite side of the axes, they might become dangerous if they build a coalition with the powerful Opponents, they must be monitored although they do not represent an urgency.

Finally, in the indifferent or undecided cluster we find 2 groups: the “Latents”, which are not interested in the project at the moment but might have the power to have an impact on it; they represent a source of risks if they move to the Opponents category, therefore it is wise to be ready in advance with defence strategies to neutralise their attacks. The “Apathetics”, who represent the last category: they are stakeholders with no resources or concern towards the reform/project, they represent a low level of priority, and therefore a limited monitoring activity should be the proper level of commitment.

Furthermore, the level of reliability of the above assessment should be taken into account as well. Additional information about how sure the estimates are should be recorded in the matrix together with the other information. Before taking any action it is necessary to investigate further all the very uncertain estimates, based on mere guesses. The review might eventually involve other stakeholders.

Once the list is completed and adequately reliable it is time to establish the most suitable involvement strategy for each group. According to the category to which the different stakeholders belong, as well as the kind of resources they might make available, it is possible to define the proper level of involvement for each one. The different levels vary from “involved as informants”, to “be consulted” up to “involved in decision-making” and “involved as partner”. The final step of the Stakeholder analysis requires going into more detail. The matrix should be completed indicating concrete measures and instruments to be used to involve each single stakeholder. This last column of the matrix is the most complex one to be filled and it is usually necessary to collect additional information to plan actions effectively.

A catalogue of different instruments is provided in the following section.

According to the above methodology, a list of potential stakeholders that are worth considering in the Florence tramway project is provided below
### Florence Tramway Stakeholder Map

