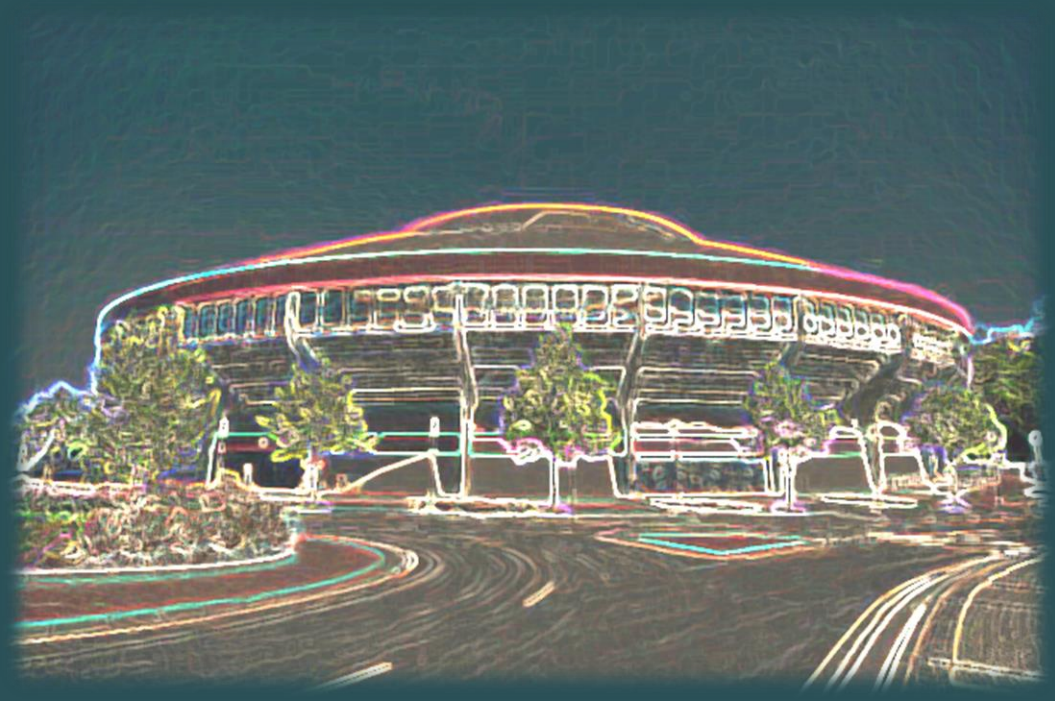
BOT is in town



Build-Operate-Transfer PPP:

An instrument for urban planning?

The experience in Spanish cities.

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Abstract:

The use of Build-Operate-Transfer types of Public-Private Partnerships for the provision of infrastructures has extended in the last years, especially in Spain. This includes infrastructures located within urban areas. The consequences from an urban planning perspective are however uncertain, considering the concerns that are often related to the private management of infrastructures. This situation leads to the following research question:

Based on the experience in Spanish cities, and particularly in San Sebastian, how should be Build-Operate-Transfer used for the provision of urban infrastructures, considering the benefits and concerns related to the private management of infrastructures?

In order to answer to this question, the present work analyses the experience with BOT contracts in Spanish cities and in San Sebastian in particular. For this purpose, the political, economic, social, environmental, and urban planning effects of the projects are assessed, with a particular focus on the problems that are usually related to PPPs.

The analysis of the experience in Spain shows that BOT projects are present in urban areas in multiple forms of infrastructures, and hence, the effects on the urban landscape and the planning of cities should be considered. In fact, this work concludes that a conscious and ethical use of BOT may provide instruments for urban planners in order to benefit of the advantages provided by the private management of infrastructures, while minimising the possible adverse effects.

INDEX

1. INTRODUCTION

Based on the assumption that the private sector can manage more efficiently than the public sector, since the 1990s, services that were traditionally provided by the public sector have shifted to private hands, either in the shape of privatizations or Public-Private Partnerships (PPPs). This shift began in the context of neo-liberalization, but interest in the collaboration between public and private organizations has grown recently after the financial crisis that began in the late 00s. In the actual context, governments often face difficulties to obtain funds for the construction of new infrastructures as well as to maintain the already built assets, and therefore, public authorities are well disposed towards collaborating with the private sector in order to obtain financing.

In the particular case of large-scale infrastructures, a form of PPP known as Build-Operate-Transfer (BOT) has been used worldwide for their financing, construction, and operation. As the name suggests, under BOT contracts a private entity finances, builds and operates a publicly owned infrastructure for a concrete period, after which the assets are transferred back to the public sector. The private entity recovers the initial investment by obtaining an operating profit during the concession period, based either on users' direct payments or on periodical payments from the public sector.

BOT contracts were traditionally used for large-scale infrastructures, mainly in the transport sector and other megaprojects like canals and energy production facilities. This implies that failures in such large projects often involve far-reaching consequences with high repercussion in the media. In this context, little attention has been paid to smaller-scale BOT projects, although their presence in urban areas has considerably grown in the recent years. The situation within an urban environment may imply certain differences compared to other BOT projects, due to the impact on the surrounding urban landscape and local populations, along with the differences in the type of actors involved. In addition, the introduction of BOT into the urban sphere brings the debate about the adequacy of the private management of infrastructures into a new context.

In spite of their potential impact on the urban environment, BOT projects that are located within urban areas have not been studied sufficiently. Furthermore, despite their presence

has extended to urban areas, and regarding their potential as an urban planning tool, this type of PPPs are still unknown for many planning practitioners. Understanding how BOT works is therefore important for planners, to be aware of their implications, as well as to increase their influence and control over the projects. Thus, the objective of this research is to link two research areas, PPP and urban planning, in order to shed light on the potential benefits and risks of BOT as an urban planning tool. For this purpose, the analysis of BOT projects in Spain has been chosen as a case study, due to the extent use of this formula in this country. Particularly, the case of the city of San Sebastian is studied as an illustrative example of the general situation in Spain.

This master thesis is organised in eight chapters, including the present chapter, Chapter 1 “INTRODUCTION”. Chapter 2 “PROBLEM FORMULATION”, presents the studied case and the related problem, which is synthetized by the research question and two sub-questions that serve as a guideline for the resolution of the problem. Chapter 3 “THEORY” describes the reviewed literature about PPPs. Chapter 4 “METHODOLOGY” explains the methods that are applied for the analysis of the case, which is developed in Chapter 5 “CASE STUDY: BOT PROJECTS IN SPAIN” and completed by Annexes 1 and 2. Chapter 6 “CRITICAL ANALYSIS OF THE CASE” makes a critical reflection on the results obtained in Chapter 5, by answering to the two researchable sub-questions. The critical analysis leads to the conclusions of the master thesis, Chapter 7 “CONCLUSIONS”, which answers the research question. Finally, Chapter 8 “BIBLIOGRAPHY” provides a list of the references from the literature and the media.

2. PROBLEM FORMULATION

Case presentation

Although there is an extent literature on PPPs and BOTs, scarce studies analyse BOTs from an urban perspective. The lack of attention about the effects of BOTs on urban areas can be explained by the fact that BOT schemes were traditionally used for the construction and operation of large-scale infrastructures, mainly in the transport sector, and it is only in the last years that this type of project arrangements have been more broadly used within urban environments. However, this new phenomenon can provoke unpredicted effects that differ from the effects of the traditional large-scale BOTs. This implies that other risks and concerns need to be considered when a BOT is implemented within the urban core of a city.

Apart from the direct effects, such as modifications on the urban landscape and the impact on local populations, a more extensive use of BOT in urban areas might provoke changes in the way local authorities and planners conceive cities, due to the introduction of economic profit as a key factor in the evaluation of project viability. Indeed, BOT can only be applied in projects with capacity to generate economic profit, which can affect the type of projects that are selected, as well as the way in which the projects are arranged. The stakeholders involved in an urban BOT project may also differ compared to other large-scale infrastructures, and therefore, different skills and knowledge may be necessary to succeed in the implementation, compared to the traditional BOTs.

The arrangement of PPPs is common nowadays in the new governance style practiced at municipalities and planners are familiar with collaborations between the public and the private sector. Nonetheless, BOTs share some features with other PPPs but there are relevant differences that should be understood by practitioners. Considering that BOTs are a new phenomenon for many urban planners, they need to be aware of the potential advantages and risks of this instrument, to benefit from the advantages and minimise the related risks.

Thereby, the study of urban-scale BOT projects brings the study of BOT and PPP to the urban planning research field, while it serves to call attention about the effects of BOT projects when they are located within urban environments, which have been scarcely

analysed in the literature. Regarding the lack of knowledge about BOT in the field of urban planning, along with the gap in the technical literature on PPPs about urban projects, the present work aims for collecting data about urban-scale BOT projects that can, at the same time, inform and inspire urban planners. Following this objective, the study of the concrete case of BOTs in Spanish cities could be especially clarifying, regarding the extent use of BOT types of PPP in this country, both for large infrastructures and smaller-scale facilities.

Spain is indeed one of the countries where BOT has been most broadly used in the last years, and for this reason, the Spanish experience could provide interesting cases of success and failure. There is an extent experience in the application of BOT schemes for large-scale infrastructures in Spain. Transport infrastructures, like toll highways, were traditionally the most relevant, but nowadays this project scheme is also used for the construction and operation of other types of infrastructures, from energy generation to waste treatment plants. On the other hand, diverse types of urban-scale concessions are actually functioning in Spanish cities, which were financed, constructed and operated based on the BOT model. The increasing use of BOT within Spanish cities may therefore provide interesting cases for urban planners.

From another point of view, the Spanish case is especially interesting in regards to the economic recession that is suffering since the late 2000s, which has severely affected local budgets. Due to their financial difficulties, local governments are encouraged to search for creative solutions to finance new infrastructures, as well as to maintain the already existing. In this context, local authorities see BOT as an attractive opportunity to implement projects that would not be possible only by public means. Thereby, the application of BOT by Spanish municipalities as an instrument to face the recession could provide inspiration to governments in similar economic situations. Nevertheless, the economic crisis has also led to the bankruptcy of several projects in Spain, some of them with dramatic consequences for public budgets, which could alert planners of the dangers of this type of project schemes.

Thus, the Spanish experience may provide cases of failure, which can alert about the possible problems that should be avoided, and cases of success, which could inspire planners for future projects. The particular case of BOT projects in San Sebastian, in the Basque Country, may provide valuable examples, regarding the long experience with BOT parking lots in this city, along with the use of this instrument for diverse types of infrastructures, such as shopping centres, markets, hotels, sports centres, and even a bullfighting ring.

Problem formulation

The private financing and management of infrastructures can offer several economic and technical benefits to local governments, especially because the investment does not affect public budgets. However, the increasing use of PPPs for urban infrastructures and services may provoke unwanted side-effects that should be taken into account. First, the private management of infrastructures has been related to a poorer service quality and a worsening of working conditions (Hall, 2004). Second, PPP arrangements may be used as a formula to sidestep the established procedures for the bidding process and for public information. Third, the introduction of profitability as a factor that influences the design of infrastructures may provoke changes in the way that cities are planned, which in turn can alter the shape of cities.

However, the mentioned problems may be linked to a lack of awareness about them, to a poor control over the project, or to unethical behaviours, but not necessarily to the planning instrument itself. If public workers are aware of the implications of using each type of PPP, and make a conscious and ethical use of them, cities can benefit from the advantages provided by PPPs, while avoiding or controlling the possible side effects. Thus, it is relevant to point out the concerns related to PPPs and the solutions that planners can apply to minimise the risks. By looking at the experience in San Sebastian and in Spain in general, practitioners can obtain examples that rise awareness of the problems related to the use of PPPs, but they can also obtain inspiration about the solutions that were applied to control the possible side-effects.

The described problem can be resumed by the following research question, which aims for providing a normative answer for urban planners and public workers that deal with PPPs, and concretely with BOT.

Research question:

Based on the experience in Spanish cities, and particularly in San Sebastian, how should be Build-Operate-Transfer used for the provision of urban infrastructures, considering the benefits and concerns related to the private management of infrastructures?

In order to establish a guideline for the answer of the main research question, the following two sub-questions are formulated, which serve to study the characteristics of BOT as an

urban planning tool, as well as to assess the case of BOT projects in Spanish cities, and in particular, BOT projects in San Sebastian. Thereby, two researchable questions are defined, which lead to the answer to the main research question.

Research sub-question 1:

Which are the potential benefits and risks of Build-Operate-Transfer as an urban planning tool, based on the experience in Spanish cities, and concretely, in the city of San Sebastian?

As described before, BOT has been extensively used for large-infrastructures, but it is a relatively new phenomenon within urban areas. Consequently, its characteristics as an urban planning tool are still unknown for many urban planners. However, there is scarce information in the literature that could guide planners about the consequences of choosing BOT for the provision of urban infrastructures. In fact, when benefits and risks of BOT are evaluated in the literature, the effects on the surrounding areas are scarcely analysed, although they can be important in urban contexts. Defining the characteristics of BOT projects when they are located within urban areas is indeed highly relevant, regarding the impact that these projects can provoke on the urban landscape, as well as on local populations.

Considering the increasing presence of BOT projects in urban areas, urban planners need to be well prepared for a new scenario where public infrastructures can be privately designed, financed, constructed, and operated. They need to be well informed about the potentials of BOTs as a planning instrument, but also about the changes that are taking place on the way of looking at infrastructures, now regarded as elements with capacity to generate profit. In this context, cities are planned to provide services to citizens while generating revenues, and, under this logic, infrastructures are only viable if they are economically profitable, which conditions the type of projects that are promoted.

The first research question is therefore relevant to detect the potential benefits and risks of BOT as an urban planning tool, by studying concrete cases that have been implemented in urban areas. For the answer to this question, the experience in Spanish cities and in the city of San Sebastian are studied. The way in which BOT has been applied, the conflicts and risks that have been faced, and the impact on the urban landscape and local populations is analysed in order to obtain a vision of the implications of BOT as an urban

planning tool. The political, economic, social, and environmental effects of the projects are studied for this purpose.

Research sub-question 2:

How does the experience with urban BOT projects in Spain contribute to the debate about the adequacy of the private management of infrastructures?

Since the 1990s, infrastructures and services traditionally managed by the public sector are frequently operated by the private sector. In this scenario, a conflict emerges between the quality of the service provided to citizens and profitability, given that private companies may prefer to decrease the quality in order to increase economic benefit. Indeed, when private companies manage infrastructures, cost reduction is one of the main objectives to maximise profit, which, in turn, could decrease the quality of the service. Considering that the private sector manages key facilities for the well-being of citizens, lower service qualities can involve a decrease in the life quality of the affected populations.

In addition, in the new scenario infrastructures are regarded as elements with capacity to generate profit, and consequently, cities are planned to provide services to citizens while generating revenues. This can provoke a shift on the way cities are planned, given that infrastructures are built only if they are profitable. Moreover, key facilities for the well-being of citizens are now in private hands, and hence, they have become products that can be bought and sold in the market, with the uncertain consequences that this could provoke.

The described conflicts are also present in BOT projects. In spite of this, there are differences compared to other types of PPPs and privatizations, which could provide a different perspective to the problem. Alike in privatisations and other forms of PPPs, in BOT projects the public sector keeps the ownership of the infrastructures during the contract period, which may be relevant in order to control quality. The role of the private sector is also different, given that the concessionaire is at the same time responsible for the financing, construction, and operation of the assets. Because of these characteristics, public and private interests are often connected in BOT schemes, which elevates the complexity of the debate about service quality and profitability, since profitability and the viability of the businesses are also of the interest of the public sector.

The experience in Spanish cities could provide an insight to how the conflict between quality and profit has emerged, how the use of BOT has affected to this conflict, and how

the conflict has been handled by public workers. By answering to the second research question, urban planners could obtain inspiration to succeed in the provision of both quality and profit.

3.THEORY

With the objective of providing a theoretical basis for the understanding of the cases, for their analysis, and finally, for the resolution of the research questions, the present chapter provides an insight to the literature about PPPs, and more concretely about Build-Operate-Transfer forms of PPPs.

Chapter 3.1 presents the technical theories on PPPs, Chapter 3.2 defines the different types of PPPs, in order to distinguish BOT from other types of PPPs, and Chapter 3.3 describes the critical theory about PPPs, as a counterpoint to the mainstream literature.

3.1 What are Public-Private Partnerships?

As an introduction to this chapter, the context that led to the use of PPPs is presented. Then, a description of how PPPs work is provided, with a particular insight to the European legislation on PPPs. The chapter ends with a description of the different types of PPPs, as a way to present BOT and the differences with other types of PPPs

3.1.1. Context

[The content of this section is based on several sources, which include: Kwak, Chih and Ibbs, 2009; Auriol and Picard, 2013; Farmer, 2014; Ortega, de los Angeles Baeza and Vassallo, 2015]

Urban infrastructures shape the physical environment of cities, but also their economy, social welfare, and sustainability. In this sense, infrastructures can be seen as the foundation over which the urban society is constructed.

The concept of infrastructure is diverse and includes multiple types of facilities, such as transport infrastructures, hydraulic infrastructures, municipal facilities, or energy production infrastructures. In spite of the existing diversity, all these facilities share one common main function, that is, to serve the needs of the society by facilitating private and public activities and the delivery of services. Thereby, providing infrastructures to the society is an important function of local governments, along with ensuring their quality. The construction

and maintenance of urban facilities implies, however, a high cost for local treasuries, and consequently, governments often need to search funding for the capital investment that is required.

Although many examples of private funding for public infrastructures can be found along history (see Auriol and Picard, 2013), this was relatively unusual until 1990's, especially in the 20th century European context, where urban facilities were considered a part of the welfare system. Indeed, public infrastructures, as key elements that serve the social interest, were usually managed by the public sector and they were commonly financed, constructed, maintained, and operated directly by the public sector.

A shift has occurred in the last decades and governments are more eager to rely on the private sector, not only to finance new infrastructures, but also to maintain and operate them. This shift became especially relevant in the context of neo-liberalization, where measures to enlighten the public sector were taken by governments. Many European governments promoted processes of privatization of national companies, and as a consequence, services that were traditionally managed by the public sector started to be delivered by private companies. At the same time, diverse forms of collaboration between the public and the private sector took place, which are commonly referred as Public-Private Partnerships or PPPs.

On the other hand, in Scandinavian countries, governments are more cautious about PPP and they apply measures to make sure that value for money is achieved (Petersen, 2010). From this perspective, PPP should not be used to finance projects that local budgets are not able to finance, but to achieve a better service than by public means alone. However, in countries like Denmark, these measures have deterred local governments from using PPP for infrastructures, and consequently, there are few cases where PPP has been successfully applied (Petersen, 2010).

3.1.2. Public-Private Partnerships

Public-Private Partnerships (PPPs) are defined by the OECD (2012) as "long term contractual arrangements between the government and a private partner whereby the latter delivers and funds public services using a capital asset, sharing the associated risks" (p.18). In other words, PPP is an agreement between public and private institutions, where the private sector assumes the financing and the provision of services that would otherwise correspond to the public sector.

PPPs are usually characterised by a long-term duration, where the private sector funds at least part of the project, sometimes by complex financial arrangements that include third parties (Akitoby and Hemming, 2007). The public sector promotes PPPs, defines the objectives regarding the public interest and the quality of the service, and controls that these objectives are fulfilled (Commission of the European Communities, 2004). The private sector participates at different levels of the project, depending on the type of PPP (World Bank, 2017).