<table>
<thead>
<tr>
<th>Name</th>
<th>Target Group</th>
<th>Description</th>
<th>Resources</th>
<th>Size n. of members</th>
<th>Relationships (conflicts, coalition, converging interests)</th>
<th>Capacity/level to participate (High: Medium: Low)</th>
<th>Level of contribution (be informed, be consulted, active partner)</th>
<th>Importance for the project (Target group: 1-3)</th>
<th>Attitude (High: veto power, Medium: influence the process, not outcome, Low)</th>
<th>Influence (High: veto power, Medium: influence the process, not outcome, Low)</th>
<th>Strategy (involved as informants, to be consulted, involved in decision-making, involved as partner)</th>
<th>Confidence (High: veto power, Medium: influence the process, not outcome, Low)</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Private vehicle users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Internal Stakeholder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>POST</strong></td>
<td>People who habitually use public transport for their main displacement. They may be further split in sub groups such as students, workers, or elderly. They should benefit from the improvement in PT lead by the tramway.</td>
<td>Information, Votes, mobilisation power</td>
<td>3</td>
<td>Information, Votes, Conflicts with the PA</td>
<td>L</td>
<td>Target group</td>
<td>weakly opposed</td>
<td>L</td>
<td>To be informed and to be consulted</td>
<td>?</td>
<td>?</td>
<td>Brochures, internet sites, video, case studies, independent expert reviews, exhibitions, simulations, local events, visits, games, open council meetings. Consultative meetings, public meetings, citizen’s jury, and community group meetings.</td>
</tr>
<tr>
<td></td>
<td><strong>GEST</strong></td>
<td>Newly born company which will manage Florence tramway system for the first 30 years. It is controlled by RATP and ATAF.</td>
<td>Technical knowledge, direct control</td>
<td>1</td>
<td>coalition ATAF, GEST, RATP, PA</td>
<td>H</td>
<td>active partner</td>
<td>2</td>
<td>strongly in favour</td>
<td>H</td>
<td>involved as partner</td>
<td>-</td>
<td>team building methods, designing exercises, Policy exercises, steering groups, long term structure, Scenario building/analysis.</td>
</tr>
<tr>
<td></td>
<td><strong>RATP</strong></td>
<td>Florence biggest PT supplier with around 1,500 employees and about 80 millions turnover. It is in charge for the implementation of tramway lines as well as for the future exercise with a minority share of Gest.</td>
<td>Budget, Technical knowledge, legal control</td>
<td>3</td>
<td>coalition ATAF, GEST, RATP, PA</td>
<td>H</td>
<td>active partner</td>
<td>2</td>
<td>strongly in favour</td>
<td>M</td>
<td>involved as partner</td>
<td>-</td>
<td>team building methods, designing exercises, Policy exercises, steering groups, long term structure, Scenario building/analysis.</td>
</tr>
<tr>
<td></td>
<td><strong>Florence City Council</strong></td>
<td>It is the main political sponsor of tramway, in charge of its administrative implementation and of the relationship with the financiers, mainly the central government. It is composed by 13 members including the Mayors. The key referent for the tramway is the vice-mayor who is delegated to mobility.</td>
<td>Budget, political control</td>
<td>2</td>
<td>coalition ATAF, GEST, RATP, PA</td>
<td>H</td>
<td>active partner</td>
<td>1</td>
<td>strongly in favour</td>
<td>H</td>
<td>involved as partner</td>
<td>-</td>
<td>team building methods, designing exercises, Policy exercises, steering groups, long term structure, Scenario building/analysis.</td>
</tr>
<tr>
<td></td>
<td><strong>Scandicci City Council</strong></td>
<td>Scandicci with its 50,000 inhabitants is the biggest municipality in the neighbouring of Florence. It will be connected to the city with Tramway line 1.</td>
<td>Information, support</td>
<td>2</td>
<td>coalition ATAF, RATP, GEST,</td>
<td>H</td>
<td>be consulted</td>
<td>2</td>
<td>strongly in favour</td>
<td>M</td>
<td>involved in decision-making</td>
<td>-</td>
<td>Brainstorming, workshops, participatory planning, problem/cause analysis, reframing workshop, review sessions, consensus conference.</td>
</tr>
<tr>
<td></td>
<td><strong>National Government</strong></td>
<td>The mobility issues are delegated by the central government to the local administration. However some central approvals regarding major projects receiving national subsidies are required.</td>
<td>Budget, legal approval</td>
<td>2</td>
<td>coalition converging interests</td>
<td>M</td>
<td>Be consulted</td>
<td>1</td>
<td>-</td>
<td>opponents</td>
<td>H</td>
<td>involved in decision-making</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td><strong>Soprintendenza Beni Architettonici e Beni Archeologici</strong></td>
<td>This agency has as main objective the protection, preservation and enhancement of historical property in the national territory, such as ruins, archaeological sites, museums and archaeological parks. It is the main central right party “Casa delle Libertà” as well as green-left component. The two components have opposite view about the tramway with the right one strongly in opposition and the left one in favour, although always very critical with the current administration.</td>
<td>Budget, legal approval</td>
<td>2</td>
<td>coalition converging interests</td>
<td>M</td>
<td>Be informed</td>
<td>3</td>
<td>weakly opposed</td>
<td>H</td>
<td>to be consulted</td>
<td>?</td>
<td>interviews, one to one meetings, consultative meetings</td>
</tr>
<tr>
<td></td>
<td><strong>Political opposition</strong></td>
<td></td>
<td>Public opinion</td>
<td>2</td>
<td>conflicts with the PA</td>
<td>H</td>
<td>Active Partner</td>
<td>3</td>
<td>strongly opposed</td>
<td>M</td>
<td>to be consulted</td>
<td>-</td>
<td>interviews, one to one meetings, consultative meetings</td>
</tr>
<tr>
<td>Florence University</td>
<td>Technical knowledge, reputation</td>
<td>L</td>
<td>Be consulted</td>
<td>3</td>
<td>neutral</td>
<td>L</td>
<td>Involved in decision-making ?</td>
<td>Brainstorming, workshops, problem/cause analysis, reframing workshop.</td>
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<td></td>
</tr>
<tr>
<td>Media</td>
<td>Public opinion</td>
<td>M</td>
<td>Be informed</td>
<td>2</td>
<td>neutral</td>
<td>M</td>
<td>Informants ?</td>
<td>Brochures, internet sites, video, case studies, independent expert reviews, exhibitions, simulations, visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectuals</td>
<td>Technical knowledge, reputation</td>
<td>M</td>
<td>Be consulted</td>
<td>2</td>
<td>neutral</td>
<td>M</td>
<td>Informants ?</td>
<td>Brochures, internet sites, video, case studies, independent expert reviews, exhibitions, simulations, visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARPAT</td>
<td>Technical knowledge, data</td>
<td>M</td>
<td>Be informed</td>
<td>3</td>
<td>weakly in favour</td>
<td>L</td>
<td>Informants ?</td>
<td>Brochures, internet sites, video, case studies, independent expert reviews, exhibitions, simulations, visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassa di Risparmio</td>
<td>Budget</td>
<td>L</td>
<td>Be informed</td>
<td>3</td>
<td>neutral</td>
<td>M</td>
<td>To be consulted ?</td>
<td>Interviews, one to one meetings, consultative meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commerce and trade interest groups</td>
<td>Support</td>
<td>M</td>
<td>To be consulted</td>
<td>3</td>
<td>Self interested</td>
<td>neutral</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House onero interest groups</td>
<td>Support</td>
<td>M</td>
<td>To be consulted</td>
<td>2</td>
<td>Self interested</td>
<td>strongly in favour</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental NGOs</td>
<td>Support, data, mobilisation power</td>
<td>M</td>
<td>To be consulted</td>
<td>2</td>
<td>Converging interests with GEST, PA</td>
<td>strongly in favour</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micrometro team</td>
<td>Technical knowledge</td>
<td>M</td>
<td>To be consulted</td>
<td>3</td>
<td>Weakly in favour</td>
<td>M</td>
<td>To be consulted ?</td>
<td>Interviews, consultative meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comitato Tramvia Sostenibile</td>
<td>Support, information</td>
<td>H</td>
<td>To be consulted</td>
<td>3</td>
<td>Strongly opposed</td>
<td>M</td>
<td>To be consulted ?</td>
<td>Interviews, consultative meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti tramway interest groups</td>
<td>Support, information</td>
<td>H</td>
<td>To be consulted</td>
<td>2</td>
<td>Strongly opposed</td>
<td>M</td>
<td>Informants ?</td>
<td>Brochures, internet sites, video, case studies, independent expert reviews, exhibitions, simulations, visits, workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italia Nostra</td>
<td>Support, information</td>
<td>H</td>
<td>To be consulted</td>
<td>2</td>
<td>Weakly opposed</td>
<td>L</td>
<td>To be consulted ?</td>
<td>Interviews, consultative meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
The above list includes 24 groups characterised by different attitudes, sizes and resources. Following the findings of the survey presented in the last part of the study, as well as personal interviews with some representatives of the stakeholders the level of confidence of the above presented analysis ranges between “motivated” and “guess” situations. All the “wild guess” situation have been solved before the finalisation of the study.

The following table offers a summary of the stakeholder arena concerning Florence Tramway organised according to previously presented classification methodology based on power and attitude. Rows organise stakeholders according to their power, the first one includes groups with veto power, while the last one lists stakeholders who are not actually able to have an impact on the income, although some of them are able to affect the process. The three columns represent the different attitudes: favourable, undecided or neutral and opponents.

<table>
<thead>
<tr>
<th><strong>Supporters</strong></th>
<th><strong>Latents</strong></th>
<th><strong>Opponents</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Florence City Council</td>
<td></td>
<td>National Government</td>
</tr>
<tr>
<td>Gest Spa</td>
<td></td>
<td>Soprintendenza ai Beni Architettonici</td>
</tr>
<tr>
<td><strong>Defenders</strong></td>
<td></td>
<td><strong>Apathetics</strong></td>
</tr>
<tr>
<td>ATAF</td>
<td></td>
<td>Soprintendenza Beni Archeologici</td>
</tr>
<tr>
<td>RATP</td>
<td></td>
<td>Commerce and trade interest groups</td>
</tr>
<tr>
<td>Scandicci City Council</td>
<td></td>
<td>Florence University Media</td>
</tr>
<tr>
<td>Environmental NGOs</td>
<td></td>
<td>Intellectuals</td>
</tr>
<tr>
<td>PT users</td>
<td></td>
<td>Cassa di Risparmio</td>
</tr>
<tr>
<td>ARPAT</td>
<td></td>
<td><strong>Attackers</strong></td>
</tr>
<tr>
<td>Scandicci City Council</td>
<td></td>
<td>Political opposition</td>
</tr>
<tr>
<td>Environmental NGOs</td>
<td></td>
<td>Comitato Tramvia Sostenibile</td>
</tr>
<tr>
<td>PT users</td>
<td></td>
<td>Anti tramway interests groups</td>
</tr>
<tr>
<td>ARPAT</td>
<td></td>
<td>Private vehicle users</td>
</tr>
<tr>
<td>Scandicci City Council</td>
<td></td>
<td>House owners interest groups</td>
</tr>
<tr>
<td>Environmental NGOs</td>
<td></td>
<td>Micrometro team Italia Nostra</td>
</tr>
</tbody>
</table>

Figure 9 “Florence Stakeholder arena”