The public sector's main motivation for forming PPPs consists on the desire to incorporate private funds to the delivery of public infrastructures and services, along with bringing the managerial and technical skills of the private sector (Commission of the European Communities, 2004). In the literature, the benefits of PPPs are usually linked to a more efficient, reliable, and cost-effective management from the private sector compared to the traditional public provision of services (Kwak, Chih and Ibbs, 2009). In addition, PPPs permit to develop urban infrastructures with no damage to the local budgets and without additional debt.

When PPPs include construction, as occurs in BOT forms of PPP, the whole life-cycle of the project is considered from the beginning, due to the fact that the same private institution is in charge of the construction and the operation (Kwak, Chih and Ibbs, 2009). For this reason, PPPs can reduce construction delivery time and costs, given that the sooner construction ends, the sooner infrastructures can start generating a payback to the private sector. Furthermore, construction quality improves, since maintenance costs can be reduced if the quality of the construction is good.

In order to compare whether PPP is a better arrangement than public procurement, a 'value for money' analysis is usually developed. Value for money should be fulfilled during the whole duration of the contract, including the operational phase and re-negotiations, which means that public authorities need to be vigilant during the whole contract (OECD, 2012). When promoting a PPP, transparency and accountability should be present at all the stages of the project. Public authorities should ensure public awareness of the benefits, costs, and risks of the project, compared to the conventional public procurement (OECD, 2012). Active consultation and dialogue with stakeholders is recommendable to ensure public awareness (OECD, 2012). Public authorities should guarantee transparency in competitive tender processes and during the whole contract, especially in re-negotiations processes (OECD, 2012). Budgetary risks should also be handled transparently to

minimise fiscal risks in the future, as well as to ensure the integrity of the process (OECD, 2012)

Regarding the complexity of PPPs, the public sector requires certain skills, a clear legal framework, and institutional structures to implement the projects (OECD, 2012).

3.2 Types of Public-Private Partnerships

Public-private partnerships include all types of projects with participation of both the public and the private sector. Depending on their characteristics, PPPs can be classified in multiple categories, but there is no standard methodology to classify them (Delmon, 2010). PPPs can therefore be divided into different typologies depending on the selected criteria.

A. Classification by grade of implication of the private sector

One of the most broadly used criteria to classify PPPs is the grade of implication of the private sector. Figure 1 shows the classification suggested by the World Bank (2017) based on the mentioned criteria.

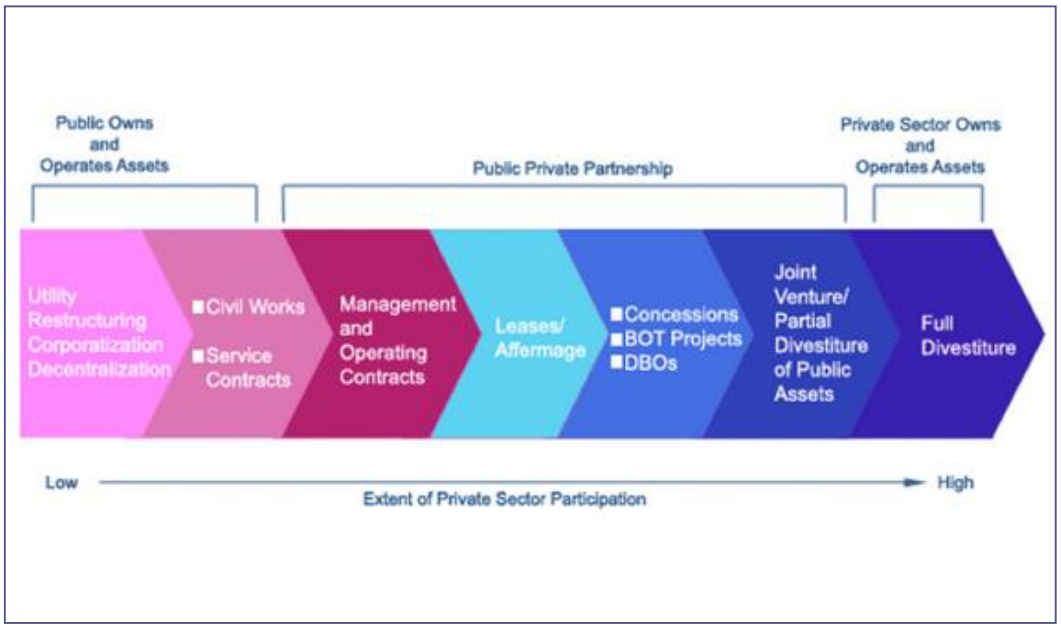

Figure 1. Type of projects in relation to the grade of involvement of the private sector. Source: World Bank (2017)

In the classification of the World Bank (2017) PPPs are divided into four main groups (see Figure 1):

- **Management and "Operation and Maintenance" Contracts**

  A private operator is contracted by the public sector to manage a range of activities for a short time period (from 2 to 5 years). Payments are usually a fixed fee, although there can be performance based fees and liquidated damages for failure to fulfill performance objectives.

- **Leases and Affermage Contract**

  The private operator is responsible for maintaining and operating the infrastructures, but the investment is under the responsibility of the public sector. The operator does not receive a fixed fee from the public sector, but receives payments from consumers. In lease contracts, part of the income is going to the public sector as owner of the infrastructures. In affermage contracts a portion of the charges to consumers is for the public sector for investments that the public authority has made or is going to make in the infrastructure.

- **Concessions, BOTs, DBO Projects**

  Concessions, Build-Operate-Transfer (BOT) projects, and Design-Build-Operate (DBO) projects are output focused PPPs. BOT and DBO projects involve significant design and construction as well as long-term operations. Large initial investments are involved for new infrastructures (Greenfield) or for significant refurbishment and extension (Brownfield).

  - Concessions: the private partner has the right to operate the assets with the responsibility for demand and some investment. The public partner keeps asset ownership and is commonly responsible for the larger investments.
  - Build-Operate-Transfer (BOT): BOT is usually used to build a discrete infrastructure, normally entirely new, although large refurbishments can also be involved. Under BOT concession arrangements, a private entity finances, builds, maintains, and operates a facility for a long-term contract period. Although privately managed, the assets are of public domain during the whole concession period, and the public sector takes control of them once the concession period ends. The private sector recovers the investment by obtaining an economic benefit from the operation of the facilities, either from the

public sector (like PFI contracts) or from charges to users (in some countries this type of BOTs are called concessions). PFI projects usually assume availability risks, while concessions assume demand risks. Similar to BOTs, Design-Build-Operate-Transfer (DBOT) projects include the design of the assets.

- Design-Build-Operate (DBO): The private sector designs, constructs and operates the infrastructures, but the public sector owns and funds the project.

- **Joint Ventures**

  Joint Ventures refer to projects where the public sector is a shareholder of the project company. The level of share ownership can vary: the public sector usually owns less than 50% to leave the investments off balance sheet or more than 50% to keep the control of the assets. Most key functions are typically delegated to the private sector.

Considering that in each type of PPP the involvement of the private sector changes, the distribution of risks between the public and the private sector is different for each type. When talking about PPPs, risk refers to any factor or event that threatens the success of a project, in relation to cost, quality, or time (European Commission, 2003), such as political, financial, construction, operation, maintenance, market, and legal risks (Kwak, Chih and Ibbs, 2009). One of the basis of PPP is that risks are transferred to the party that manages them best (OECD, 2012).

B. Classification by grade of legal definition of the partnership

From the legal perspective, PPPs can be classified in two categories: contractual PPPs and institutionalized PPPs (Commission of the European Communities, 2004). A PPP is considered as contractual when there is only a contractual relation between the public and the private sector, in contrast to institutionalised PPPs, where the public and private sectors are participant members of the corporation (Commission of the European Communities, 2004)

BOT arrangements are a type of contractual PPP, where public and private actors maintain separate roles and responsibilities, previously defined by a contractual agreement.

In contrast to BOTs, joint ventures are institutionalised PPPs and both the public and the private sector are shareholders of the project company.

3.3 Critical literature on PPPs

The literature about PPPs and BOTs described in Chapter 3.1 and 3.2 represents the technical literature on this field, which is also the most extent. The benefits for public authorities are emphasized, in order to argue the adequacy of PPPs for the management of infrastructures and services, often based on the idea that the private sector can operate infrastructures more efficiently than the public sector. Economic benefits for local governments are highlighted, along with the benefits of transferring risks to the private sector. However, benefits rarely refer to the effects of the projects on their environments and local populations. Similarly, the literature highlights the importance of an adequate management of risks as a key factor for success, but success is commonly measured in terms of profitability and the effects on the surrounding areas are usually forgotten.

In contrast to the mainstream literature, there are also critical articles that question the adequacy of PPPs for the management of services that were traditionally provided by the public sector. These articles inform about the concerns related to PPPs and criticize that infrastructures are being used as a resource to obtain economic profit, often forgetting that their main objective is to serve the local populations.

This chapter provides an insight to the critical literature on PPPs, with the aim of providing instruments for a critical evaluation the projects. The chapter is divided in two parts: the first part focuses on the concerns related to PPPs, and the second on the phenomenon referred as ‘the financialisation of infrastructures’.

3.3.1 Concerns about PPPs

The main discussion about PPPs refers to the conflict between the quality of the service that is delivered to the society and the profitability of the service, that is, a conflict between social and economic objectives. PPPs are only viable when investors can receive a payback from their capital, but this implies that only profitable projects can be constructed following a PPP scheme, which means, in turn, that projects that are socially beneficial but not economically profitable cannot be carried out with a PPP arrangement, unless additional payments from the public sector to the private sector are included.

There are, however, different points of view about this conflict.

From a neoliberal perspective, services with capacity to generate revenues should not be a function of the public sector, and hence, the public sector should not assume the related risks, which ought to be transferred to the private sector (Calia and Msall, 2011; cited by

Farmer, 2014). In this sense, the benefits of PPPs are based on the efficiency and know-how of the private sector. The neoliberal perspective has gained importance in the last decades and local authorities seem to be more inclined to let the management of public facilities to the private sector.

In opposition, from the perspective of the welfare state tradition, the public sector must be able to control the service provided to citizens. From this point of view, public intervention is essential to guarantee that public infrastructures provide common good to the served population. Applied to PPPs, the public sector should control the different steps of a project, in order to guarantee that the outcome is in benefit of the society.

The European Federation of Public Service Unions's (EPSU), in agreement with the latter point of view, informs of some of the public interest concerns around PPPs (Hall,2004; Hall, 2008).

I. The implications of long-term projects

Governments should be informed of the implications of long-term projects, so that future uncertainties are considered and risks are limited (Hall, 2004). Indeed, long-term contracts frequently involve renegotiations, which are often used by the private partner to improve the conditions of the contract, but usually against the public sector's interests (Hall, 2004). In this sense, public authorities should ensure a certain degree of flexibility to face new situations (Hall, 2004).

As underlined by the literature, PPPs are often used by governments to avoid the large initial investment required to construct infrastructures, but the costs might be transferred to the future, and hence, the implications for future generations should be taken into consideration. It must be taken into account that, no matter the way in which infrastructures are financed, the investment cost is always supported by the public, either from taxes or direct charges (Hall, 2008). "Private finance does not mean that private companies somehow subsidise the investments" (Hall, 2008, p.14).

Considering the future economic uncertainties in long term contracts, PPPs should not be planned with the only objective of avoiding the impact of the investment on public budgets, but to improve the efficiency of the infrastructures that are provided to the society (Ortega, de los Angeles Baeza and Vassallo, 2015). Regarding that the economic commitments involved by a PPP project may be unsustainable in

case of recession, governments should settle a clear limit to the budgetary commitments that are assumed for the future (Ortega, de los Angeles Baeza and Vassallo, 2015).

II. The danger of damaging working conditions

PPPs involve the danger of damaging working conditions. Previously existing public service workers' conditions can be worsened, while the newly created employments in the PPP are often precarious (Hall, 2004). As a matter of fact, a survey carried out by the EPSU in 2004 (EPSU, 2004; cited by Hall, 2004) showed that working conditions in PPPs did not follow sector agreements in some countries (EPSU, 2004; cited by Hall, 2004). The same survey showed cases in which workers were forced onto worse labour conditions. Furthermore, public employees are more committed towards the public service, in comparison of the employees of the private sector, who tend to follow private sector's interests (Hall, 2008).

III. Lack of transparency

There is a concern about the lack of transparency in the different steps of PPP projects, from the process of arrangement, to the operation of the infrastructures. Considering that PPPs can be classified off government's balance sheet and debt curb if they fulfil certain conditions (in the EU conditions are determined by Eurostat), information about the effects of PPPs in case of a failure could be hided or not clear. In relation to this, international codes of fiscal transparency recommend supplementary documents to inform about the possible liabilities (Hall, 2004).

In addition, competition in PPP projects is often limited to a few competitors, due to the high costs of competition, which may involve a lack of transparency. Competitors are often selected by public authorities and there is no open competition.

The corruption in the public sector is often used as an argument in favour of privatization, but EPSU argues that PPPs are as susceptible as other types of projects, providing examples from PPPs in Portugal, France, and Italy where corruption cases occurred (Hall, 2004).

In addition to the previous three concerns, lack of government accountability (Willems, 2014) and political opportunism (Carpintero and Petersen, 2013) have been related to PPPs.

Regarding the concerns mentioned above, mobilizations against privatizations and PPPs are ongoing, which demand referenda to decide whether a particular infrastructure or service is managed by the public sector or by the private sector. This is a trend in Europe and especially in Germany, where 300 referenda were carried out in 2007 related to public services, the majority of which resulted in favour of the public provision of services (Hall, 2008).

The following examples are provided by the EPSU (Hall, 2008) to illustrate some of the mobilisations against privatisations and PPP:

- In Meissen (Germany), citizens voted against the privatisation of hospitals.
- In Hamburg (Germany), mobilisations stopped the privatisation of water in 2004.
- In Hungary in 2004, citizens voted against the privatisation of hospitals.
- In Amsterdam (Netherlands), citizens voted in 2002 against the privatisation of the municipal transport service.

3.3.2 The 'financialisation' of infrastructures

In the actual context, influenced by the effects of the financial crisis in the late 2000s, there are two main factors that induce governments to seek private finance for the construction of infrastructures. First, governments face difficulties to obtain capital for the maintenance of the existing infrastructures, as well as to build new facilities, due to fiscal austerity, along with competition for funds with other organizations (Farmer and Noonan, 2014). Second, public treasuries suffer from high debts and deficits, which induce authorities to monetize their infrastructures in order to obtain capital (Farmer, 2014). Consequently, governments aim for obtaining value from assets that were traditionally considered off the private sector's limit (Haughton and Mcmanus, 2012).

With the objective of ensuring private investment for infrastructures, local authorities often promote the participation of international investors and global financial actors, which have started to play a notable role within local governance (Torrance, 2008). This implies that global agents participate in the planning of the configuration of infrastructures, and this way, they influence the everyday life of citizens by defining the spatial environment in which they relate with each other (McCann and Ward, 2011).

In this context, the interest of the private sector is taken into consideration for the design of inner city spaces, social facilities like sports stadiums, schools and hospital, as well as retail and residential areas (Altshuler & Luberoff, 2003; Orueta and Fainstein, 2008; Ponzini and Rossi, 2010). Critical voices such as Albo (2007) and Codecasa and Ponzini (2011) alert of the influence of private elites over urban politics in PPPs. Furthermore, Sclar (2009) informs of the dangers of separating infrastructure planning into separate projects with no relation with each other, with the only focus on the profitability of each individual project. This could alter the coordination and coherence among infrastructures that is required for a successful territorial planning.

3.4 Reflections on the literature

Despite the impact that BOT project could make on urban areas, this is scarcely analysed by the literature about PPP and BOT. This can be explained by the fact that BOT project schemes were typically used for large-scale infrastructures, mainly in the transport sector, and therefore, the impact on urban areas was not significant. However, due to the growing presence of BOT projects in urban environments, their influence on the urban landscape cannot be neglected anymore.

When benefits and risks are described in the literature, little attention is paid to the effects on urban areas. From the economic perspective, the literature underlines that the main reason for governments to use PPP for infrastructures is that the investment does not affect public budgets and debt levels, and thereby, projects that would otherwise be difficult to develop can be achieved. From the technical perspective, the benefits related to the knowhow of the private sector are highlighted, which is linked to an efficient management of the infrastructures. However, the potential benefits for surrounding urban areas and for the planning of cities are not mentioned in the literature, although they could be a valuable argument when the adequacy of a project is evaluated. Similarly, when the risks are assessed, the literature focuses on the events that can endanger the success of a project, usually from the economic point of view, but the risks for the surrounding areas and populations are usually neglected.

The impact on the urban environment is often forgotten by the critical literature too, which usually emphasises the direct economic and social consequences for citizens, but not the changes that BOT projects provoke on urban spaces and the way cities are planned. The effects of the financialisation of infrastructures, described in Chapter 3.3.2, are still not sufficiently studied.

Even less attention is paid by the urban planning literature to the use of PPP, and BOT in particular, as a tool for urban change, despite the potential benefits and risks of this project scheme as an urban planning instrument. Regarding the phenomenon of financialisation of infrastructures, as well as the concerns related to PPPs, the increasing use of BOT in cities could change the way cities are conceived and planned, which needs to be further studied. Moreover, the growing use of BOT for urban facilities brings the conflict between quality and profitability to cities, and consequently, the literature should alert urban planners of the possible consequences.

Thus, the study of cases of BOT projects that are located in urban areas could contribute to cover the existing gap, both in the literature about PPPs and the literature about urban planning.

Another issue that rises from the literature review is that **benefits and risks of PPPs are often studied disregarding that there are different types of PPP arrangements, each of them with different characteristics.** As described in Chapter 3.2, there are diverse types of PPP projects, with different grades of involvement of the private sector and different legal frameworks, which imply different distributions of risks between the public and the private sector. This means that the benefits and risks for the public sector vary depending on the type of PPP, and therefore, the literature should particularise the study of each type of PPP.

To illustrate the previously described issue, a comparison between BOT and other PPPs can be done. In contrast to Management Contracts, "Operation and Maintenance" Contracts, leases, and concessions - as defined by the World Bank (2017)-, in BOT the private partner is responsible for a large part of the risks. Alike in the other types of PPPs, in BOT a significant part of financial and construction risks are assumed by the private sector –delays, higher procurement costs, unexpected costs, etc.-, and in many cases demand risks are also transferred to the private partner -the inflation rate, the number of users, etc. This implies that in case of a failure of the project, a large part of the consequences is assumed by the private sector and not by the public sector. Another relevant difference is that in BOT contracts the private partner is involved during the whole life-cycle of the project, and not only in the operation, as occurs in Management Contracts, leases, and concessions.

If BOT and joint ventures are compared, there are important differences too. To start with, BOTs are contractual agreements where the responsibilities of each partner are well

defined by the contract. In contrast, joint ventures are institutional PPPs, which involve shared responsibilities, in accordance with the distribution of shares. If the private sector owns a significant part of the project company, then a considerable part of the risks is assumed by the private sector, like in BOT. However, the role of the public sector differs in each case, since in BOT the public sector's role is to control the private sector and to ensure that the contract is fulfilled, while in joint ventures the public and the private sector collaborate for a common goal. In addition, in BOT projects the public sector is the owner of the assets, while in joint ventures the private sector can own part of the assets.