**The instruments of participation**

As presented, the final step of a stakeholder analysis is the definition of the most suitable instruments to address each separate group, either to tackle an opposing one or to profit as much as possible from a supporting one. There is no single blueprint methodology for participation which is suitable for all circumstances and contexts. On the contrary the strategy should be evaluated and eventually selected according to the context, the available resources, the characteristics of the stakeholders, as well as the level of engagement selected. In the following paragraphs a description of possible instruments according to the main literature is provided. The instruments are grouped according to the four levels of participation previously defined. The instruments are located in the class for which they are most effective; however they might be suitable for other levels of participation as well.
As previously stated, an information campaign represents the minimum level of participation, moreover often a minimum level of information disclosure is compulsory by law. Several common and simple tools can be used for this purpose. Some of them may appear more objective than others to the public, however their common characteristic is to be a one way only form of communication, with no feedback foreseen. Examples of classic means are: brochures, internet sites, leaflets, slide shows/videoa, published case studies, independent expert reviews, summary documents mailing out, media campaigns, exhibitions at local events or in public places, simulations, local events, special theme days, information offices, introductory talks, visits, educational programmes, games and open parliamentary/council meetings (which allow the public to attend although not to have a word).

The second level of engagement “Consultation” opens a feedback channel, with the purpose of collecting opinions about the available options. This level should represent the basis for eventually implementing a higher degree of engagements. Classic tools used for this purpose are: interviews, one to one meetings, questionnaires and local opinion polls. More advanced tools are furthermore the public meetings, defined as meeting type settings open to the full participation of citizens including the right to ask questions or to express opinions. Depending on the specific category of audience who will be attending they may be classified in: “consultative meetings” opened to whoever is interested (Wilcox, 1994); “citizen’s jury” with randomly selected people attending in representation of the public in the case of the citizen’s jury (HarmoniCOP Team, 2005), or finally the “community group meetings” reserved for selected interests.

Moving forward on the participation ladder, we find the further level of “deciding together” targeted to get new ideas and create a shared vision. Besides workshops other suitable tools for this aim are described in the following. Brainstorming, defined in the 1930s by Alex Gordon, is is basically an unstructured session where a limited size group discusses a topic to get as many new ideas as possible (Wilcox 1994). On the other hand, the focus groups are targeted discussions about a given issue involving a small group of people who work through in workshop sessions. The group model building (GMB) methods are meant to improve the group understanding about a system through the joint construction of a model. The expected outcomes are a common understanding among the participants as well as an improvement in the management solutions related to the system (HarmoniCOP Team, 2005). Another category is represented by the “reframing workshops”, “review sessions” and “consensus conference”, which are different group discussion settings all aimed at refining people’s perceptions in order to find a common ground. “Planning for real” (also know as “Participatory planning”) is a very effective methodology to foster people involvement. The three-step process first implies the call
for models in the community, every citizen or group is invited to present a model to tackle the issue at stake. The models are then exposed to the public for their review. Afterwards a workshop is organised to encourage everyone to comment on each model and to present problems or other issues; the process is supported by the use of special cards designed for the purpose. Finally the audience is split into selected groups, concerned with specific issues; they cluster the suggestions and negotiate with other groups. The process end with the production of an action plan based on the most valuable input gained through the participative process. The main advantage of this technique is promoting the development of new ideas while building awareness on constraints related to the different options. (Wilcox 1994)

A final tool is the “problem/cause analysis” a professionally conducted in depth analysis of the causal chain related to the measure or issue under analysis. Such kind of studies may represent an outcome or be a preparatory document for the implementation of other methodologies.

The final level of participation we consider for the purpose of this study is “acting together”, referring to the will to create a partnership aimed at managing the project together. In the case that this level is identified as the most suitable for the situation Wilcox (1994) and the HarmoniCOP Team (2004) both suggest adopting the following specific tools: the “scenario building/analysis” a workshop setting situation where participants discuss consequences of policy options in the present and in the immediate future. On the other hand the “Team building methods” are targeted to develop shared aims and objectives in the involved group of stakeholders, in order to finally define a common action plan. Additionally, the “Designing exercises” or “policy exercises” are games or simulation situations useful to make the stakeholders think about what the different interests are, what they represent and what they aim for, in order to develop a common action plan.

Finally, more to the point of developing a structure to manage a process it is recommended that a specific steering group is created or even to establish a long term structure in case the project is planned to require a long time to be implemented. Both the above described techniques can be used to improve the performance of these structures.
Florence case study survey

This final part of the study focuses on the case study and it is based on interviews with citizens of Florence (for details about the methodology please refer to the appendix).

The survey aimed to investigate the public opinion about the tramway project in general, the perceived need for participation as well as the view on the administration behaviour. The main goal of the following analysis is to identify a possible correlation between views on participation, both claimed and received, and the level of support towards the project.

Analysis of results

The first set of questions referred to the mobility habits of interviewees as well as their opinion about the tramway system, including their intention of using the tramway once ready. The results are analysed on a per question basis as well as combining the different replies, in order to find out the existence of group patterns.

First of all the responded have been clustered in public transport user and non user. Respondents who declared an everyday or often usage were considered PT users, while those who answered “no” or “seldom” were counted as non users. The percentage of users in the sample is 19.7%, in line with the official data published in the Florence Municipality Mobility Plan, 2001 which reports a share of 14%. The difference may be explained partially by the fact that the Mobility Plan referred to the morning peak hour, therefore focussing specifically on commuters’ movements. On the other hand, this survey is more general; it did not refer to a precise moment of the day but to all trips made, therefore the component of PT users increased its role. An additional explanation can be related to the age of the survey mentioned which dates back to seven years ago, an increase in PT usage may have occurred in the last period.

<table>
<thead>
<tr>
<th>Do you use public transportation?</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>19.7%</td>
</tr>
<tr>
<td>NO</td>
<td>80.3%</td>
</tr>
</tbody>
</table>

Figure 10 “Public transportation users in the sample”

The second question explicitly asked an opinion about the implementation of the tramway system. The majority of the answers are completely in favour (55%), although the opponents are the 38% of the sample population. Interesting enough, 7% of the respondents support only the realisation of some specific lines. In particular the selection always excluded line 2, the one planned to pass next to the Duomo. This finding is confirmed by question 8 which investigated on what issues citizens should be consulted. In this case the category “critical decisions” which
specifically mentioned the Duomo proximity as an example, is indicated as the second more relevant. More details about this question are provided in the following section. The graph below gives an overview of public opinion groups.

![Pie chart showing public opinion about Florence tramway system](image)

**Figure 11 “Public opinion about Florence tramway system”**

The third question investigates the intention of respondents to use the tramway. Surprisingly 49% answered yes: a much higher share than the one of current PT users. Only 14% are firmly decided for the non use. The remaining 37% do not have a clear opinion yet.

The following table compares the results of this question with the opinion about the project. As showed by the figures a positive opinion leads first of all to a clearer opinion, only 18.6% of respondents in this category do not know if they are going to use the tramway. Furthermore, the agreement on the project impact on the intention to use the means, which scores 72% compared to the 14.3% of non agreeing people. This finding emphasises the importance of people’s support for the success of a project, not only during its implementation phase but also in its exercise phase. In order to actually reach the expected goals from a measure, in this case shifting people towards more sustainable transport means, it is crucial to receive the agreement of target group.

<table>
<thead>
<tr>
<th>Opinion on the Project</th>
<th>USE NO</th>
<th>Future use</th>
<th>Don't Know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGREE</td>
<td>9.30%</td>
<td>72.09%</td>
<td>18.60%</td>
<td>100.00%</td>
</tr>
<tr>
<td>DISAGREE</td>
<td>21.43%</td>
<td>14.29%</td>
<td>64.29%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>14.08%</td>
<td>49.30%</td>
<td>36.62%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

**Figure 12 “Opinion about Florence tramway system and future use intentions”**

The second group of questions deal with the realm of information. This cluster includes questions 3, 9, 10 and 11. Question 3 was separated from the others on purpose, in order to avoid cross influence in the answers.
Firstly the actual knowledge of the respondent about the location of his/her closest stop was investigated, 72% of the sample was able to give precise information about the distance.

<table>
<thead>
<tr>
<th>Indicate the distance of your closest stop</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the information</td>
<td></td>
</tr>
<tr>
<td>&lt;200 mt</td>
<td>14%</td>
</tr>
<tr>
<td>200 and 500</td>
<td>14%</td>
</tr>
<tr>
<td>500 mt and 1 km</td>
<td>13%</td>
</tr>
<tr>
<td>More than 1 km</td>
<td>31%</td>
</tr>
<tr>
<td>Do not have the information</td>
<td></td>
</tr>
<tr>
<td>I don’t know</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Figure 13 “Knowledge about nearest stop”

However, when asked about the level of satisfaction regarding the information received only 13% of the interviewees think they have received sufficient information. Although, important to notice, the big majority of respondents feel they have been informed on some details only, among which the path of the lines are probably included.

<table>
<thead>
<tr>
<th>Did you receive sufficient information about the tramway</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>13%</td>
</tr>
<tr>
<td>On selected aspects only</td>
<td>51%</td>
</tr>
<tr>
<td>No</td>
<td>31%</td>
</tr>
<tr>
<td>Too much</td>
<td>4%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figure 14 “Level of satisfaction about information”

On the other hand, coming to the expenditures on communication, most of respondents do not see the need to relate the budget in communication with the size of the project. As a matter of fact the most chosen option was to devote a fixed amount to this activity.