There are also remarkable differences between BOT and privatisation, even if PPPs are usually related to privatisation. The most obvious difference is that in BOT the owner of the infrastructures is the public sector at all times, in contrast to privatisation, where the private sector is the owner. Table 1 aims for illustrating the differences between the types of PPP, including a comparison with public procurement and privatisation.

Table 1. Comparison between different types of public-private partnerships, in relation to their legal definition and the involvement of the private sector.

	Type of project	Legal definition of PPP	Owner	Financing	Design	Construction	Maintenance	Operation
	Public procurement	-	Public	Public	Public	Public	Public	Public
Public-Private Partnerships	Management and "Operation and Maintenance" Contracts	Contractual PPP	Public	Public	Public	Public	Private	Private
	Leases and Affermage Contract	Contractual PPP	Public	Public	Public	Public	Private	Private
	Concession (as defined by World Bank)	Contractual PPP	Public	Mainly Public	Public	Public	Private	Private
	Design-Build-Operate	Contractual PPP	Public	Public	Private	Private	Private	Private
	Build-Operate-Transfer	Contractual PPP	Public	Mainly Private	Public/private	Private	Private	Private
	Joint Venture	Institutionalised PPP	Public+Private	Public+Private	Public+Private	Public+Private	Public+Private	Public+Private
	Privatisation	-	Private	Private	Private	Private	Private	Private

Considering the relevant differences among the types, the study of PPP as an even group can lead to confusion, and thereby, research about PPPs needs to be further developed in order to particularise the implications of each concrete type. This can be important for practitioners, given that they need to be aware of the potential benefits and risks of the particular type of project that they are dealing with. In fact, each type of PPP may involve

different roles and skills. The scheme shown in Figure 2 suggests a shift on the way that PPPs are studied, from a general vision to a particularised study.

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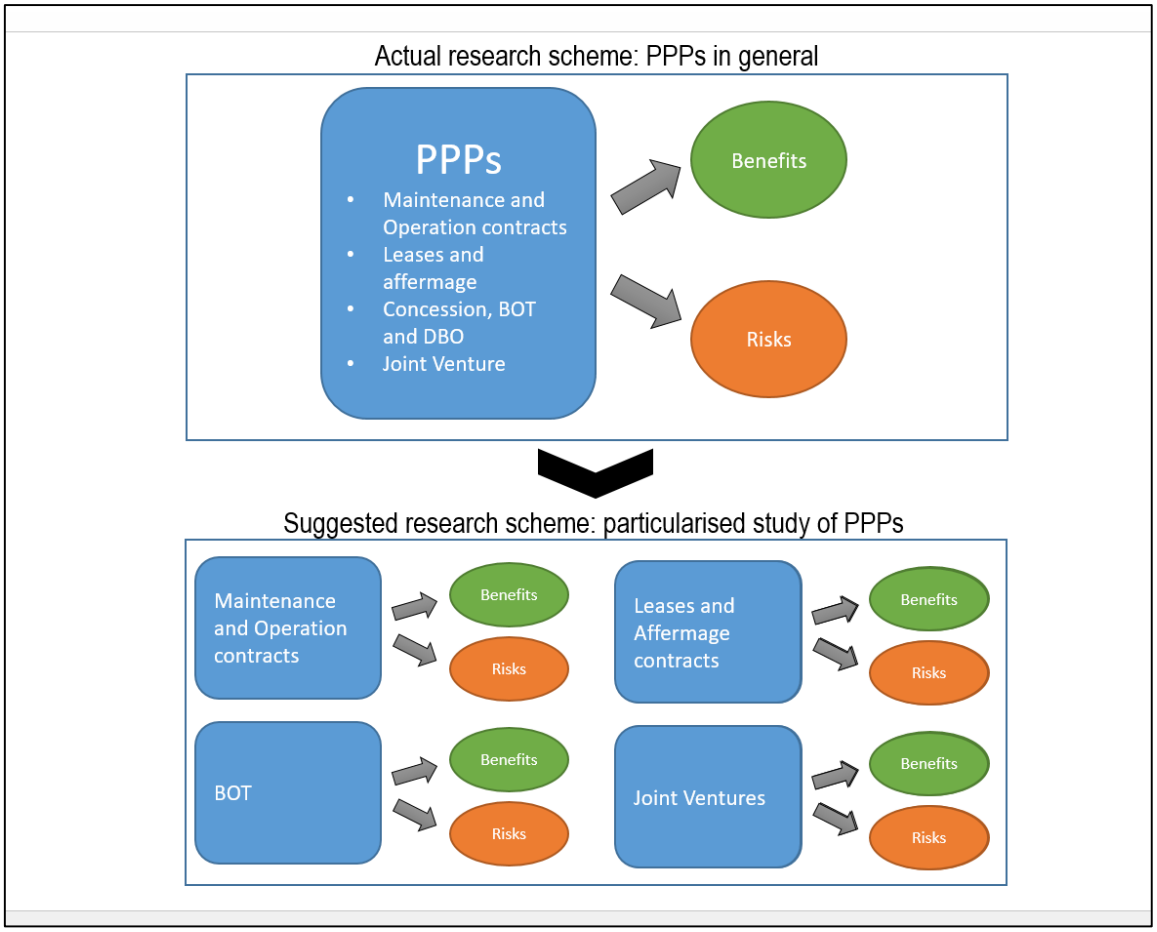


Figure 2. Shift on the research scheme, from a general study of PPPs to a particularised study of each type of PPP.

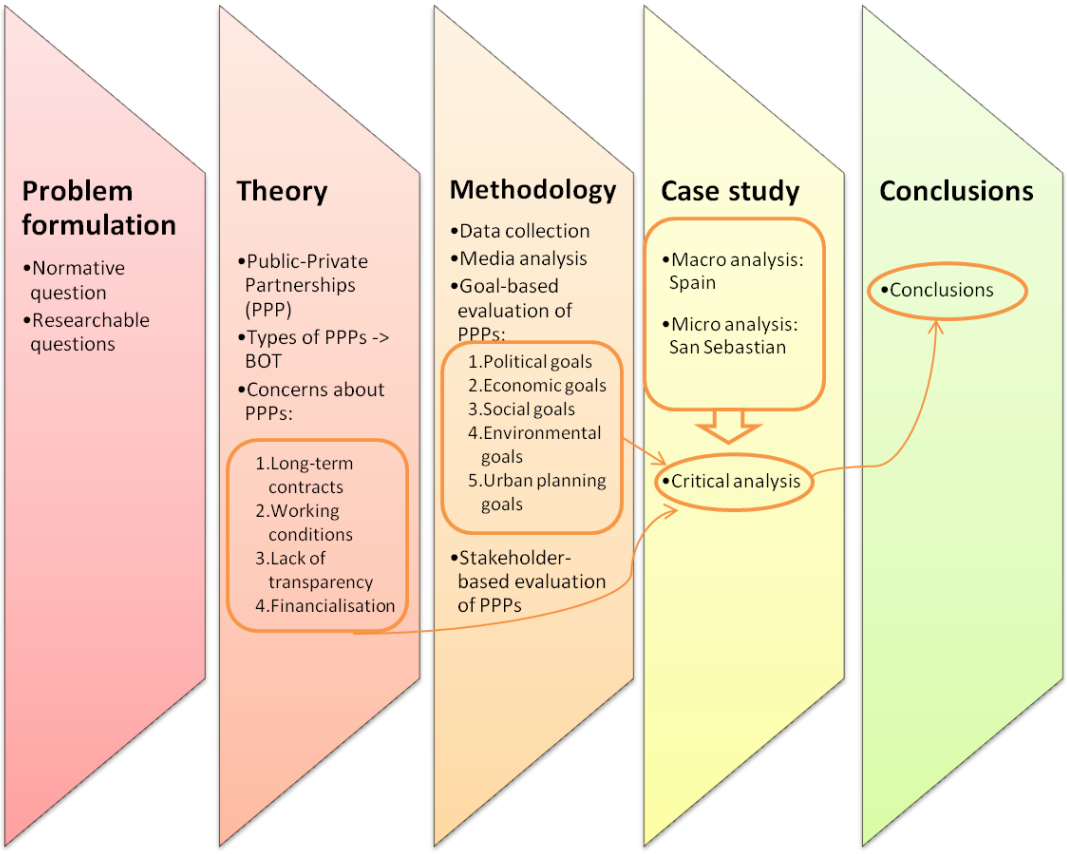
A well-described set of cases for each type of PPP could be clarifying and inspirational for practitioners, and in this sense, this master thesis contributes to the literature about the group of PPPs called BOT.

4. METHODOLOGY

The purpose of this chapter is to describe the research methodologies that have been applied in this master thesis.

As explained by Hodge, Greve and Boardman (2010), PPPs can be evaluated in many ways: at one extreme, there are subjective evaluations that can be based on personal impressions, and on the other extreme, there are more systematic assessments that aim for objectivity, which are usually based on statistical methods. PPPs can also be evaluated for diverse purposes: from the objective of improving the use of PPPs and learning about them, to the study of public policies from a broader perspective (Hodge, Greve and Boardman, 2010). The selected method should be in line with the followed objective, and consequently, the methods in this master thesis were selected in coherence with the problem that is being analysed and the goals that are followed.

4.0. Research design



4.1. Data collection

Several sources were consulted to obtain data about BOT projects in Spain, as well as data about concrete cases in the city of San Sebastian.

For the macro analysis of BOT projects in Spain, the information was obtained from a media analysis as well as from web pages of public and private organizations, from reports published by private companies and public organizations, from web pages of the civil society, from online journals dedicated to PPPs, and from journal articles.

Information about cases in San Sebastian was acquired from a media analysis (mainly in regional newspapers), from journal articles, from urban planning documents published by the municipality, and from the webpage of the municipality. In addition, the infrastructures and the surrounding areas were visited to obtain first hand information. Informal conversations with individuals involved in BOT projects were also done: workers from parking lot concessionaires, from the operator company, and from the constructor were consulted.

As mentioned before, **media analysis** was one of the main data sources for the case study. This methodology provides several benefits, but also limitations that need to be taken into account. For the present study, media analysis was chosen instead of other methods for the following reasons:

- ✓ Data about projects from different cities can be obtained. This was important in order to study the overall situation in Spain.
- ✓ Data about past projects can be obtained, regarding the difficulties to interview individuals involved in projects from the past.
- ✓ Interviews to politicians and public workers can be consulted, which would be difficult to carry out face to face due to the status of the interviewees.
- ✓ Data can be obtained quickly, considering the time limitations for the development of this master thesis.

The main national and regional newspapers were consulted, which give certain credibility and validity to the obtained information. In addition, the information was contrasted and completed by comparing different media sources and other documents, like planning documents and reports. In order to make this research reliable, the reference to the concrete newspaper and the date of the publication is shown in the text. All the sources

from the media are listed in Chapter 8, showing the link to the online webpages (all the links were verified the 4th of May of 2017).

Despite the benefits, media analysis as a research method presents certain limitations. To start with, first-hand information from urban planners could not be obtained, which would provide valuable information for the purpose of this research. Further research would be needed to deepen in the case of San Sebastian, in order to know more about the experience with BOT in the municipality. Interviews would be recommendable to obtain data about the conflicts, negotiations, risks and benefits for the municipality, as well as the role of planners in the BOT projects and the impact of BOT in the way planning is done in San Sebastian. Furthermore, media analysis can be valuable to consult objective data and facts, but from a qualitative perspective, it must be taken into account that the political information can be biased and there is a risk that not all happenings and conflicts are mentioned.

In spite of the limitations, the information obtained by the consulted sources is valid and reliable, and the obtained results can be relevant as a first approach to the study of urban BOT projects. Nonetheless, other research methods will be necessary in future studies in order to deepen in the research field opened by this work.

4.2 Terminology

Before describing the methodology used for the analysis of the case study, it is important to clarify the terminology used in this report, as well as the criteria that has been chosen for the classification of PPP projects.

As Delmon (2010) alerts, the terminology is often used confusingly in the literature about PPPs, which makes the study of PPPs more complex. In fact, the reviewed literature shows that there is no consensus about the use of the terms Public-Private Privateship, PPP, or P3. In some journal articles, PPP refers to any form of collaboration between the public and the private sector (see for instance Stadtler, 2016), while others refer to certain types of public-private collaboration. To illustrate this, there are articles that use the term PPP to refer to joint ventures between public and private organizations (see Goldstein and Mele, 2016), while others refer to BOT (see Ortega, de los Angeles Baeza and Vassallo, 2015).

As argued in the reflections from the literature (Chapter 3.4), the distinction between types of PPPs is relevant, given that the grade of involvement of the private sector and the legal

nature of the partnership can vary from project to project, with different effects for the public sector.

With the objective of being clear about the type of PPP that is analysed, the present master thesis focuses on BOT, based on the classification described by the World Bank (2017). In this report, BOT refers to a contractual PPP where a private entity finances, builds, maintains, and operates a facility for a long-term period, after which the assets are transferred back to the public sector. Projects that obtain revenues from the public sector and from charges to users are both included in the study. Other similar types of PPPs are also considered if the private sector is responsible for a large initial investment and the public sector keeps the ownership of the assets during the whole contract period, such as Design-Build-Operate-Transfer projects.

4.3. Macro and micro analysis

In this report, the case study is divided into a macro analysis, which assesses the general situation of BOT projects in Spanish cities, and a micro analysis, which analyses the particular case of BOT projects in San Sebastian. The macro analysis aims for providing a general perspective that helps to understand the concrete cases studied by the micro analysis. In turn, the study of cases in the micro level could provide enlightening examples that help to understand the situation in the macro level.

The first part of the **macro analysis** is based on a **media analysis**, to make a general an idea of the context. Apart from providing data about cases in Spain, news media analysis can provide an insight to the point of view of the population about this type of contracts, the discourses that are around PPPs, and the existing conflicts.

The second part of the macro analysis aims for quantifying the presence of BOTs in Spanish cities, in order to confirm the initial hypothesis: BOTs are a phenomenon that is present also in urban areas. A **quantitative approach** is followed for this purpose to provide an objective description of the number and type of BOT projects in urban areas in the country. First, projects are selected based on the previously established definition for BOT, and then, projects are classified depending on their location (inside urban areas/outside urban areas).

The results obtained from the quantitative analysis are completed with a **qualitative interpretation**, in order to reflect on the way in which BOT has been implemented in urban areas and for which purposes.

Once the general perspective has been described in the macro analysis, in the **micro analysis** the case of BOT projects in San Sebastian is studied in order to provide a more detailed view of BOT projects that have been implemented in urban locations.

4.4. Case study

The **study of cases** is a valid and valuable instrument in social sciences and in urban planning research in particular. In fact, the study of cases is especially important in urban planning, given that problems in cities are problems of organized complexity, which implies that general theories and solutions cannot be used reliably for the resolution of urban problems (Weaver, 1948). Thereby, taking into account the complexity of cities and human behaviour, the effects provoked by a change on the urban environment cannot be predicted accurately by using general theories or models. Consequently, the study of context-based individual cases is necessary for the study of problems in social sciences and in urban planning in particular (Flyvbjerg, 2006).

The experience in other cases can inspire planners that face similar problems, although they must be aware of the fact that each particular case requires a particular solution based on the context. Nevertheless, considering that there are no general theories that practitioners can apply, the experience in other cases can be a valuable reference for them, since they alert about the risks and conflicts that may happen, as well as the potential benefits that can be obtained. A well described set of cases of success and failure can therefore be a useful toolbox for practitioners.

For the study of the cases in San Sebastian, a method that is inspired in two other methods is used. These two methods, along with the method chosen for the analysis, are described in the following lines.

A. Goal oriented evaluation

For the evaluation of PPP cases, Hodge (2000) suggests focusing on three goals: the political perspective, the economic-financial perspective, and social objectives. Based on these three general goals, Hodge, Greve and Boardman, (2010) suggest a method for the evaluation of PPPs in relation to the three sectors that are normally involved in a PPP: the public sector, the private sector, and the community. Figure 3 represents the framework designed by Hodge, Greve and Boardman, (2010) for the evaluation of PPP cases.

Goals	Stakeholders		
	A Government	B Business	C Citizens/ community
1. Political/ governance	+ / −	+ / −	+ / −
2. Economic/ financial	+ / −	+ / −	+ / −
3. Social	+ / −	+ / −	+ / −

Figure 3: Conceptual framework for evaluating PPPs. Source: Hodge, Greve and Boardman (2010), p.11)

As a fourth goal, the environmental impact of the projects can additionally be assessed, as suggested by Hodge, Greve and Boardman, (2010).

Inspired by the framework defined by Hodge, Greve and Boardman, (2010), a goal-based evaluation method is defined for the analysis of the cases in San Sebastian. The four goals defined by Hodge, Greve and Boardman, (2010) are assessed (political, economic, social, and environmental), adding a fifth goal (the effects on the urban environment).

The goal-based evaluation can help to analyse the cases in order to answer the two research questions that lead to the main research question.

1. Regarding at the first research question, the goal-based approach helps to detect the political, economic, social, and environmental benefits and risks of urban-scale BOTs, as well as the benefits and risks from an urban planning perspective.

2. Regarding at the second research question, the way in which the conflict between quality and profit affects politics, economy, society and the urban and natural environment can be assessed. By looking at the goals followed by the local government, how an increasing use of BOT affects urban areas and planning activity can be studied.

The goal-based evaluation in this project does not make a distinction between stakeholders, given that the effects on stakeholders are assessed by the method described in the following section.

B. Stakeholder-based evaluation: methodology in PPPs for development

When analysing urban projects, social objectives gain especial importance due to the effects on local populations. In this sense, the methodology applied for the evaluation of PPPs for development can be of especial interest, given that the main objective of this type

of projects is the benefit for the community.

PPPs for development aim for addressing social challenges that public institutions have not succeeded to address, or which have few possibilities to succeed (Kolk, van Tulder and Kostwinder, 2008). Regarding the existing problems in areas like poverty, health, education, or water supply, public and private actors join forces to deliver goods and services to disadvantaged population segments (Bull and McNeill 2007; cited by Stadtler, 2016).

In order to evaluate PPPs for development, Stadtler, (2016) uses a stakeholder-oriented approach that aims for analysing the impact of the project on all the involved actors. This framework is based on Austin and Seitanidi's (2012) multilevel value assessment, which studies meso, micro, and macro levels. When internal benefits are evaluated, the meso level refers to the benefits for the partner organizations and the micro level to the individuals that form those organizations. When external benefits are evaluated, at the micro level the effects on individuals are assessed, at the meso level effects on other organizations are assessed, and at the macro level systemic changes are evaluated. Stadler (2016) does not differentiate between external and internal benefits, arguing that a PPP concerns all citizens, since projects usually involve taxpayer's money. Considering the long-term dimension of PPP projects, Stadler (2016) suggests to analyse short-term, medium-term and long-term effects.

For the analysis of the case, a method inspired in Austin and Seitanidi (2012) and Stadler (2016) is applied, given that the methodology used for the evaluation of PPPs for development helps to detect all the affected stakeholders. In the applied method Austin and Seitanidi's (2012) multilevel assessment is used, which differentiates micro, meso and macro levels, including the distinction between internal and external stakeholders. Internally, the meso level includes the consequences on the partner organizations, in this case the municipality and the companies that take part on the concessionaire, and the micro level includes the effects on the individuals that participate directly in the project, either in the municipality and the private companies. Externally, the micro level includes nearby populations and direct users of the infrastructures, the meso level assesses other organizations affected by the project, and the macro level the effects on the citizens of the city as a whole.