<table>
<thead>
<tr>
<th>Ideal amount of communication budget</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A fixed amount not related to the project cost</td>
<td>43.48%</td>
</tr>
<tr>
<td>5-10%</td>
<td>24.64%</td>
</tr>
<tr>
<td>10-15%</td>
<td>17.39%</td>
</tr>
<tr>
<td>As low as possible</td>
<td>8.70%</td>
</tr>
<tr>
<td>More than 15%</td>
<td>5.80%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Figure 15 “Opinions on communication budget”

Finally the preferred channels of information were asked. Newspapers are used in 26% of cases followed by brochures. Also important are the public events. Another major source of information can be identified in the passing of information by word of mouth including “family and friends” as well as the interest groups. The web sites have a role too, with the official tramway one receiving more preferences than those of other associations or sources.
Overall, this question leads to some general conclusions: first, the great majority of people do not rely on one source only, since 77% of respondents indicate at least two channels of information; secondly, people usually mix institutional channels (such as the official web site) with non institutional ones such as newspapers. However, the institutional sources benefit from a good share of audience, highlighted by the green bars in the chart.

Moreover, surprisingly enough, the institutional official channels are consulted more by respondents with a low level of trust in the administration, namely those who gave less than 5.5 as an overall grade to the administration. As a matter of fact, this group represents 74% of those who use official sources to get information on the tramway.

The following table 17 summarises this phenomenon.
Concerning the effects of the tramway on the quality of life, the tramway is perceived to bring positive impacts in 75% of cases. However an important 25% is concerned by a worsening of quality of life following the introduction of the tramway. Increase in traffic and negative impacts on monuments as well as on citizens are listed among effects of the new means of transport. The graph below gives a breakdown of effects perceived, the green colour refers to positive impacts while the red one the negative.

![Graph of perceived effects of the tramway](image)

The following group of questions investigates citizens’ needs for participation. The answers regarding the opportunity of involving people in the decision making process of projects such as the tramway and the opinions about what the administration is actually doing are compared in the below table.

<table>
<thead>
<tr>
<th>citizens should be involved in projects such as the tramway</th>
<th>%</th>
<th>What the administration is doing in this sense</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6%</td>
<td>Nothing</td>
<td>23%</td>
</tr>
<tr>
<td>Be informed</td>
<td>24%</td>
<td><strong>Informing</strong></td>
<td>66%</td>
</tr>
<tr>
<td>Be allowed to comment on choices</td>
<td>8%</td>
<td>Consulting citizens on main choices</td>
<td>10%</td>
</tr>
<tr>
<td>Contribute with new ideas</td>
<td>21%</td>
<td>Considering citizens’ proposals</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Be involved in the decision making</strong></td>
<td><strong>41%</strong></td>
<td>Concretely involving citizens</td>
<td>0%</td>
</tr>
</tbody>
</table>
The general analysis of the above results shows a clear preference for a high level of participation, although a remarkable share of people would be already satisfied by receiving information on the project. On the other hand, Florence citizens seem to be unfulfilled by the level of participation provided by the administration. As shown by the figures, the majority feels informed, however only a very low percentage experienced what can be considered a real level of participation.

Concerning what is considered as crucial by citizens, the first place is taken by the key dispute between tram and underground system. However, as illustrated by the graph below, all proposed options received a considerable share of preferences.
Finally the following regression tries to investigate the correlation between people’s opinion on the tramway (grade out of ten) and other variables included in the survey, namely the opinion on the administration (grade out of ten), being a bus users or not, thinking they have received enough information about the project, referring to official institutional sources to get information or not, having the intention to use the tram once ready and the participation gap. This final variable measures the first the absolute difference between the desired level of participation in the project and the one actually perceived.