4.5. Resume of the methodology

Methods		Purpose
Data Collection	*Site visits*	• Provide a first-hand understanding of the cases that are being analysed. • Photos of the visited sites were taken, which serve to illustrate the cases for a better understanding of the reader.
	Document analysis	• Provides data about the studied cases • Provides data about urban planning in San Sebastian. • Provides data about companies involved in BOT projects.
	Media analysis	• Provides data about past and present cases in Spanish cities and in San Sebastian. • Interviews and public speeches of elites, politicians and public workers can be found. • A general overview of the context is obtained, as well as an idea of the perception of the population about the problem.
	Journal articles	• Provide data about cases of BOTs in Spanish cities
	Informal interviews	• To clarify concepts from the literature and obtain a better understanding of how BOTs work. • To contrast information from the media analysis. • To obtain first-hand information about the studied cases in San Sebastian.
Macro analysis	*Quantitative assessment*	• To verify that BOT is a phenomenon that is present in Spanish cities. • To analyse the type of projects that are managed by BOT.
Case study	*Goal-based evaluation*	• To detect the effects of the projects in relation to political, economic, social, environmental, and urban planning goals.
	Stakeholder-based evaluation	• To detect all the affected stakeholders

5. CASE STUDY: BOT PROJECTS IN SPAIN

BOT contracts have been broadly used in Spain. As a matter of fact, a considerable part of the country's main infrastructures have been constructed using PPPs that follow the BOT scheme, mainly in the transport sector (see Ortega et al., 2015). More recently, new types of BOT arrangements have been applied in sectors other than transport infrastructures, such as healthcare facilities (see Caballer-Tarazona and Vivas-Consuelo, 2016).

BOT infrastructures were typically large infrastructures, mainly located away from urban areas, but in the last years there is a growing presence of this type of project inside Spanish cities (see Lopez-Lambas and Monzon, 2010). BOTs are not new in Spanish cities, since they were previously used, for instance, for the construction and operation of parking lots (see Machín, 2015), but the use has extended to other fields in the recent years.

Despite the presence of BOT projects in Spanish cities is growing, their impact is still not sufficiently analysed by the existing literature and there is few information about this topic, as occurs in the global context. Thus, further research is needed in order to analyse the extent to which BOT projects are being implemented in Spanish cities and for which kind of infrastructures.

As described in the methodology (Chapter 4.3), the study of urban-scale BOT projects in Spain is divided in two sections in this report: a macro-analysis (Chapter 5.1) and a micro-analysis (Chapter 5.2). The macro analysis includes, first, a media analysis that covers the main Spanish news journals and other online sources, and second, the development of a list of the main BOT projects in Spain, along with the assessment of the corresponding types of infrastructures. The micro analysis focuses on the particular case of BOT projects in the city of San Sebastian.

5.1 MACRO-ANALYSIS: BOTs in Spain

5.1.1 Media analysis

With the aim of making the reading of this report easier, only the conclusions obtained from the media analysis are described in this chapter. The complete media analysis can be consulted in Annex 1.

The study of the Spanish media, both the traditional newspapers and web pages, shows that two main topics related to BOT projects have been covered. First, there has been a considerable presence of cases of failure in the media since the economic recession that started in 2008. In fact, the recession has provoked the failure of several projects in Spain, with terrible effects for public budgets, and consequently, these cases have been broadly covered by the media. The cases of toll highway concessions in Madrid and the airport of Castellón are two clear examples. Second, the debate about the private management of public hospitals had great repercussion in the media, especially in the cases of PPP hospitals in Madrid and Valencia regions.

The failures of toll highways in Madrid and issues with PPP hospitals in Madrid and Valencia (see Annex 1) have fuelled the debate about the adequacy of the private management of infrastructures, and thereby, about the adequacy of BOT concessions as a formula to construct and operate infrastructures. When control and transparency lack, as seems to have occurred in the case of toll highways and hospitals, not only is the service provided to citizens affected, but society can lose confidence on PPPs as a model for the delivery of infrastructures. This affects the reputation of PPPs in general and BOTs in particular. **Problematic cases should be clarified in order to be able to justify the future use of BOT projects for the construction of public infrastructures**.

This debate is not only present in the mainstream media, but also in more informal means, such as blogs and web pages, and many associations have been created by the civil society to defend public management. Therefore, the debate has probably reached large segments of the Spanish citizenry. However, there is an arguable doubt about the public's knowledge about how this type of projects work, given that the framework of BOT concessions is usually not clearly explained by the journals, or it is barely mentioned. Nevertheless, it is remarkable that **information sources have multiplied due to the impact of internet, which has facilitated access to information about PPP projects and has opened new arenas for discussion and data exchange**.

The alternative media in internet can therefore contribute to transparency in PPP projects and BOT projects in particular.

The experience with toll highways in Madrid shows that BOT projects may involve considerable **risks for the public budgets, due to the Responsibility of the Public Administration** (see also Ortega et al. 2015). Although financial and technical risks are transferred to the private sector, there is a risk that the project collapses, and in this case, the public sector has to pay for the non-recovered investment. Related to this, the case of toll highways in Madrid reveals a problem that was not mentioned in the studied literature: if a company is at the same time the concessionaire and the constructor of the infrastructures, there is a **risk of construction over-costs**, given that the constructor keeps the benefit in case of collapse of the project, while the concessionaire's losses are partly assumed by the public sector due to the Responsibility of the Public Administration.

Moreover, BOT projects may involve **corruption or lack of transparency** when public authorities do not oversee the different stages of the concession, especially the construction stage, which could generate high benefits to the constructor and losses to the concessionaire. Furthermore, the case of PPP hospitals in Spain confirms that private management of infrastructures is not free from corruption, as alerted by Hall (2008).

As a final remark, the media analysis from the main Spanish newspapers shows that focus is usually on large-scale infrastructures (highways, airports, hospitals). Nonetheless, the media analysis developed for the micro analysis (Chapter 5.2), shows that small-scale urban BOT projects have considerable repercussion on regional and local media.

5.1.2 Assessment of the main urban-scale BOT projects in Spain

In order to study the actual situation of urban-scale BOT projects in Spain, a list of the projects built and operated by the main Spanish companies of the sector is developed. This assessment does not intend to analyse the outcome of the listed projects, but to describe the variety of public facilities that are actually managed by the private sector through BOT contracts. PPP projects that did not involve a Build-Operate-Transfer scheme were not included in this list, and hence, it must be taken into account that the collaboration between public and private actors in Spanish cities is much broader than the listed projects.

For this analysis, first, the main companies that participate in BOT projects were detected, then the concessions managed by these companies were listed, and afterwards, the projects were classified according to the type of infrastructures. Since the objective is to

analyse projects located in urban areas, infrastructures were also classified according to their presence or not in urban environments.

5.1.2.1. Company selection

The journal Public Works Financing (PWC) publishes a yearly ranking of the world's largest concessionaires (that is, companies that manage PPP contracts or 'concession' contracts). In the last ranking published in 2016 (Cinco Días, 2016) five Spanish companies were among the ten largest concessionaries in the world: ACS (1st place), Abertis (3rd place), Ferrovial (4th place), Sacyr (6th place), and Globalvía (7th place). This ranking reflects the importance of PPP infrastructures in Spain.

Apart from these five companies, the projects managed by the National Association of Independent Constructors (Asociación Nacional de Constructores Independientes - ANCI) were included in the list, due to their considerable presence in the sector. The study was completed with an additional dataset that includes the two main parking lot management companies in Spain (Saba and Empark) in order to obtain a more accurate picture of the presence of BOT in Spanish cities.

The following companies were therefore included in the analysis:

- Iridium (ACS Group)
- Abertis
- Cintra (Ferrovial Group)
- Sacyr
- Globalvía
- ANCI (Aldesa, Assignia, Azvi, Bruesa, Copasa, Copcisa, Copisa, Cyopsa-Sisocia, Detea, Joca, Lubasa, Marcor Ebro, Ploder, Grupo Puentes, Rover Alcisa, Rubau, Sando, Sarrión)
- Parking concession companies:
    - Saba
    - Empark

The data was obtained from their corporative web pages, except from the information about ANCI projects, which was obtained from a dossier published in 2009 by this association (ANCI, 2009).

5.1.2.2. Project classification

The listed projects were classified according to the type of infrastructure. Only BOT type projects were considered, which means that other PPP contracts that did not include a high initial investment were not included, such as service concessions. Projects were afterwards divided into two groups depending on their location: urban projects and non-urban projects.

At least 254 BOT concession contracts were listed for the assessment, without considering Saba and Empark, which would increase the number considerably, regarding that Empark manages 154 parking lots only in Spain (Empark, 2017) and Saba manages 371 parking lots in total including other countries (72% of their incomes in Spain) (Saba, 2017).

The resulting data can be consulted at Annex 2.

5.1.2.3.. Results

The selected 254 BOT contracts include at least 338 infrastructures of different kinds. Based on the projects detected in this assessment, the list shown in Table 2 illustrates the type of infrastructures that are actually managed by BOT schemes in Spain.

In relation to the location of the projects, the assessment shows that **BOT projects have an important presence in Spanish cities**. In fact, 50% of the listed concessions were located in urban environments or in proximity to urban areas (128), while the other 50% were located away from urban areas (126). If the parking lot concessions managed by Saba and Empark are included, which sum more than 500 projects in Spain, the number of urban BOT projects increases considerably, since the majority of parking lots are located in urban areas.

In relation to the type of infrastructures managed by BOT contracts, the assessment shows that **BOT schemes are used for multiple purposes in Spain**, and not only for transport infrastructures as frequently thought. Indeed, the assessment shows the large variety of infrastructures that are based on BOT, both in urban and non-urban areas. This implies that there are multiple kinds of facilities that are publicly owned but are financed, built, and operated by the private sector in Spain. This result is in contrast with the situation in other countries like Denmark, where BOT contracts are scarcely used (see Petersen, 2010).

The results show that **many infrastructures that are part of the welfare system are based on BOT**. In fact, the listed infrastructures represent **key sectors that affect the wellbeing of citizens**, like transport, health, education, waste treatment, safety, and energy.

Table 2. Type of BOT projects in Spain, classified depending on whether they are located in or off urban areas.

In urban areas	Off urban areas
Court buildings	Toll highways, highways and roads
Schools	Ports
Hospitals and Health Centres (in most cases only non-medical services)	Highway service areas
Sports centres	Logistic centres
Geriatrics and nursing homes	Industrial building
Social and cultural buildings	Parking lots
Student residences	Waste-water treatment plants
Congress centres	Irrigation infrastructures
Leisure centres and shopping malls	Prisons
Offices	A desalination plant
Hotels	Office buildings
Leisure docks	An airport
Social housing	Municipal waste treatment plants
Light-rail and underground lines	Waste treatment plants
A market	A solar energy plant
A investigation centre	Railways
Police stations	Tunnels
Public transport stations	
Parking lots	

In addition, BOT has been used in **projects that contribute to sustainability**. The solar energy plant built in La Rinconada (Sevilla) may be the clearest example, but other infrastructures like waste-water treatment plants and waste treatment plants are also essential to achieve the goal of sustainability. Moreover, mobility is a key factor in order to reduce carbon-emissions and energy consumption, and BOT projects can be used to improve the existing transport infrastructures, as well as to construct more sustainable transport lines. In this sense, BOTs have been used in Spain to modernise both road and

rail infrastructures, including urban public transport infrastructures like light-rails and undergrounds. BOT was also used to construct and modernise public transport intermodal stations in Madrid, which contributes to enhance the use of public transport in this city.

Another result from the analysis is that several concession contracts include **multiple infrastructures that are managed together**. Infrastructures that are likely to produce higher revenues – like hotels or parking lots - were joined together with other less profitable infrastructures, to ensure the construction of the latter. Similarly, in other cases civil works with no related economic benefit were included together with facilities with capacity to generate revenues. This way, governments can carry out civil works with no damage to their budget, while transferring the economic and technical risks to the private sector.

A remarkable result is that some of the infrastructures included in Spanish BOT contracts are typically assumed as part of the **private sphere**. This is the case of facilities such as hotels, leisure centres –including shops, cinemas, etc.-, and offices. Therefore, the **public sector acts as the promoter of businesses with the aim of generating incomes for the public budget**. The public sector is the promoter and owner of the businesses and obtains a part of the benefit, directly by payments from the private sector, or indirectly, in the shape of civil works or infrastructures included in the arrangement.

5.2 MICRO-ANALYSIS: BOT projects in San Sebastian

The macro analysis developed in Chapter 5.1 provides an overview on the general situation in Spain, which serves as a basis for the study of the particular case of BOT projects in San Sebastian.

San Sebastian is the capital city of Gipuzkoa province, in the Basque Country. The city is located in the north cost of the Iberian Peninsula, 30 km distance from the border with France. It is a mid-size city, with 186.000 inhabitants in 2015 (INE.es, 2016) and 435.600 in the metropolitan area in 2010. The axis San Sebastian-Bayonne is a relevant social, economical, and touristic development pole in South-western Europe. Commerce and tourism are the two main economic activities of the city, although the city is also an important cultural centre. Indeed, San Sebastian Film Festival is one of the most famous film festivals in Europe and the city has been European Culture Capital in 2016.

The Strategic Plan 2020 (San Sebastian Municipality,2010) defines the kind of city that the

municipality wants for the future, and in order to achieve the established goals, the importance of public-private collaboration is highlighted in this document. The Strategic Plan 2020 underlines the need for coordination and collaboration among public institutions, but also among public and private institutions, as well as between the public sector and civil society. Public-private collaboration is promoted to create synergies among society, university, companies, and public institutions.

Apart from the mention in the Strategic Plan 2020, there are few references to PPPs in planning documents. In spite of this, PPPs, and more concretely BOT, have been used for diverse types of infrastructures, as described in the following chapter.

5.2.1 Description of cases of BOTs in San Sebastian

BOT concessions have been applied for multiple types of infrastructures in San Sebastian. In the present chapter, the experience with the following infrastructures is described: (1) parking lots, (2) shopping centres, (3) a bullfighting ring, and (4) a waste-to-energy plant. The latter is located out from the limits of the city core but it has been included due to its effects on the waste management of San Sebastian. Additionally, (5) other projects are described, such as a bus station, hotels, and a sports centre.

1) Parking lots

Parking policies are one of the key measures implemented by the municipality to promote sustainable mobility and walkability in the city of San Sebastian, as underlined by the Mobility Plan 2008-2024 (San Sebastian Municipality, 2008). Among the measures, the construction of underground parking lots can be highlighted. There are actually 16 public underground parking lots in the city, apart from other public parking facilities that are only for locals (San Sebastian Municipality, 2017). All these parking lots were financed, constructed, and are actually operated by the private sector following a BOT scheme.

The construction of underground parking lots is not new in the city, since it started in 1968 with the parking lot under Okendo Plaza. Two additional parking lots were built in the 1970's –Cervantes and Cataluña- and two more in the 1980s -Easo and Txofre (Machin, 2015). Between 1993 and 1995, in the context of the New Plan of Circulation and Transport, three additional parking lots were constructed, with the objective of closing vehicle traffic in several streets (Machin, 2015). The municipality continued with this strategy and new underground parking lots were built in the next years, followed by the enlargement of the area provided to pedestrians in the city (Machin, 2015). The most

recent parking lot was built in 2015 under the new bus station. In 2017 the process of regulating vehicle traffic continues (see Figure 4).

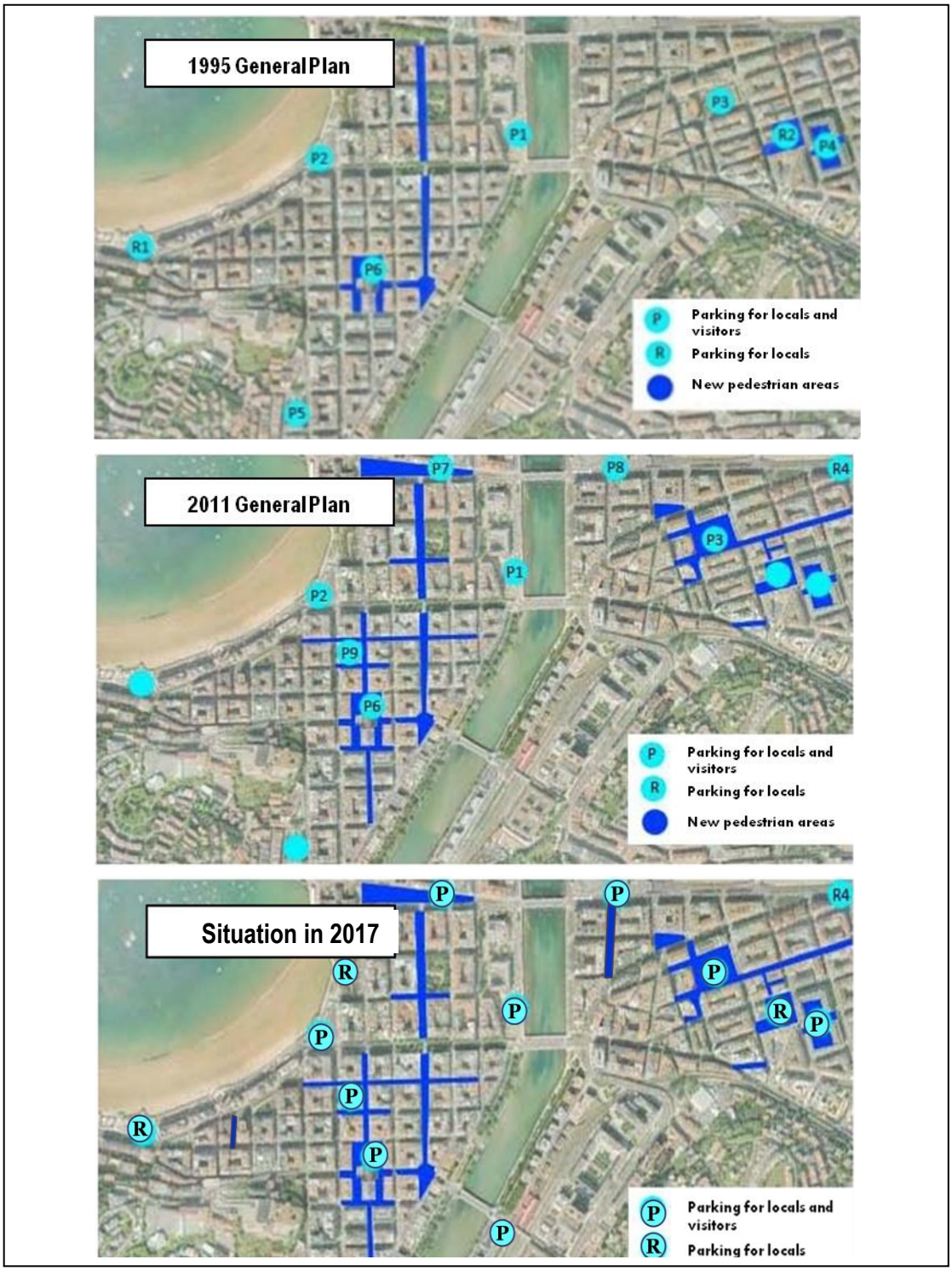


Figure 3. : Relation between the construction of underground parking lots and car-free areas. The plans in 1995 and 2011 are compared with the real situation in 2017. Modified from Machin (2015).

Not only did the construction of underground parking lots facilitate the reorganization of vehicle traffic and the creation of new spaces for pedestrians, but served as a stimulus for the renewal of the surrounding areas. New public spaces were built above the parking lots, creating some of the most popular plazas in the city. The transformation of Plaza Cataluña square after the construction of a new underground parking lot is a great example of how BOTs can be used for the regeneration of urban areas –see Figures 5 and 6. In this case, the public square was totally renewed when the initial contract ended.

Figure 5: Plaza Cataluña above the underground parking lot (2017)

A BOT scheme was used, with a 50 years concession period, during which the private sector financed the construction of the new underground parking and the surrounding public spaces, receiving a payback from the operation of the facilities (payments from users). The private partner pays a part of the revenues to the municipality as a fee (the competition was awarded to the consortium that offered the highest payment, fulfilling the required technical conditions). The design of the public square was under the responsibility of the municipality and the design was previously consulted to the neighbours by a public participation process in 2006 (epeuskadi.es, 16/10/2006).

Figure 6: Plaza Cataluña above the underground parking lot (2017)

Similar project schemes were also used for the construction of the other underground parking lots in the city, and, in most cases, the result was the renewal of the public spaces above the parking lots and the reduction of on-street parking in surrounding areas (see Figures 7 to 9).

Figure 7. Public space above the underground parking lot in Plaza Cervantes (2017).

Figure 8. Public space above the underground parking lot in Okendo Plaza (2017).

Figure 9. Public space above the underground parking lot in Boulevard (2017).

In spite of the benefits, some conflicts emerged. In 2016, the workers contracted by four concessionaires protested for their working conditions and went on strike (ElDiarioVasco.com, 7/08/2016). Newly contracted workers claimed that their conditions

were worse than the workers with an old contract and they protested that their salaries were not fair enough considering that their working calendar included weekends, festivities, and night hours. The strike lasted several days, until an agreement was achieved with the company, but during those days the operation of the parking lots was developed with fewer workers, which had effects on the service provided to users.

2) Shopping Centres: Arcco Amara, Illunbe, La Bretxa, and San Martín.

In the decade of 1990s, the number of shopping centres located outside urban areas increased considerably in the Basque Country, also in the influence area of San Sebastian. The decentralisation of shopping areas was an international phenomenon, which, in many cases, affected negatively to the vitality of city centres. Consequently, there was a concern about the possible effects on San Sebastian city centre, which encouraged the municipality to promote alternatives to the peripheral shopping areas. In this context, one of the implemented measures was the construction of shopping centres within the urban core of San Sebastian, and the BOT project scheme was chosen for this purpose.

BOT has been used for the construction and operation of four shopping centres in different areas of San Sebastian: Arcco Amara, La Bretxa, Illunbe, and San Martín.

Arcco Amara

Figure 10: Arcco Amara. Source: www.arccoamara.com

Arcco Amara (Figure 10) was the first project of a shopping centre built inside the urban core of San Sebastian, at Amara Berri neighbourhood. Alike other peripheral shopping areas, Arcco Amara was based on smaller scale retails. The competition was awarded in 1994 and the contract included the financing, the construction, and the operation of the

shopping mall for 50 years (DiarioVasco.es, 22/11/2008). The private partner compromised to pay the municipality a yearly sum of 245.000 Euros actualised with the inflation rate (DiarioVasco.es, 22/11/2008).

Problems started however from the beginning of the concession period, given that the private partner considered that the payments to the municipality were too high (DiarioVasco.es, 22/11/2008). In fact, the concessionaire stopped paying the fee only two years after, in 1996, and the debt with the municipality increased every year, which arise to more than 4 million Euros in 2008 (DiarioVasco.es, 22/11/2008). The situation was even worse, given that the debt involved also retailers (DiarioVasco.es, 22/11/2008). As a consequence, there were long negotiations between the private sector and local authorities, which included negotiations about the reduction of the amount that had to be paid to the municipality in order to ensure the viability of the shopping centre (DiarioVasco.es, 22/11/2008). Arcco Amara is in function in 2017, but the situation is still problematic.

Illunbe

The next shopping centre built in the city by a BOT was Illunbe, which included a bullfighting ring apart from a shopping area with retails, bars, restaurants, and cinemas. In fact, the bullfighting ring was the main building of the BOT, and the project is therefore described in a section apart.

La Bretxa market

Soon after Illunbe, in 1997 the traditional market La Bretxa (Figure 11), within the old city, was transformed to include a shopping centre, bars, restaurants, and a cinema, apart from the traditional market. A BOT contract with a concession period of 51 years was contracted by a competition.

When this transformation was planned, the main objective of the local government was to protect local commerce, and based on this principle, the new shopping centre had to follow strict regulations, including the protection of the building and the preservation of the jobs of the previous traditional market (DiarioVasco.com, 2/06/2007). The size of the shops was also limited in order to protect local retailers. As a result, the shopping centre was a hybrid between a shopping mall and a traditional market.

Figure 11: La Bretxa market in 2017.

The hybrid model of shopping centre did not succeed and in 2003 the concessionaire had already accumulated a debt of 1,6 million Euros with the municipality, due to the fee to the municipality included in the contract. In order to rescue the concession from the bankruptcy, the municipality reached an agreement with the concessionaire and a part of the debt, 228.000 Euros, was forgiven in exchange for the 6% of the participation in the concession.

In 2007 the concession was transferred to another investor, who was obliged by the local government to buy the 6% of the municipality's participation for near 1 million Euros, in order to pay the existing debt with the municipality (DiarioVasco.com, 2/06/2007). The previous concessionaire explained that the yearly payments to the municipality supposed the 25% of the incomes and hindered the continuity of the business (DiarioVasco.com, 2/06/2007).

Despite the failure, the project did not suppose any cost for the public budget, and between 1997 and 2007 the municipality received more than 4 million Euros from La Bretxa, apart from the renewal of the buildings and the surrounding public areas (DiarioVasco.com, 2/06/2007).

In 2009 the new concessionaire invested 1 million Euros more to modernise the facilities, with the objective of reactivating the business and attracting more clients (DiarioVasco.com, 20/11/2009). However, the situation did not improve and the economic

crisis provoked the closure of several retails and the cinema.

In 2015, after a long negotiation with the concessionaire and retailers, the local government and the concessionaire reached an agreement to reduce the dimension of the shopping centre, so that the municipality would take control of one of the two buildings of La Bretxa (NoticiasDeGipuzkoa, 8/05/2015; NoticiasDeGipuzkoa, 25/05/16). In turn, the amount of the yearly payment would decrease. Due to the closure of the retails located in the mentioned building, the affected retailers reclaimed the concessionaire and the municipality for the future benefits that they expected to obtain from their businesses.

In 2016 a new concessionaire took control of the shopping centre. Part of the building that was in public hands was again provided for the concession, and consequently, the yearly payments to the municipality increased again proportionally (NoticiasDeGipuzkoa.com, 2/07/2016).

San Martin market

The newest shopping centre managed by a BOT concession in San Sebastian is San Martin market, also in the city centre. The old market, built in 1884, was removed to build a new modern shopping centre that would include the previously existing food market, together with an underground parking lot, bars, a supermarket, and a gym -although the gym was closed later. The new market opened doors in 2005 (see Figure 12).

The project arrangement in the case of San Martin market is different compared to the previously described cases, given that in this case the municipality is part of the concessionaire that manages the building. A mixed company between the municipality and private investors was created for this purpose (BOG, 7/12/2000). In contrast to the other BOT shopping centres in the city, the concessionaire -the mixed company- did not have to pay additional fees to the municipality during the concession period. Thus, this project is a mix between a BOT and a joint venture.

The contract regulates how the traditional food market must be managed and establishes penalties in case of non-compliance (BOG, 7/12/2000). Other types of businesses are permitted if they are in accordance with the general function of the building (BOG, 7/12/2000). Like the other BOT shopping malls in the city, one of the main goals is the provision of attractive shopping alternatives in the city centre for the competition with other suburban shopping centres, but in this case only large shops were included and not small shops as in the previous experiences.

Figure 12: San Martin market in 1988 and 2017.
Source of the picture from 1988: guregipuzkoa.net, posted by Mariona Tella.

The new market succeeded for various reasons. First, the new building contributed to modernise the area. Second, the construction of a new underground parking lot permitted to close vehicle traffic in Loiola street, creating a comfortable and walkable space for pedestrians. And third, the new market attracts visitors to the surrounding streets, and as a consequence, the retails and bars of the area can reach to more potential clients.

3) Bullfighting ring Illunbe and leisure centre

The concession for the construction and operation of Illunbe complex was formed by a bullfighting ring (Figure 13) and a leisure centre. It was awarded in 1997 to a company from the bullfighting sector, NDA, in this case with no competition (DiarioVasco.com, 15/03/2008).The main reason to avoid the competition was probably the political debate around the adequacy of bullfights, which provoked confrontations between political parties,

as well as social mobilization against them. The left-wing party HB and a local company, Sade, brought actions against this concession for not having celebrated a competition and their demands were accepted by the High Court of Justice of the Basque Country in 2001 - ratified by the Supreme Court in 2004 (DiarioVasco.com, 15/03/2008). However, the municipality and NDA achieved to avoid the nullity of the concession contract in 2007, due to the large compensations that the concessionaire would have to pay to retailers in case of termination (DiarioVasco.com, 15/03/2008). In the major Odon Elorza's words, the agreement to avoid the termination of the contract was achieved after "four months of complex and difficult negotiations" (DiarioVasco.com, 15/03/2008). Nevertheless, the company that operated the cinemas and at least four pubs demanded the nullity of the concession and they got compensations, in the case of the cinemas of 6,1 million Euros (DiarioVasco.com, 15/03/2008).

Figure 13. Bullfighting ring Illunbe. The shopping centre is located behind in the picture.

In spite of this, the bankruptcy of the project could not be avoided: in 2010 the concession contract was finally terminated and the municipality had to take over the infrastructures, which supposed a compensation of 21 million Euros to the concessionaire (NoticiasDeGipuzkoa.com, 8/10/2016).

In the last years, the bullfighting ring building has been used for several purposes besides bullfights, like basketball games, but the leisure centre has been closed. In 2016 the facilities around the bullfighting ring were sold to private investors, who plan to reform the area and open a new leisure centre and a hotel (NoticiasDeGipuzkoa.com, 8/10/2016). The

municipality continues being the owner of the bullfighting ring building.

4) Waste-to-energy plant in Zubieta

The future waste-to-energy plant in Zubieta is not an urban project, given that it will be located 10 km distance from San Sebastian, but it is described in this section due to its relevance for the citizens of the city. In fact, the infrastructures will treat the waste generated in Gipuzkoa region, and therefore, it will make an impact on the city. Furthermore, this project has a great repercussion in the city, regarding the concern about the possible effects on the health of the surrounding populations and the related social mobilizations.

The project was initially managed completely by the public sector through an agency called GHK. The public sector financed the infrastructures and contracted the construction and the operation to private companies, but the control was in public hands at all times. The construction began, but it was soon cancelled in 2011 due to opposition of the newly elected local and regional governments. Thereby, the project stopped when the construction was already ongoing and the regional government had to compensate the constructors and the future operator.

The project was reactivated again after the political change in 2015, both in the municipal government of San Sebastian and in the region of Gipuzkoa. A new project scheme was designed this time, based on the BOT model of PPP. This project scheme was chosen, first, because of the large investment that the regional government would have to face in a moment of economic recession, and second, due to the refusal from the European Investment Bank (EIB) to finance the project -the loan provided by the EIB was cancelled in 2011 and will involve a fine 60 million Euros to public budgets (ElDiarioVasco.com, 19/03/2016). The agency that managed the incineration plant, GHK, was consequently transformed with the objective of overseeing the BOT contract (ElDiarioVasco.com, 19/03/2016).

The BOT contract includes the design, financing, construction, and operation of the plant for 35 years (NoticiasDeGipuzkoa.com, 1/02/2017). The concessionaire, a consortium formed by international specialists and local constructors, will face the initial investment of 217 million Euros, and will receive a yearly payback of 23,6 million Euros from the public sector during the 32 years of operation (NoticiasDeGipuzkoa.com, 1/02/2017).

The contract was finally signed in January 2017 and the plant is planned to start functioning in 2019 (NoticiasDeGipuzkoa.com, 1/02/2017).

4) Other BOT projects in San Sebastian

Apart from the described projects, BOT forms of PPP have been used for infrastructures such as the new municipal bus station, hotels, a youth hostel, and a sports centre.

The new bus station in the city (Figure 14), which includes a parking lot as well as shops and cafes, was planned to be built by a BOT scheme in 2008 (DiarioVasco.com, 13/09/2008). According to the local government, the BOT model was chosen because this scheme was successfully applied in Spanish cities for similar transport stations (DiarioVasco.com, 13/09/2013). [As an example, the case of Avenida América Interchanger in Madrid, also based on the BOT scheme, is well described by Lopez-Lambas and Monzon (2010)]. Apart from the example from other cities, the municipality had previous experience with this type of contract for the construction and operation of parking lots, which helped in the decision-making process (DiarioVasco.com, 13/09/2013).

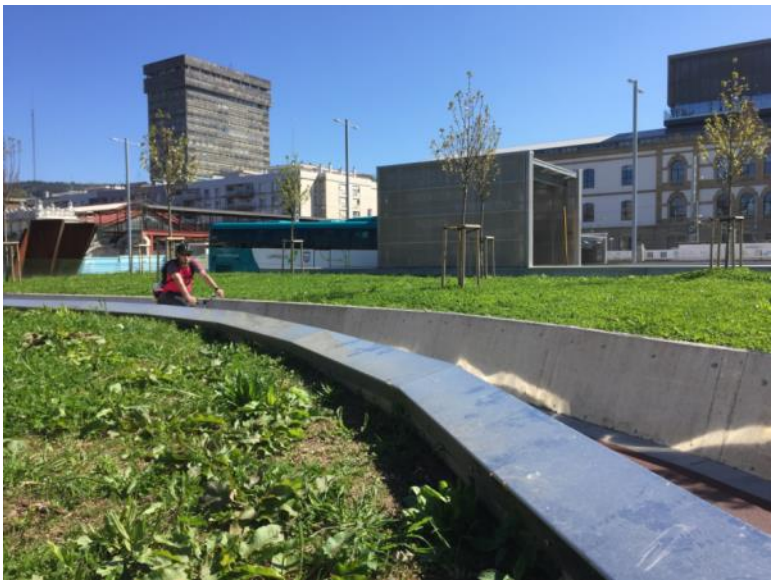


Figure 14. Area above the bus station (2017). Note the bus entering into the underground station.

Before the competition, the municipality changed the regulations in order to permit local authorities to control certain aspects of the future operation of the bus station (DiarioVasco.com, 13/09/2013). The new regulations included how clients should be attended as well as how the private partner has to operate the infrastructures (DiarioVasco.com, 13/09/2013). On the other hand, in case deficit, the municipality assumes 50% of the losses (DiarioVasco.com, 13/09/2013).The investment for the construction was shared between the public sector and the private sector: the municipality paid 8,7 million Euros, the regional government 6 million Euros, and the private concessionaire invested the around 16 million Euros (NoticiasDeGipuzkoa.com, 6/01/2016). The operation of the infrastructures started in January 2016 (NoticiasDeGipuzkoa.com, 6/01/2016).

At least two hotels and a hostel are also owned by the municipality and managed by private companies through BOT contracts (NH Aránzazu, Hotel María Cristina, and Uba). The hotels pay a yearly amount to the municipality for being the final owner of the parcel and the building (ElEconomista.es, 13/04/2011). In the case of Hotel María Cristina (see Figure 15), the BOT model was chosen to keep the public ownership of the historic building, from the beginning of the 20th century, in order to ensure its conservation in good conditions, minimizing the costs for the public budget. The most recent renewal of the hotel was developed between 2011 and 2012, which involved an investment of 20 million Euros (3 million Euros were paid by the municipality and the rest by the private partner).

Figure 15. Hotel María Cristina and Okendo Plaza in 2017.

Similarly, the sports centre Hydra was owned by the public sector and operated by the private sector through a BOT concession contract.

5.2.2 Goal-based evaluation of BOT cases in San Sebastian

In order to facilitate the analysis of the cases described in Chapter 5.2.1, the goal-based evaluation method described in Chapter 4.4 is used in this chapter, which analyses the political, economic, social, environmental, and urban planning goals.

1. Political goals:

- *To achieve the political vision for the city*. In the analysed cases the following visions were followed: a walkable city (parking lots), a lively city centre with shopping alternatives (shopping centres), a city that protects local retailers (shopping centres), an attractive city for tourists (hotels), a city that promotes sustainable mobility (bus station).

- *To provide facilities to citizens, in order to obtain political support.*

- *To implement durable projects, difficult to stop in case of future government changes.* Regarding that BOTs are long-term contracts that involve compensations to the private partner in case of early termination of the contract, this type of contracts can be used with political goals to implement projects that are difficult to stop in case of future changes in the government. The bullfighting ring and the waste-to-energy plant are clear examples of how BOT can be used to avoid the effects of future government changes. In the case of the bullfighting ring, the ruling political party aimed for ensuring that this controversial activity would continue being celebrated in the future, regarding the strong opposition of other political parties and social movements. In the case of the waste-to-energy plant, which was stopped by a previous government, the new government might have chosen BOT to make sure that this situation would not happen again. In fact, in case of early termination of the contract, a compensation of 600 million Euros would have to be paid to the private partner, which deters future governments from stopping this infrastructure.

- *To avoid political debate.* In the cases of the bullfighting ring and the waste-to-energy plant, PPP might have been chosen to implement projects avoiding political debate. In

the case of the bullfighting ring there was no competition and public participation was avoided.

2. Economic/financial goals

- *To avoid the effects of the investment on public budgets and debt levels by obtaining private financing.* In the described projects, none or only part of the initial investment was assumed by public budgets. This permits the municipality to have budget for other projects, as well as to obtain loans from banks in better conditions.

- *To build infrastructures in moments of budget constraints.* As an example, BOT was chosen to build the waste-to-energy plant in a moment of economic recession, adding the difficulties to obtain funds from the European Investment Bank.

- *To obtain economic profit.* Several of the projects had to pay a fee to the municipality for being the owner of the assets (parking lots, hotels, shopping centres, sports centre). In some cases, the municipality promoted public projects that were typically from the private sphere, like hotels and shopping centres, in order to obtain economic revenues for the public budget.

- *To control market conditions.* The municipality used BOT as a tool to establish the conditions that should be fulfilled by the businesses that were promoted. Considering that BOT is a contractual type of PPP, operation conditions were established by the municipality by the contract, which would probably be different in market conditions. Several examples can be provided:

    - The size of retails was controlled in shopping centres to ensure the presence of local retailers.
    - Operating conditions were established for the bus station, including how clients should be attended.
    - In La Bretxa and San Martín shopping centres special requirements were requested for the operation of the traditional food market.

- *To ensure the economic viability of an infrastructure*. For instance, the bullfighting ring and the traditional markets were joined to other facilities with capacity to generate economic profit (shops, restaurants, cinemas) in order to ensure the economic viability of the projects. As another example, the bus station included a parking lot, which could provide additional incomes for the viability of the project.

- *To influence the market*. As an example, the municipality aimed for promoting different types of hotels in order to increase the existing offer in the market and attract multiple types of visitors. This way, the municipality aimed for creating businesses that would compete in the market, which in turn would enhance other competitors to improve their offer in order to compete with the publicly owned businesses.

- *To promote local businesses.* Shopping centres were designed with the objective of creating spaces for local retailers, as well as to protect local shops from peripheral shopping centres.

- *To develop public lands and buildings.* Lands and buildings owned by the municipality were transformed to include new businesses by BOT contracts.