The general form of the model is:

\[ Y \text{ Log mark of the tramway}_i = \beta_0 + \beta_1 (\text{mark_adm})_i + \beta_2 (\text{d_use_bus})_i + \beta_3 (\text{d_info})_i + \beta_4 (\text{d_ist_src})_i + \beta_5 (\text{d_use_tram})_i + \beta_6 (\text{part_gap})_i + \epsilon_i \]

<table>
<thead>
<tr>
<th>Mark given to the tramway project</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>grade given to the administration</td>
<td>0.1007844**</td>
<td>(0.0383369)</td>
</tr>
<tr>
<td>bus users yes</td>
<td>0.1094914*</td>
<td>(0.1210771)</td>
</tr>
<tr>
<td>received enough information yes</td>
<td>0.1548724 *</td>
<td>(0.124497)</td>
</tr>
<tr>
<td>Using institutional sources yes</td>
<td>0.0471241*</td>
<td>(0.148464)</td>
</tr>
<tr>
<td>will use the tram yes</td>
<td>0.2785157*</td>
<td>(0.1236241)</td>
</tr>
<tr>
<td>participation gap</td>
<td>-0.1516025</td>
<td>(0.0499203)</td>
</tr>
<tr>
<td>constant</td>
<td>1.235338</td>
<td>(0.2414039)</td>
</tr>
<tr>
<td>R2</td>
<td>0.4669</td>
<td></td>
</tr>
</tbody>
</table>

* not statistically significant ** significant at 90% level of confidence

The value of the different coefficient predicts the effect on the grade of the tramway of the single variable, keeping everything else constant.

Only two indicators are significantly correlated with the grade. The first one is the grade given to the administration, although with only a 90% level of confidence, this variable has a positive correlation of 10%. Therefore, this means that respondents’ opinion on the tramway project is positively influenced by the confidence in the administration. A second finding, which is more interesting for the purpose of this study, is the role of participation gap, which has a negative
coefficient of – 15%. This result indicates that when people perceive a high difference between the level of involvement which they consider suitable in a given situation, and the level of involvement actually experienced their opinion about the subject is adjusted towards the bottom of the scale. This finding is consistent with the theory exposed in this study, which basically claims the importance of involvement for the success of measure. Furthermore, to actually be effective the level of participation must match with the specific context and situation. The needs and expectations of the affected groups are the most important variables to take into account in defining the level of involvement.

This study was limited by the available variables, however it allows us to measure how relevant the impacts of the lack of involvement may be in a sustainable mobility project.
Conclusions
Following to strong societal driving forces, participatory methods are increasingly recommended and encouraged, if not imposed, by regulatory measures. The analysed literature agrees on the importance of participation to address complex societal issues nowadays, however several risks are also related to the adoption of such an approach.
This study aimed to investigate the role of civil society participation in the decision making processes as well as their impacts. Some broad conclusions can be drawn from this review.
Above all, effective participatory processes must be based on clear, agreed objectives and a genuine commitment to it. Participation cannot be a 'just-do-it' process (van Asselt, Rijkens-Klomp, 2002); adopting the philosophy of participation is at least as important as having a strong mandate from all stakeholders, starting from the decision makers. The recommended level of participation for a given process is mainly determined by the degree of power the decision makers are willing to share. All the involved actors have to commit to the process and to implementing the outcomes. The process needs be collaborative; in this regard enough time must be devoted to developing mutual respect and trust, compatible ways of working, good communication and agreed processes.
Furthermore the true goals of the process, although hidden or not promoted, should also be taken into account when planning the participation process. Being oriented to obtain consensus or building support will involve different techniques and methodologies than promoting a societal change or the empowerment of voiceless groups. Finally resources, in terms of time, skills and money, represent the remaining constraints to consider.
Only an honest in depth analysis of the above variables will allow us to determine the best level of participation for a given process among information, consultation, deciding together, acting together and supporting local initiatives, as proposed by the Amstein's ladder of participation. Therefore, adopting a defined level of participation for convenience reasons or just following a dogma, would result in the opposite outcomes of increasing distrust and slowing down the process, as measured by the empirical analysis presented.
From a methodological perspective, although it is not possible to define a blueprint model for participation, the analysed literature and case studies highlight the need to follow a systematic approach according to the emerging leading principles.
For an effective participatory process the following steps are recommended. 1) Preliminary problem identification; 2) Definition of goals; 3) Planning the participatory process (level of participation, schedule and resources); 4) Stakeholder analysis and 5) Implementation strategy (instruments and methods selection). This study aims to represent a support tool to facilitate
reflection in each of the named phases. The different sections of this document provide a comparative overview of literature essays on participatory theories as well as case studies on choice and use of methods.

Nevertheless, the analysis is lead by a selected case study, namely Florence Tramway System implementation. It is used as a comparative point to verify how the presented theory is confirmed by real life situations. Sustainable mobility measures, such as public transportation means, proved to be critically important to fight greenhouse gas emissions which are leading to global warming and their consequent risks. However, their success in meeting this crucial goal is strongly affected by people support and commitment. Thus, they are the ones who should adopt a behavioural change and decrease, if not abandon, the use of their private car.