3. Social goals

- *To provide services to citizens. For instance,* parking lots and a new bus station were delivered to citizens.

- *To obtain funds for social objectives.* Thanks to the economic benefits provided by BOT projects, the municipality could use a larger part of the budget for social programs.

- *To create employment.* The new infrastructures generate new positions. In the case of shopping centres, the employments from the old markets were maintained. On the other hand, the working conditions can be worsened when a private operator manages the infrastructures, as shown by the case of parking lots.

- *To offer leisure alternatives.* Shopping centres and the bullfighting ring provide leisure activities for citizens. In the case of Illunbe shopping centre this goal was not achieved, since the model failed and the building was finally closed.

4. Environmental goals

- *To promote sustainable mobility*. New walkable spaces were created together with parking lots and shopping centres, while a new bus station was delivered, which promoted active transportation and public transport. On the other hand, more parking spaces may enhance the use of the car.

- *To manage urban waste and generate electric power*. The new waste-to-energy plant will manage the waste from the region and will generate electric power.

5. Urban planning goals

- *To provide better public spaces.* The construction of underground parking lots permitted to build new public spaces above them, while on-street parking could be eliminated from surrounding streets and new streets were pedestrianised.

- *To maintain historic buildings.* María Cristina hotel and La Bretxa market are examples of two historic buildings can be renewed by private funds through BOT contracts. Since the municipality continued being the owner of the buildings, the conditions in which the buildings were used and maintained could be controlled.

- *To renew public spaces and buildings.* As an example, BOT was used for the renewal of San Martin market, which involved the construction of a new building and the renewal of the surrounding public spaces.

- *To provide a new function to a public asset.* For instance, the traditional markets were transformed into a mix between a shopping centre and a market.

- *To construct and refurbish infrastructures.* New infrastructures, like transport infrastructures, can be constructed, which make an impact on the urban landscape. The new bus station and parking lots are examples of this.

- *To create an open shopping centre.* As an example, the renewal of San Martín market contributed to create walkable shopping streets in the surroundings, which could compete with peripheral shopping centres.

- *To improve urban mobility.* More parking spaces were provided, a new bus station was built, and active transport was promoted by creating walkable spaces.

5.2.3 Stakeholder-based evaluation of BOT cases in San Sebastian

For the study of the effects on stakeholders, a multilevel stakeholder-based evaluation is done, as defined in Chapter 4.4. The stakeholder-based evaluation has been used for parking lot projects (Table 3) and shopping centres (Table 4) for being the most representative cases.

Table 3: Stakeholder-based evaluation of BOT parking lot projects in San Sebastian

		BENEFITS	COSTS
MACRO	Citizens	> Citizens benefit from more parking spaces and less parking time > Citizens benefit from better public spaces	> More difficult to change the behaviour of citizens to diminish the use of cars
	Environment	> The mobility in the city improves > Active transport is enhanced by providing more walkable streets > On-street presence of vehicles diminishes and public spaces are improved	> More difficult to change the use of cars towards other more sustainable means of transport > The use given to the area cannot be changed for a long time, unless a compensation is given to the concessionaire
MESO	External: Other businesses	> More commercial activity around parking lots and more accessibility by car to nearby businesses > Related businesses were created: car cleaners, motorbike rental	> Less accessibility by car to businesses in pedestrianised areas
	Internal: Private partner	> The operation of the parking lot provides incomes to the concessionaire from charges to users	> High construction and financial costs, which imply high risks > Demand risks
	Internal: Public partner	> The investment does not affect public budgets and debt > Payments from the concessionaire for being the owner of the assets > Contribute to achieve political goals >The design of the public areas is controlled by the public partner >The public partner can establish the conditions for the operation of the infrastructures	> The Responsibility of the Public Administration implies risks in case of bankrupt of the concession > The operating conditions and the function of the infrastructures cannot be changed for a long period, unless the private partner is compensated
MICRO	External: Individuals	> Parking spaces for car users > Individuals who live in the area and other visitors benefit from better public spaces > Pedestrians benefit from more walkable streets	> Individuals have to pay for parking in the city centre, in prejudice of individuals with lower incomes > Individuals who live in suburbs will tend to go to the city centre by car >Service quality can be lower
	Internal: Private partner	> Individuals who work in the private partner benefit from their employment	> Worse working conditions in private companies compared to public management.
	Internal: Public partner	> Public workers can establish the conditions that they want for the new infrastructures and public areas	> Difficult negotiations in case of project failure (did not occur in the studied cases)

Table 4: Stakeholder-based evaluation of BOT shopping centre projects in San Sebastian

		BENEFITS	COSTS
MACRO	Citizens	> Leisure and shopping alternatives are provided to citizens > Citizens benefit from better public spaces around shopping centres > Citizens benefit from a lively city centre > Citizens can continue buying in the traditional markets	> Illunbe shopping centre has been closed for many years and citizens do not use the facilities.
	Environment	> New buildings were built and others refurbished >Public spaces around shopping centres were renewed >Projects contribute to a more lively city centre	> The infrastructures in the failed projects (Illunbe, La Bretxa, Arcco Amara) are underused. > Shopping is enhanced as a leisure activity, which can lead to unsustainable habits
MESO	External: Other businesses	> Commerce and other businesses in the city benefit from a livelier city centre. > The renewal of public spaces around shopping centres benefits also surrounding businesses > Spaces for businesses are created > Measures to protect local businesses, > Traditional markets and the related businesses can continue their activity	> The failure of the projects affected the businesses located in the shopping centres (Illunbe, Arcco Amara, La Bretxa). Some businesses had to close and others did not fulfil the economic expectations.
	Internal: Private partner	> The concessionaire receives payments from the rental to retailers > In San Martin project the risks are shared with the public sector for being a joint venture. In this case there are no fees to the municipality.	> High construction and financial risks > In Illunbe, La Bretxa and Arcco Amara the different concessionaires could not obtain the spected return from the investment and some of them went bankrupt
	Internal: Public partner	> The municipality could define the conditions in terms of shop size, operating conditions for the traditional market, etc. > The investment did not affect public budgets and debt levels. > The municipality obtained payments from the concessionaires for being the owner of the assets >The municipality obtains part of the profit in San Martin project for being a shareholder in the concessionaire.	> Due to the failure of the projects, the municipality had to face long negotiations and legal processes > The municipality did not obtain the spected economic return and in the case of Illunbe a large compensation had to be paid to the concessionaire for the bankruptcy of the project > The municipality assumes part of the risks in San Martin project
MICRO	External: Individuals	> Individuals from the city can benefit from a broader shopping offer. > Individuals who live in the city core benefit from better public spaces and proximity shopping	
	Internal: Private partner	> Individuals who work in the private parter benefit from their employment	
	Internal: Public partner	> Public workers can establish the conditions that they want for the new infrastructures and public areas	> Long negotiations in the case of projects that failed

6. CRITICAL ANALYSIS OF THE CASE

Based on the results obtained from the macro and micro analysis, the two research question defined in the problem formulation (Chapter 2) can be answered. The two research questions serve as a guideline for the critical analysis of the studied case.

Research question 1

Which are the potential benefits and risks of Build-Operate-Transfer as an urban planning tool, based on the experience in Spanish cities, and concretely, in the city of San Sebastian?

The experience in Spanish cities and in San Sebastian show that BOT project schemes are often used for utilities that are located in urban areas, and not only for large-scale infrastructures, as frequently thought. In fact, the macro analysis confirms that BOT schemes are used in Spanish cities for multiple purposes and in different sectors, such as transport, healthcare, waste management, commerce, education, or leisure. This implies that infrastructures in key sectors for the wellbeing of the citizens are financed and managed by the private sector. This can provide benefits to the public sector, since the construction of key infrastructures can be financed by the private sector without affecting public budgets, but involves also risks, some of them related to the conflict between quality and profitability. Based on the results from macro and micro analysis, and considering the lessons from the theory, both the benefits and risks of BOT in urban projects can be underlined:

A. Political benefits and risks

BOT projects can contribute to achieve the political vision for the city without compromising public budgets. This implies that key projects for the strategy of the municipality can be built even in contexts of economic recession. This makes BOT an attractive instrument for rulers in order to gain more support from the public, since new facilities are provided to citizens. In Spain, facilities that are usually highly valued by citizens have been privately financed (e.g. hospitals and healthcare facilities, cultural centres, leisure centres, light-rail infrastructures, etc.), which have contributed to the vision of politicians for their cities.

The study of BOT projects in San Sebastian confirmed that the infrastructures that were financed by the private sector contributed positively to the municipality's vision for the city -

a walkable city, a lively city centre, an attractive city, a sustainable city, etc.--, and hence, the municipality was able to use private capital for the benefit of the city and its citizens.

However, there is a **danger that governments promote BOT projects to obtain short-term political benefits, compromising risks in the long-term**. The Responsibility of the Public Administration involves that in case of failure the public sector must compensate the private concessionaire for the investment, and consequently, the project affects public budgets in case of bankruptcy of the concessionaire. This occurred in the case of large infrastructures like toll highways in Madrid, as described by Ortega et al. (2015) (see also Annex 1), but can also take place in urban infrastructures, as exemplified by the case of Illunbe project in San Sebastian (Chapter 5.2.1).

The long-term nature of BOT contracts provides certain political benefits for rulers, although this can also involve certain concerns, as alerted by Hall (2004). **BOT can be used by politicians to implement infrastructures in accordance to their long-term vision for the city,** since contracts involve compensations to the private sector in case of early termination, which can deter future governments from modifying or cancelling the operation of the infrastructures. For the same reason, political decisions of the present can compromise the economic situation of the future (see Hall, 2004), and from an urban planning perspective, the structure of the future city can be constrained by the decisions of the present.

Due to the long-term nature of the contracts, **BOT can be used with political goals to implement projects that are difficult to stop in case of future changes in the government**. Two examples were found in San Sebastian, which coincide with projects with a strong opposition from other political parties and social movements, such as Illunbe bullfighting ring and Zubieta waste-to-energy plant.

There is also a **risk that governments use BOT to avoid open competition and public debate, as warned by Hall (2004)**. Rulers may intend to avoid the normal procedure established for public procurement projects, which involve open competition and the possibility for public allegiances. This risk was confirmed by the case of the bullfighting ring in San Sebastian, which was illegally awarded with no competition, as ratified by the courts. Similarly, BOT could be chosen to implement projects with a strong political opposition, arguing that the public budgets will not be affected by the investment, although, as defended by Hall (2008) the investment cost is always supported by the public.

B. Economic/financial benefits and risks

One of the main reasons for governments to choose BOT is to avoid the effects of the investment on public budgets and debt levels by obtaining private financing (Commission of the European Communities, 2004). As shown by the macro and the micro analysis, **diverse types of infrastructures could be developed without affecting public budgets or assuming only part of the initial investment.** This permits the public sector to keep a greater part of the budget for other projects, as well as to obtain loans from banks in better conditions. Thereby, BOT permits **to build infrastructures in moments of budgetary constraints**. As an example, BOT was chosen to build the waste-to-energy plant in San Sebastian in a moment of economic recession and difficulties to obtain funds.

The critical literature about PPPs often underlines that, although the investment is not counted on the budget, the cost is always supported by the public, either from taxes or direct charges (Hall, 2008). In this sense, the EPSU defends that "private finance does not mean that private companies somehow subsidise the investments" (Hall, 2008, p.14). This is especially true when payments are done by the public sector, as in PFI projects like the waste-to-energy plant (Chapter 5.2.1), or when the public sector has to rescue a project that went bankrupt, like Illunbe project (Chapter 5.2.1). However, this statement can be discussed when incomes are generated by the infrastructures. It is true that users are often tax payers, but in the case of a touristic city like San Sebastian charges are also paid by visitors, which contributes to finance the infrastructures by external sources. Based on the experience in San Sebastian, it can be affirmed that by using BOT formulas the private sector can subsidise the investment with the aim of obtaining future economic profits from the operation. In order to illustrate this, some examples are provided:

- The private sector invested in improving the appearance of the building and the surrounding public spaces of La Bretxa shopping centre in order to attract more clients.
- The private sector invested in the renewal of the historic building of María Cristina Hotel to improve the business.
- The construction of underground parking lots and the public spaces above were totally financed by the private sector with the objective of obtaining economic profit from future users.

Moreover, the public sector can also obtain an economic profit from BOT projects, either directly by payments from the private concessionaire, or indirectly, including civil works or infrastructures with less capacity to generate economic revenues. For instance, in several

projects in San Sebastian the private concessionaire had to pay a fee to the municipality for being the owner of the assets. Thus, the Spanish experience shows that profit can be one of the objectives of the public sector when promoting BOT projects.

Considering that BOT is a contractual type of PPP (Chapter 3.2), the public sector can promote businesses in certain conditions that are predefined in the contract, and this way, **the public sector can use BOT projects to control and influence market conditions**. Conditions can be imposed to protect certain infrastructures from free market (e.g. the traditional markets and local businesses were protected by limitations in the contracts of the shopping centres in San Sebastian) and to request a certain quality level (e.g. operation conditions were established for the bus station in San Sebastian). In addition, the public sector can influence the market by creating publicly owned businesses according to public interests, as the municipality of San Sebastian tried to do by promoting new hotels that would attract particular types of visitors.

Another benefit of BOT is that the **economic viability of an infrastructure can be ensured by adding other more profitable infrastructures to the same contract**. Many examples were found in the macro analysis (Chapter 5.1.2) where assets with capacity to generate economic revenues were managed together with other less profitable assets. Examples were also found in San Sebastian, like the traditional markets, which were joined to other facilities with capacity to generate economic profit (shops, restaurants, cinemas).

In spite of the economic benefits, **BOT projects involve economic risks for the future**, due to the Responsibility of the Public Administration established by the Spanish law. In the case of projects that are based on payments from the public sector, like Zubieta waste-to-power plant, future payments are compromised from the beginning of the project.

C. Social benefits and risks

By introducing a private partner, governments can deliver socially beneficial infrastructures, even when there are not enough public funds. Many examples of the use of BOT in urban projects with a great importance for the wellbeing of citizens were found in the macro analysis: schools, public health centres, cultural buildings, police stations, court buildings, transport infrastructures, etc. Similarly, the study of BOT projects in San Sebastian showed that BOT projects can be used to provide services to citizens, to create employment, and to provide leisure alternatives for citizens. In addition, considering the economic benefits that

BOT projects can provide, governments can dispose a larger budget that can be used for social objectives.

As mentioned before, in many cases key infrastructures for the wellbeing of citizens are managed by the private sector in Spanish cities, which involves several risks. The **quality of the service provided to citizens can decrease** due to cost reduction measures applied by the private operator, as denounced by several associations in Madrid and Valencia in relation to PPP hospitals (Annex 1). This can also affect **working conditions**, as warned by the EPSU (Hall, 2004). In fact, the case of parking lot workers in San Sebastian, who went on strike to protest for better working conditions, provides an empiric example of how conditions can be deteriorated when the private sector manages public infrastructures.

D. Environmental benefits and risks

BOT can also be applied for the financing, construction, and operation of infrastructures with direct environmental benefits. In Spain, examples of infrastructures such as waste treatment plants, waste-water treatment plants, and solar energy plants were found. These projects were not built directly on urban environments, but they provided service to cities. Furthermore, BOT is broadly used to improve transport infrastructures towards a more sustainable mobility. Light-rail and public transport stations are among the examples of projects that contribute to a more sustainable transport. Moreover, the case of San Sebastian shows that BOT projects can be used to improve public spaces in order to enhance active transportation.

On the other hand, BOT is also used for the improvement of road transport accessibility, which can perpetuate car-based mobility and hinders change towards other more sustainable transport alternatives. In addition, the long-term nature of BOT contracts reduces flexibility in relation to modifications in infrastructures when other more sustainable alternatives are available.

D. Urban environment benefits and risks

When BOT projects are located within urban contexts, apart from the political, economic, social and environmental effects described before, they provoke physical changes on the built environment, with effects on the urban environment and local populations. The case of San Sebastian shows that a **correct use of BOT projects can be beneficial for the urban environment, and consequently for local populations**. In San Sebastian, BOT projects were

used successfully to provide better public spaces and more walkable streets; to maintain historic buildings; to refurbish existing public spaces and buildings; to construct and renew infrastructures; to change the function of public assets; as well as to improve urban mobility.

On the other hand, the case of San Sebastian shows that **if projects fail, then infrastructures can be underused or closed,** as happened with Illunbe shopping centre. This can devaluate the surrounding areas and implies that the service is no longer provided to citizens, or it is delivered in worse conditions compared to the initial goals. Furthermore, the **failure of the projects can imply large compensations to the concessionaires, damaging local budgets, which affects all taxpayers.**

Research question 2:

How does the experience with urban BOT projects in Spain contribute to the debate about the adequacy of the private management of infrastructures?

In BOT projects, like in other contracts between the public and the private sector, the private partner's main priority is the profitability of the investment, while the public sector's objective is to ensure that the private sector provides the service in the required conditions. However, if there is lack of control from the public sector, the private sector may be tempted to decrease the quality level in order to reduce costs, and this way, increase the profitability of the project. Thereby, the private management of services involves certain concerns.

Apart from the conflict between quality and profit, the critical literature described in Chapter 3.3 mentions three concerns related to PPPs, as warned by the EPSU (Hall, 2004): the long-term implications of PPP contracts, the danger of deteriorating working conditions, and the lack of transparency. A forth issue is also described: the effects of the financialisation of infrastructures (Torrance, 2008; Haughton and McManus, 2012; Farmer, 2014).

The list of BOT projects developed in the macro analysis (Chapter 5.1.2) proves that the use of BOT for the management of infrastructures is a reality in many Spanish cities. Indeed, BOT projects often include utilities with a great influence on the wellbeing of citizens, such as health centres, public buildings, and transport infrastructures. The presence of BOT projects in urban areas is confirmed by the study of the city of San

Sebastian, where BOT is used for the management of various assets (Chapter 5.2.1). The increasing involvement of the private sector in the management of urban infrastructures brings the previously mentioned concerns to a new context, which could provoke uncertain consequences.

A critical analysis of the experience in San Sebastian from the perspective of the concerns related to PPPs provides an insight to how the conflicts related to PPPs emerge and how the use of BOT affects the way in which these conflicts take place. With the aim of facilitating the analysis, five issues related to PPPs are considered: (A) the conflict between quality and profit, (B) the implications of long-term contracts, (C) the danger of deteriorating working conditions, (D) the lack of transparency, and (E) the financialisation of infrastructures.

A. Conflict between quality and profit

Although service quality could be affected by the private management of infrastructures in certain conditions, the use of BOT may have played an important role in the control of service quality, as argued in the following paragraphs. Nonetheless, two cases in San Sebastian illustrate that service quality may be affected when the economic viability of the project is in danger and when minimum working conditions are not fulfilled. In addition, the introduction of profit as a factor that affects the decision of developing infrastructures could provoke uncertain consequences on the urban planning of the city

Based on the experience in San Sebastian and the technical literature on PPPs (see Kwack et al., 2009), two main reasons explain how BOT can contribute to the control of service quality: the contractual nature of BOTs and the involvement of the private sector on all the stages of the project.

First, the contractual nature of BOT permits to establish the conditions for the different stages of the project, from construction to operation. In fact, by using BOT contracts the public sector keeps the ownership and control over the assets, while minimum quality levels can be established, along with penalties in case of non-compliance. This is in contrast with privatisations, where it is more difficult to impose conditions to the private sector and operation is usually developed in market conditions. Several examples of conditions imposed by the municipality through BOT contracts can be found in San Sebastian: the service to clients in the bus station, the business conditions for traditional markets, retail size in shopping centres, etc.

From the point of view of the impact on the urban environment, the contractual nature of BOT provides a tool for the control of the outcome of the project, given that the public sector is the owner of the assets and can decide about the image and characteristics of the buildings and public spaces. In San Sebastian, the technical features of the infrastructures linked to the business were designed by the private sector and controlled by the public sector, but the public spaces and the architecture of the buildings was decided by the municipality.

Second, quality in the construction and operation can be controlled by ensuring that the same partner is involved in the whole life-cycle of the project and is responsible for at least part of the investment, the construction, and either demand risks or availability risks. Under these conditions, typical of BOT contracts, construction quality and service quality can be of the interest of the private partner. High construction quality minimises maintenance costs and ensures that the infrastructures are in good conditions for the operation. It must be taken into account that the private partner recovers the investment from the operation of the assets, and hence, they are interested in ensuring that the infrastructures are in their best conditions. For the same reason, when demand risks are assumed by the private sector, the private partner is usually interested in providing the best possible service in order to attract clients. To illustrate the previous statement, the concessionaires in the parking lot projects assumed large initial investments, given that the infrastructures were built underground, and as a consequence, they took measures to control the quality of the construction in order to minimise maintenance costs in the future and to guarantee that the facilities would be in good conditions for the business. In addition, they were interested in finishing the construction as soon as possible to be able to start generating incomes.

In contrast to BOT, in other PPP arrangements the private sector is responsible only for the operation of the infrastructures, and hence, if quality is lower the implications for the company are less important. In BOT projects, on the contrary, the concessionaire can lose the initial investment, which is often a large amount, and this encourages taking care of the quality.

Despite the benefits of involving the same partner during the whole life-cycle, the case of toll highways in Madrid (Chapter 5.1.1) alerts of the problems that can occur when the concessionaire is also the constructor of the infrastructures, which can lead to construction over costs that compromise the future of the project. No evidence of this issue was found in the cases in San Sebastian, but the municipality was exposed to this risk in some of the projects.

On the other hand, the experience in San Sebastian warns of two situations that can lead to a devaluation of the quality.

As shown by the cases of shopping centres (Chapter 5.2.1), **service quality can decrease** if the incomes are not sufficient for the viability of the project. In fact, Arcco Amara, Illunbe and La Bretxa shopping centres were underused and the quality of the retails decreased, as well as the leisure offer provided to citizens. In the case of Illunbe the facilities were closed after the bankruptcy of the project.

Thereby, the conditions required to the private partner should be in line with the capacity of the assets to generate incomes. As explained before, BOT can serve as an instrument to control the private partner, but at the same time, conditions cannot be too rigid and should be adapted to the incomes. In the case of BOT shopping centres in San Sebastian the conditions requested to the concessionaire (fee to municipality, retail size) affected the success of the projects, which in turn decreased the attractiveness of the shopping centres.

However, the public sector can use diverse instruments to modify contract conditions in order to ensure the viability of the project without changing operation conditions, as shown by the measures applied by the municipality in San Sebastian: contract period was extended, payments to the municipality were postponed, the debt with the municipality was exchanged for public shares in the concessionaire, a part of the facilities was controlled by the public sector in order to reduce the fee to the municipality, etc. Anyway, rather than renegotiating contract conditions, it is preferable to establish feasible conditions from the beginning, given that renegotiations usually result against the interest of the public sector (see Hall, 2004). Moreover, governments could be tempted to include service quality in the negotiations in order to ensure the continuity of the projects, in prejudice of the citizens. Additionally, the effort and cost of negotiations must be taken into account, which requires skills and resources.

Poor working conditions can also affect the quality of the service. Indeed, the strike developed by the workers of the parking lots in San Sebastian affected the service quality during these days.

The decrease in quality did not have important consequences for citizens in the two cases described before (the shopping centres and the parking lots), but the effects of the economic failure and poor working conditions could provoke serious effects in other types of infrastructures like health centres. Consequently, penalties in case of inadequate service

should be established in the contract and control mechanisms should be implemented, as recommended by the OECD (2012).

B. Implications of long term contracts

As shown by the goal-based evaluation of the cases in San Sebastian (Chapter 5.2.2), BOT can be used by rulers as an instrument to obtain short term political benefits, as well as to shape the city according to their political view. This can provide benefits to citizens if the infrastructures are based on social needs, but can involve risks for the future:

- The failure of the project can involve a large compensation from the public partner to the private partner (e.g. the failure of Illunbe project involved a compensation of 20 million Euros).
- If the incomes of the project are paid by the public sector, payments are compromised for the future, even if there is a future recession (e.g. Zubieta waste-to-energy plant).
- Long term contracts imply difficulties to change operating conditions or the function of the infrastructures, given that changes involve compensations to the private sector. (e.g. parking lot contracts were signed for 50 years, which makes difficult to change the city towards other transport models). As a consequence, future governments with a different vision for the city will face difficulties to modify the infrastructures, even if there is a social demand for this change.

C. Danger of damaging working conditions

The case of parking lot projects in San Sebastian confirms that BOT, as other PPPs, involves the risk of devaluating working conditions, as a strategy of the private partner to reduce costs and increase the profitability of the project (see Hall, 2004). Thereby, when the adequacy of BOT for a project is evaluated in comparison with public procurement, all aspects should be valued, including social aspects like working conditions.

Regarding that working conditions are usually better in the public sector, the progressive privatisation of services could provoke a devaluation of working conditions, which would not only affect the workers of the projects, but also their families, the shops where they buy, and overall the whole city.

D. Lack of transparency

In relation to PPPs, lack of transparency in the competition process and in the management has been denounced (Hall, 2004). Although this was not the general situation in the BOT projects evaluated in San Sebastian, an evident case of lack of transparency was detected: Illunbe bullfighting ring project. In this case, no competition was held to decide who would build and manage the infrastructures, which was illegal according to the courts' sentence. BOT may have been used to avoid the normal procedures and to sidestep social debate. In fact, this project provoked a considerable opposition from a large segment of the city and several political parties, which could obstruct the development of the project if the normal procedure was followed.

E. The financialisation of infrastructures

From the urban planning perspective, BOT can provide many benefits, as described in the answer to question 1, but involves a change in the way of looking at the city as an element with capacity to generate profits. Local governments are more eager to promote infrastructures that generate revenues, in order to improve the situation of local budgets. For instance, in San Sebastian the municipality became an actor that promoted new businesses, some of them typical of the private sector. At the same time, the municipality acted as an agent that controlled and influenced the market, by introducing new competitors that were under public control.

As a side effect, the need for profitability conditions the type of infrastructures that are promoted: BOT can only be used for profitable projects. In addition, an emphasis on economy may divert the focus from the effects on the urban landscape. This could happen in the negotiations with the private partner in shopping centres in San Sebastian: none of the attempts to promote small scale retail in the shopping centres succeeded, but instead of searching for technical solutions to face the lack of interest of shoppers on these retails, the municipality might have focused on the economic debt accumulated by the concessionaires, which did not contribute to the initial objective. It is understandable that the municipality defends its economic interests and enforces the private sector to fulfil the contracts, but on the other hand, the result for the citizens was that two publicly owned shopping centres were underused and a third one was closed for many years.

However, the experience in San Sebastian, as well as in other cities assessed in the macro analysis (Chapter 5.1.2), illustrates that the financialisation of infrastructures could also have positive effects for urban areas. Infrastructures with low or null capacity to generate incomes can be built by using BOT, by joining profitable and non-profitable assets together

in the same project, so that the project is economically viable as a whole. Following this procedure, many socially beneficial infrastructures have been built in Spanish cities, like cultural centres.

7. CONCLUSIONS

The reflections made in the critical analysis of the case (Chapter 6) form the basis for the answer of the main research question, which is at the same time the conclusion for this research.

Based on the experience in Spanish cities, and particularly in San Sebastian, how should be Build-Operate-Transfer used for the provision of urban infrastructures, considering the benefits and concerns related to the private management of infrastructures?

Although a broad literature highlights the benefits of PPP for the provision of infrastructures (see Kwack et al., 2009), voices that warn of their "dark side" are growing, supported by sounded cases of failure, like the case of toll highways in Madrid (see Annex1). Regarding that BOT is commonly applied in large-scale infrastructures and megaprojects, failures often involve far-reaching consequences and their repercussion echoes in the media, as shown by the analysis of the Spanish media (Chapter 5.1.1). Because of these fiascos, the reputation of PPP is actually under scrutiny in Spain and the public sector needs to solve the ongoing problematic cases in order to convince society of the validity of this model for the construction of future infrastructures.

The study of smaller scale PPP projects, however, provides a different perspective to this debate, given that projects can also provoke indirect effects on the surrounding areas, while the impact on local populations is more evident. Furthermore, the growing presence of PPP infrastructures in urban areas introduces the concerns related to PPP into cities. This is a relatively new phenomenon, considering that PPPs were traditionally used for large infrastructures away from urban areas, and therefore, the consequences on the urban planning of cities needs to be further studied. In this sense, this master thesis opens a new field of research, which links the study of PPPs and urban planning research.

In addition, this report calls attention about the differences among different types of PPPs and the need for studying each type separately, in order to clarify the potential benefits and risks of each particular type. As claimed by Delmon (2010), the literature makes a

confusing use of the term PPP, which hinders research on this field. In this case, Build-Operate-Transfer (BOT) forms of PPP have been studied, and the results confirm that this type of PPP has important differences compared to other types, with different benefits and risks. Thereby, the literature should be explicit about the type of the PPP that is assessed.

The analysis of the case confirms that the private financing and management of infrastructures through PPP is a reality within Spanish cities. In fact, BOT forms of PPP have been applied for multiple purposes in Spain, with a remarkable presence in urban areas, where key infrastructures for the well-being of citizens have been financed and managed by private partners in sectors like transport, health, education, and environment. Thus, by using BOT, local governments achieved to involve the private sector in the financing of public utilities that provide social benefits for citizens, along with economic, political, and environmental benefits.

Moreover, the case of San Sebastian shows that, by building such infrastructures, local governments can at the same time transform and renew the surrounding urban environment. Indeed, through BOT projects, the municipality achieved private financing for diverse purposes with direct effects on the urban landscape and the planning of the city, such as the creation of new public spaces, the refurbishment of buildings, the maintenance of historic buildings, and the improvement of the urban mobility. Thereby, not only can local governments obtain economic benefits from the private financing of infrastructures, but also benefits from an urban planning perspective.

Consequently, the impact on the surrounding environment should also be taken into account when analysing the benefits and risks of a project. Similarly, when the goals of a project are evaluated, the effects on the urban planning of the city need to be considered. The effects on the urban landscape were not considered in the reviewed literature about PPPs (see Kwack et al., 2009), nor in the methodologies applied for the evaluation of the goals of PPP projects (see Hodge, Greve and Boardman, 2010), but should be included when the adequacy of PPP for a concrete project is studied. The experience in San Sebastian confirms the potential use of BOT as an urban planning tool, and hence, urban planners should be aware of the benefits and risks of using this type of project scheme.

The extent presence of PPP, and concretely BOT, in Spanish cities can be related to the global trend of financialisation of public assets (see Farmer, 2014). The economic recession in Spain has probably accelerated this process, since local and regional governments need to search for new incomes, and thereby, public assets and services with

revenue generating capacity may be an attractive resource. In addition, the difficult situation of local treasuries in Spain, added to the difficulties to borrow money from banks, may enhance the collaboration with the private sector in order to obtain private financing. The case of the waste-to-energy plant in San Sebastian is a clear example of this. In this context, BOT represents an opportunity to realise projects that would not be possible only by public means, and therefore, it is now applied not only in the transport sector, but also in other areas, from hospitals to police stations.

Nevertheless, based on the experience in San Sebastian, it can be argued that BOT is not only a tool for municipalities with economic difficulties, but also for cities with business opportunities. It must be taken into account that projects can only be developed by a PPP if they are economically profitable, which implies that they can be used for any type of utility with capacity to generate revenues. Local governments can use BOT as a tool to generate incomes for local budgets, but minimising the risks that would have to assume by the direct public provision, like construction and demand risks. In turn, authorities must be aware that projects can collapse in contexts of economic recession, and thus, they must take into account the possible implications of a future bankruptcy of the project, which should be prevented and informed transparently to the public.

On the other hand, the context must be considered when the adequacy of PPP is evaluated for the provision of an infrastructure. As highlighted by Petersen (2010), a legal framework that facilitates PPP arrangements is necessary in order to succeed in implementing PPP projects. The legal structure in Spain protects the private partner through the Responsibility of the Public Administration, while provides benefits for the public partner by avoiding the impact of the investment on local budgets. For these reasons, the situation in Spain is different compared to other countries, like Denmark, where the legal framework hindered the public sector from using PPP schemes for infrastructures (Petersen, 2010). Thus, in order to promote the use of PPP for urban infrastructures, it is essential to establish a regulatory background that provides economic benefits to the public sector, while protects the private partner.

The legal framework in Denmark was however designed to avoid some of the problems that have been related to PPPs and to prevent from the effects of a possible failure (Petersen, 2010). Apart from these issues, critical voices have underlined other unwanted consequences of PPP, such as the damage on working conditions (Hall, 2004), a decrease in service quality (Hall, 2008), lack of transparency (Hall, 2004), and lack of government accountability (Willems, 2014). Although PPPs were typically used for large infrastructures,

the increasing use in urban areas brings these issues to cities, which should be known by public workers.

Nonetheless, regarding at the related issues, a considerable contrast can be seen between BOT and other types of PPPs and privatisations, where public assets are sold to the private sector. In BOT, infrastructures are not fully privatised, since the public authority keeps the ownership and supervision of the facilities during the whole concession period, and the assets are fully controlled by the public sector afterwards. By BOT arrangements, the public sector financialises public assets in order to obtain an economic benefit from them as well as to transfer risks to the private sector, but financialisation does not imply privatization, since the public sector continues being the owner of the assets. The difference with privatisation is even more remarkable in some of the studied cases: revenue-generating activities are promoted but also owned by the public sector in order to obtain funds. Indeed, the opposite process to privatization could be occurring in these cases. Activities that are typical of the private sector are promoted by the public sector, such as hotels and leisure centres, which would be against the ideology followed in privatization processes. Governments act like entrepreneurs that promote new publicly owned businesses, although, they privately financed, constructed and operated.

Thereby, the financialisation process that is characteristic of neoliberal policies seems to be highly influenced by social-democratic principles in Spain, given that public assets are not completely privatised. The process of neo-liberalization occurs under different shapes depending on the context, mainly due to the influence of the pre-existing political regimes (Allmendinger, 2009), and in the case of Spain, there is still a relatively strong welfare-state and public intervention, which may have led to a particular form of semi-privatisation in the shape of BOT contracts. As argued by Peck and Tickell (2002), neo-liberalization takes shapes and can produce different effects depending on the context in which it takes place.

In spite of the differences with privatisation, the service provided by the infrastructures and the corresponding revenue are privately managed during the contract period, and therefore, privatised. Thereby, key sectors for the wellbeing of citizens are managed by private companies, and infrastructures are therefore designed in order to be profitable for the private sector. This can provoke an impact on the way cities are conceived and planned, and therefore, planners should always take into account the social and environmental benefits apart from the economic benefits. As underlined before, the effects on the urban landscape and local populations should also be taken into account. In addition, infrastructure planning should be done considering the city as a whole.

Some of the issues related to the private management of infrastructures were also detected in the cases analysed in San Sebastian, but alike in other types of PPPs and privatisations, some adverse consequences were avoided by the use of Build-Operate-Transfer schemes. By making a conscious and ethical use of BOT, municipalities can obtain the benefits provided by the private management of public assets, minimising the concerns related to PPPs. In this sense, three main recommendations can be done:

1. The roles and responsibilities of the partners must be clearly established contractually, which permits the public sector to require minimum quality conditions, to include penalties in case of non-compliance, and to define mechanisms for control. Similarly, service quality and minimum working conditions can be required by contract.

2. The private partner should be responsible for the whole life-cycle of the project, from the financing to the operation, in order to ensure that the private partner is actively involved in the success of all the stages of the project. However, control must be especially intensive if the same company is at the same time the concessionaire and the constructor, and this situation should be avoided when possible.

3. The possible effects of a failure should be clearly established in the contract, regarding the possible economic impact on public budgets, as well the difficult negotiations. Thereby, mechanisms and strategies should be planned for the future in order to be prepared for such events. Moreover, the consequences of a failure should be explained transparently to the citizenry,

The experiences described in this report, along with the conclusions that were obtained from them, can provide examples and recommendations for public workers from countries where PPP is still looked with caution, as in Scandinavian countries, as well as for authorities from countries with a more extent use of PPP, in order to minimise the related problems. As stated by Heurkens, Adams and Hobma (2015) “planners need to be aware of their own potential role within a market environment, and the possibilities created by each planning instrument, in order to become efficient public planners” (p.646). Thereby, planners should be aware of the growing presence of PPP for the financing of urban infrastructures and the possibilities offered by BOT as a planning tool, as well as the related risks, in order to improve their skills as urban planners. This permits planners not only to understand better the urban environment that they are planning, but also to be able to

succeed in the use of BOT as a planning instrument. Moreover, by understanding the power relations in each type of PPP, planners can empower themselves and improve their skills as practitioners. As explained by Forester (1982), “if planners understand how relations of power work to structure the planning process, they can improve the quality of their analyses and empower citizen and community action as well” (p. 67).

To conclude, it is relevant to highlight the importance of the study of PPPs for the financing and management of urban infrastructures. The construction of infrastructures involves a change in the surrounding urban areas, besides the effects of the infrastructures themselves. The function of the area can change and the use that citizens make of the place evolves. Thereby, benefits and risks of a project cannot be analysed only in terms of the viability of the project, without considering the impact on the area and local populations. Furthermore, the introduction of profit as a factor that determines the type of infrastructures that are promoted involves changes in the way that cities are conceived and planned, which need to be understood by urban planners.

This work is only the first step on a new study field that connects PPP and urban planning. Considering the limitations of this study, further research is needed and a more detailed set of cases should be developed, which would include interviews with practitioners and different stakeholders involved in urban PPP projects. More knowledge about PPPs will provide better instruments for urban planners, in order to benefit from the advantages of this instrument, while more information about the related issues could contribute to make a more conscious and ethical use of PPP.

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ANNEX 1: Media Analysis

A. Cases of failure

Two main cases of failure in BOTs have been covered by the mainstream media: toll highways in Madrid and the airport of Castellón.

Airport of Castellón

The case of the airport of Castellón is well known in Spain, given that it started to receive flights long after its construction – an article in the online newspaper elDiario.es even named it as "the most absurdly famous airport in Spain" (elDiario.es, 13/07/2013). In 2002 the region of Castellón, together with the Autonomous Community of Valencia, bought the lands for the future construction of the airport and a public agency (AEROCAS) was created to manage the project (elDiario.es, 13/07/2013). A consortium formed by FCC and two local companies (Lubasa and PGP) was contracted for the construction and operation of the infrastructures for a period of 90 years (elDiario.es, 13/07/2013).