The empirical analysis conducted measured the risks of not meeting people expectation concerning participation in the implementation of a new public transportation measure. Keeping everything constant, people’s opinion on a project is negatively influenced by being disappointed in terms of involvement. As a result, interviewees who experienced a different level of participation compared to the expected one, although not necessarily lower than it, have a more negative opinion on the project. Nevertheless, the same survey shows how important the personal approval about the tramway is in deciding to use it, at least as far as intentions are concerned. Therefore, we can conclude that the implementation of sustainable transport measures is more likely to succeed in fighting global warming and its disastrous consequences only if it is supported by the adoption of a valuable participative approach, which means suitable to the context and professionally implemented.
Appendix

The data commented on in the section “Florence case study assessment” has been collected through phone interviews to a random sample of Florence and Scandicci citizens. The total number of successfully completed interviews is 72 out of some 100 calls. The used questionnaire was composed of 13 multiple choice questions. All the interviewees answered all the questions. Multiple answers were allowed, therefore for some questions the number of replies analysed is higher than the number of respondents.

The translated text of the questionnaire used is provided below (the questions were originally in Italian). The options proposed are listed in brackets.

1. Do you use public transportation?
   (Everyday; Often; Seldom; Never)
2. Do you agree with the realisation of the tramway network?
   (All lines; Line 1; Line 2; Line 3; No, the underground was the right choice; No buses were enough)
3. Do you think you will use the tramway?
   (Yes; No; Maybe/I don’t know)
4. What will be the distance to your nearest tramway stop?
   (Less than 200 m; Between 200 and 500 m; Between 500 m and 1 km; More than 1km; I don’t know)
5. What will the effects of the tramway be?
   (Improvement of public transport; Decrease in traffic congestion; Increase in traffic congestion due to its interference; Decrease of pollution (emissions and noise); Negative impact on monuments and people’s freedom of movement)
6. Do you think citizens should be involved in projects such as the tramway?
   (No, it’s not necessary; They should be informed; They should be allowed to comment on the choices; They should be able to contribute with new ideas; They should be concretely involved in the decision making and in their implementation)
7. What do you think the tramway administration is doing in this sense?
   (Nothing; Informing; Consulting citizens in the main choices; Considering citizens proposals; concretely involving citizens in the decision making and in their implementation)
8. In which of the crucial decisions do you think citizen participation would have been necessary?
(Tram Vs Metro; Lines network in general; Line paths definition; Critical choices (such as Duomo proximity); Definition of priorities (which line first); Others; any of these)

9. Which of the following channels do you use to get information on the tramway?
   (Brochures; Official presentations; Public meetings; Public events; Workshops; Tramway information point; Official website; Other websites; Interest groups; Family/friends; Newspapers; None I'm not interested; Other, specify)

10. Which percentage of the total budget of the project should be devoted to communication and public information campaigns?
    (As low as possible; 5-10%; 10-15%; More than 15%; A fixed amount not related to the project cost).0

11. Do you think you received enough information about the tramway?
    (Yes, satisfactory; Only on selected aspects, No insufficient; Too much)

12. Can you give a score to the tramway project? (1 to 10, 10 is the max)

13. Can you give a score to the local administration? (1 to 10, 10 is the max).

Thanks for your collaboration.

Multiple regression model

```
reg voto_tram voto_adm d_uso_bus d_info d_canali_ist d_uso_tram gap_part
reg log_voto voto_adm d_uso_bus d_info d_canali_ist d_uso_tram gap_part, r
```

Linear regression

|                      | Coef. | Robust Std. Err. | t     | P>|t|   |  [95% Conf. Interval] |
|----------------------|-------|------------------|-------|-------|------------------------|
| log_voto             |       |                  |       |       |                        |
| voto_adm             | .1007844 |  .0383369       | 2.63  | 0.011 |  .0240448, .1775239    |
| d_uso_bus            | .1094914 |  .1210771       | 0.90  | 0.370 |  -.1328708 to .3518535 |
| d_info               | .1548724 |  .124497        | 1.24  | 0.219 |  -.0943355 to .4040803 |
| d_canali_ist         | .0471241 |  .148464        | 0.32  | 0.752 |  -.2500589 to .3443071 |
| d_uso_tram           | .2785157 |  .1236241       | 2.25  | 0.028 |  .0310552 to .5259762  |
| gap_part             | -.1516025 |  .0499203       | -3.04 | .004  |  -.2515287 to -.0516762 |
| _cons                | 1.235338 |  .2414039       | 5.12  | 0.000 |  .7521159 to 1.718561  |

---
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