In 2004 the construction began, and so did the problems. To start with, the main promoter and president of the project, the president of Castellón region Carlos Fabra, was involved in a corruption case just before the contract was signed (elDiario.es, 13/07/2013). He was later sentenced to four years in prison in 2013 for having defrauded the Treasury (ElPais.com, 26/11/2013). Apart from this, the NGO Ecologistas en Acción demanded the concessionaire for breaching the environmental impact statement, for not respecting the nesting and rearing periods of one of the hawk species protected by the Administration (elDiario.es, 13/07/2013). Additionally, near a hundred land owners complained for the price paid by the Administration for the acquisition of the lands (elDiario.es, 13/07/2013).

The construction ended in 2010, with a cost of 150 million Euros, but the economic situation in Spain was totally different compared to the beginning of the construction and airlines refused to operate in this airport. The airport could not start functioning due to a series of problems that the concessionaire had to face, including large over costs, which led to the termination of the contract. As a consequence, the concessionaire reclaimed for 1.128 million Euros to the public sector, plus 132 million Euros for the termination of the contract (elDiario.es, 13/07/2013).

In 2014 SNC-Lavalin was contracted for the operation of the airport and in 2015 eventually the first flights departed (ElPaís.com, 5/01/2017). In 2017 the operation of the airport was sold to another investor, Edeis (ElPaís.com, 5/01/2017).

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Toll highways in Madrid region

More important has been the case of toll highways in Madrid region, regarding both their economic consequences and the number of related articles and news in the media. Although toll highways are an usual theme in the press, the repercussion given to the particular case of toll highways in Madrid region has been extraordinary, due to the terrible consequences that the failure of these BOT projects have provoked for the Spanish State (ElMundo.es, 13/12/2016).

In fact, the Spanish State will have to pay between 4.500 and 5.000 million Euros to the concessionaires that financed and constructed four toll highways that access to the city of Madrid (ElMundo.es, 13/12/2016). These four BOT projects collapsed mainly because traffic levels were much lower than predicted, given that traffic decreased dramatically as a consequence of the economic crisis. Furthermore, there were high over costs in the construction. As a result, the infrastructures had deficit and ended in bankruptcy (ElMundo.es, 13/12/2016).

Apart from the losses for the investors, the bankruptcy of the toll highways affected public treasuries, due to the Responsibility of the Public Administration (RPA) considered in the legislation (ElMundo.es, 13/12/2016). This clause binds the public sector to pay the private partner for the non-recouped investment in case of bankruptcy of the concession, for being the Public Administration the owner of the infrastructures. In other words, in case of bankruptcy, the public sector takes control over the infrastructures, but only after paying for the value of the infrastructures, except from the revenue that the private sector has obtained during the period of operation of the infrastructures.

The redemption of the concessions in Madrid by the public sector has opened a debate in Spain about the legislation, which seems to be designed in benefit of large construction

companies and concessionaires. The most read newspaper in the country, El Mundo, published a leader in December 2016 (ElMundo.es, 13/12/2016) that highlighted the following statement:

> "Porque es difícil explicar a los contribuyentes que las inversiones privadas se queden en el ámbito privado si se obtienen beneficios y devenguen en quebrantos públicos cuando generan pérdidas."(El Mundo, 2016a)
>
> *Because it is difficult to explain to taxpayers that private investments stay in the private sector when profits are obtained, and they bankrupt the public sector when they generate losses.*

The same leader justifies the adequacy of the legislation and blames public rulers for promoting such risky projects in a context of economic splendour:

> "El rescate de las autopistas es otro ejemplo de aquella etapa de despilfarro económico que no debe volver a repetirse."(ElMundo.es, 13/12/2016)
>
> *The redemption of the toll highways is another example of that period of wasteful economic practices that must not be repeated.*

Other voices criticise both public authorities and private companies for using the BOT concession model in benefit of large construction companies. To illustrate this, an article published on an online blog in Gurusblog (Gurusblog.com, 26/03/2014) alerts of the problems that can occur when the same company is, at the same time, the concessionaire and the constructor of the infrastructures. As explained by the article, this was the case in one of the toll highways that provide access to Madrid. OHL, a large Spanish constructor, was the concessionaire of a toll highway, who borrowed funds from banks in order to finance the construction, which was contracted also to OHL. This means that, if the infrastructures are capable of generating enough benefit, the concessionaire can assume construction over-costs, and therefore, both the concessionaire and the constructor make profits. In case of bankruptcy, however, the concessionaire's losses affect banks and the public sector, due to the RPA, but the constructor keeps the benefit from the construction.

The author asks the following question:

> "Si sois el grupo OHL y eres el propietario a la vez de la concesionaria y de la constructora de la autopista (...) ¿Dónde vais a querer ganar dinero? ¿En la concesión a 25 años vista o en la construcción de la autopista?"(Gurusblog.com, 26/03/2014)

> *If you are OHL group and you are, at the same time, the owner of the concessionaire and the constructor of the toll highway (...), when do you prefer to earn money, during the concession in a 25 year time, or in the construction of the highway?*

In this sense, an article published by El Mundo (ElMundo.es, 13/12/2016) highlights that the main Spanish constructors became shareholders of the toll highway concessions aiming for a sure business, both in the construction of the infrastructures and the operation that followed.

Consequently, the author of the previously mentioned blog claims that an audit should be carried out to revise the benefits obtained by the constructors and blames the State for permitting such situation.

Apart from the case of Madrid, many news and articles about toll highway concessions have been published in the recent years. Among the treated topics, requests to recover the public management of highways (ElPais.com, 5/09/2012) and petitions for the abolition of tolls (ElPais.com, 1/12/2016) are common. As an example to illustrate this, the press informed about the petition of 40 municipalities in Valencia region to stop charging in nearby highways, arguing that they had no other free and comfortable road transport alternatives (ElPais.com, 1/12/2016). In fact, many citizens, economic sectors, and politicians have tried to reduce or delete toll highways, and there are ongoing negotiations with the concessionaires (ElPais.com, 5/09/2012). Some of the negotiations have ended in payments from the public sector to the private sector in order to reduce the price that users need to pay (ElPais.com, 5/09/2012). In other cases, public authorities have extended the concession period (ElPais.com, 5/09/2012), so that the concessionaires can receive paybacks from the infrastructures for a longer period and this way the revenue obtained from their investment is improved.

References from the media (in Spanish):

https://www.gurusblog.com/archives/autopistas-liquidacion/26/03/2014/
http://elpais.com/elpais/2012/09/05/opinion/1346837267_775070.html
http://ccaa.elpais.com/ccaa/2016/12/01/valencia/1480617442_786177.html
http://www.elmundo.es/opinion/2016/12/13/584ef26246163fc94b8b466d.html

B. PPP Hospitals

Since the late 1990s, PPPs have been used in Spain for the financing, construction and operation of several public hospitals, especially after 2002, when the management of the health-care system was transferred to each of the seventeen Autonomous Communities, which enhanced the search for new forms of financing, including PPPs.

The first PPP for the management of a hospital in Spain started in 1999 in Alzira (Valencia), which named a particular form of PPP: 'the Alzira model' (Caballer-Tarazona and Vivas-Consuelo, 2016). In this particular case, the public sector contracted a private consortium formed by constructors, banks, and an insurance company, so as to finance, construct, and operate the hospital (Caballer-Tarazona and Vivas-Consuelo, 2016). The private consortium recoups the investment by obtaining payments from the public sector that are linked to the population covered by the hospital, plus an invoice for users from other areas (Caballer-Tarazona and Vivas-Consuelo, 2016). The management includes health services, alike other PPPs that involve only non-medical services. The service is supervised by the Regional Health Department of Valencia.

Five hospitals are actually managed by 'the Alzira model' in Valencia region (Caballer-Tarazona and Vivas-Consuelo, 2016) and the same system has been applied in several hospitals in Madrid region too (Publico.es, 17/02/2013).

The success of these PPPs is however under scrutiny. In 2015, only two of the five hospitals located in Valencia had achieved to pay their debt with the public sector, 260 million Euros in total (ElDiario.es, 3/11/2016). The actual government of Valencia region, formed by a coalition of left parties, blamed the previous government for the incorrect management of the health-care system and announced plans to take control of two hospitals that are actually managed by a PPP: the hospital of Alzira, after the end of the concession period in 2018, and the hospital of Dénia, in this case by buying the concession to the private operator (ElDiario.es, 3/11/2016).
An intense debate is ongoing in Madrid region too. Six hospitals were built following a PFI scheme, where only non-medical services were included, and four other hospitals were built by PPPs that included also medical services, like in the Alzira model.

The six PFI hospitals were contracted in 2005 by Madrid region and the infrastructures started functioning in 2008 (Publico.es, 17/02/2013). The concessionaires assumed financing and construction, conditioned to payments from the public sector during 30 years

(Publico.es, 17/02/2013).The concessionaires receive additional payments for the operation of non-medical services, such as laundry, restaurants, and administration (Publico.es, 17/02/2013). Regarding the EU legislation on PPPs (Chapter XXX), the investment did not affect Madrid region's budget and debt level, but the public treasuries will pay for them for 30 years (Publico.es, 17/02/2013). As highlighted by Félix Lobo, the director of the Master on Health Assessment and Market Access at Carlos III University in Madrid, the investments "do not count as a deficit, but the people from Madrid and our children will keep paying for them in the future" (Publico.es, 17/02/2013). He added: "for a politician, this was a fantastic opportunity", meaning that politicians could gain votes by providing six new hospitals to citizens (Publico.es, 17/02/2013).

According to several associations, like CasMadrid and Fadsp, externalising the management of the hospitals has been more expensive for public budgets than managing them directly by public means (Publico.es, 17/02/2013). They also claim that concessionaires had already paid their initial investments in 2012 and they are obtaining large benefits (Publico.es, 17/02/2013). Furthermore, some of the companies that participated in the PFIs and some politicians that ruled in Madrid region have been investigated for their implication in corruption cases, since the private companies are suspect for having done illegal payments to the political party that rules in Madrid region, PP, in order to obtain the contracts (Publico.es, 17/02/2013).

Corruption cases are also being investigated in the four hospitals built following the Alzira model. To mention one case, PPP hospitals were blamed for sending problematic and expensive patients to public hospitals (El País, 27/01/2013).

The efficiency of the private management of health-care services has also been discussed and, in this sense, CasMadrid informs of the large over-costs in the Alzira model hospitals in Madrid, along with a lower quality in the service and higher dangers for the patients, due to the privatization of health-care workers, who receive extra earnings if they reduce the expense used in each patient (NuevaTribuna.es, 6/02/17). In fact, there are international studies that show that hospitals managed by private for-profit companies imply higher mortalities, compared to hospitals managed by non-profit organizations (Devereux, 2002a; Devereux, 2002b).

Regarding the mentioned issues and the existing debate about whether hospitals should be managed by private companies, the Plenary Session of the Madrid Assembly in 21 April 2016 requested strict compliance with the concession contracts, as well as a public audit and mechanisms to control the quality of the service provided to citizens and the transparency of the management. The political party Podemos, the main party in the city of Madrid, has even requested to recover the public management of health-care services (La Vanguardia, 4/04/2017). The spokesman of Podemos in the assembly of Madrid claimed that “the projects have been to the detriment of public coffers, the general interest of the Community of Madrid, and its citizens" (La Vanguardia, 4/04/2017).

References from the media (in Spanish):

http://www.eldiario.es/cv/hospitales-privatizados-valencianos-millones-Generalitat_0_576392680.html
http://www.publico.es/actualidad/privatizar-hospitales-sale-caro-i.html
http://economia.elpais.com/economia/2011/09/28/actualidad/1317195186_850215.html
http://www.elmundo.es/baleares/2017/02/25/58b15405468aeb21158b456f.html
http://www.nuevatribuna.es/articulo/sanidad/diez-anos-empresas-hospitales-privados-madrid-han-embolsado-mas-1500-millones/20170206105740136408.html
http://amyts.es/texto-mocion-aprobada-por-psoe-podemos-ciudadanos-sobre-concesiones-de-hospitales/
http://www.lavanguardia.com/local/madrid/20170404/421447794869/podemos-defiende-revertir-concesiones-a-hospitales-y-psoe-y-cs-renegociarlas.html
http://www.lavanguardia.com/local/madrid/20170405/421466232903/canon-nospitales-madrid-denuncia-inflado.html
http://www.publico.es/espana/pp-recibio-dinero-empresas-aguirre.html
http://ccaa.elpais.com/ccaa/2013/01/26/madrid/1359238030_097867.html

Other references:

Devereux, PJ, CMAJ, 2002. A systematic review and meta-analysis of studies comparing mortality rates of private for-profit and private not-for-profit hospitals.

Devereaux PJ, JAMA. 2002. Comparison of mortality between private for-profit and private not-for-profit hemodialysis centers: a systematic review and meta-analysis.

ANNEX 2: List of BOT projects in Spain

The data is actualised in 2017, except from ANCI projects, which are from 2009. Urban projects are highlighted in yellow.

DETAIL	MAIN COMPANY	INFRASTRUCTURES	URBAN	Number of Infrastrctures
Obras de acondicionamiento, modernización y mejora y conservación y explotación de la autovía A-4 del p.k. 138,0 al p.k. 245,0. Tramo: Puerto Lápice-Venta de Cárdenas (Ciudad Real).	ALDESA	Highway	NO	1
Construcción de instalaciones y Gestión de servicios públicos portuarios en la zona naútico deportiva 3 del puerto de Torrevieja (Alicante).	ALDESA	Port	NO	1
Constitución de dos derechos de superficie para la construcción y conservación de edificio judicial en Manresa y la explotación mediante su arrendamiento a la Generalitat de Catalunya.	ALDESA	Court building	YES	1
Constitución de dos derechos de superficie para la construcción y conservación de edificio judicial en El Vendrell y la explotación mediante su arrendamiento a la Generalitat de Catalunya.	ALDESA	Court building	YES	1
Construcción y Explotación de un colegio concertado en Arganda del Rey (Madrid).	ASSIGNIA	School	YES	1
Concesión para la construcción de la ampliación del Hospital Costa del Sol y de un parking subterráneo que será objeto de posterior explotación (Málaga).	ASSIGNIA	Hospital+Parking (non-health services)	YES	2
Construcción y Explotación de un colegio concertado en Navalcarnero (Madrid).	ASSIGNIA	School	YES	1
Construcción y Explotación, en régimen de concesión de obra pública, de un complejo deportivo en Prado de Somosaguas (Madrid).	ASSIGNIA	Sports centre	YES	1
Construcción y Explotación de centro deportivo en Navalcarnero (Madrid).	ASSIGNIA	Sports centre	YES	1
Redacción de Proyecto, Construcción y Gestión de servicios no hospitalarios del Hospital del Tajo en Aranjuez (Madrid).	ASSIGNIA	Hospital (non-health services)	YES	1
Construcción y Explotación, en régimen de concesión de obra pública, de un complejo deportivo en Villaviciosa de Odón (Madrid).	ASSIGNIA	Sports centre	YES	1
Construcción de residencia y unidad de estancia diurna para asistidos, equipamiento del centro, así como la concesión administrativa para la explotación del servicio y el aprovechamiento de las instalaciones (Sevilla).	ASSIGNIA	Geriatric	YES	1
Construcción y Explotación del área de servicio de Ponferrada (León).	ASSIGNIA-COPISA	Service area	NO	1
Construcción y Explotación del área de servicio de Torre del Valle (Zamora).	ASSIGNIA-COPISA	Service area	NO	1
Construcción y Explotación del área de servicio de Orihuela (Alicante).	ASSIGNIA-COPISA	Service area	NO	1
Construcción y Explotación del área de servicio de Onzonilla (León).	ASSIGNIA-COPISA	Service area	NO	1

Obras de acondicionamiento, modernización y mejora y conservación y explotación de la autovía A-4 del p.k. 138,0 al p.k. 245,0. Tramo: Puerto Lápice-Venta de Cárdenas (Ciudad Real).	AZVI	Highway	NO	1
Construcción, Explotación y Mantenimiento de la Autopista de Peaje Madrid - Toledo y Autovía Libre de Peaje A-41 de Castilla - La Mancha. Tramo: Circunvalación Norte de Toledo.	AZVI	Toll Highway	NO	1
Construcción, Explotación y Mantenimiento de las Líneas 1 y 2 del Metro de Málaga	AZVI	Underground	YES	1
Construcción y Explotación de los aparcamientos Plaza del Arenal (814 plazas); Plaza de Madre de Dios (434 plazas) y Plaza del Caballo (344 plazas) en Jerez de la Frontera (Cádiz).	AZVI	Parking lot (3)	YES	3
Explotación del aparcamiento Mercado del Arenal (235 plazas), construcción y explotación del aparcamiento José Laguillo (440 plazas) y Pino Montano (200 plazas), gestión del aparcamiento Mercado de Triana (225 plazas) y gestión del estacionamiento regulado en superficie (RES) en las zonas del Mercado del Arenal, Los Remedios y Viapol-San Bernardo, en Sevilla.	AZVI	Parking lot (4) + on-street parking	YES	4
Construcción y Explotación del aparcamiento Plaza Andrés Lopez Yebra (481 plazas) en Fuengirola (Málaga).	AZVI	Parking lot	YES	1
Construcción y Explotación del aparcamiento (678 plazas) del Hospital Virgen del Rocío (Sevilla).	AZVI	Parking lot	YES	1
Redacción de Proyecto, Construcción, Mantenimiento y Explotación de la autopista Villafranca - El Burgo de Ebro (Zaragoza)	BRUESA	Toll Highway	NO	1
Constitución de un derecho real de superficie con el fin de construir, explotar y conservar un edificio asistencial en Palma de Mallorca.	BRUESA	Social building	YES	1
Construcción de 177 viviendas en régimen de alquiler y residencia para 196 plazas i/ explotación en Zaragoza.	BRUESA	Social housing + residence	YES	2
Construcción de 178 viviendas con protección pública en régimen de alquiler con opción de compra, acogidas a los Planes de Vivienda de la Comunidad de Madrid.	BRUESA	Social housing	YES	1
Construcción y Explotación de Hotel y Palacio de Congresos en Islantilla (Huelva).	BRUESA	Hotel + Congress Centre	YES	2
Construcción y Explotación de Hotel en la Linea de la Concepción (Cádiz).	BRUESA	Hotel	YES	1
Construcción y Explotación de Palacio de Congresos en la Línea de la Concepción (Cádiz)	BRUESA	Congress Centre	YES	1
Constitución de un derecho real de superficie con el fin de construir, explotar y conservar un edificio de ocio (Huesca)	BRUESA	Leasure centre	YES	1
Conservación, Gestión y Explotación de locales comerciales en el Centro Comercial Arcco Amara de San Sebastián.	BRUESA	Leasure centre	YES	1
Construcción, Gestión, Explotación y Administración de la Ciudad de Transportes de Santander.	BRUESA	Logistic centre	NO	1
Construcción, Gestión y Explotación de una nave industrial en la Ciudad de Transportes de Santander	BRUESA	Industrial building	NO	1
Conservación, Gestión y Explotación de parking en Ordizia - Guipúzcoa.	BRUESA	Parking lot	YES	1

Conservación, Gestión y Explotación de parking en rotación en el Centro comercial Arcco Amara de San Sebastián	BRUESA	Parking lot	YES	1
Construcción y Explotación de la autovía Ourense - Celanova de 19 km (Orense).	COPASA	Highway	NO	1
Construcción y Explotación de la autovía del Salnes (conversión en autovía de la VRG-4.1), tramo: PO-531 - Sanxenxo de 17 km (Pontevedra)	COPASA	Highway	NO	1
Construcción y Explotación de un aparcamiento subterráneo en el muelle del Parrote (A Coruña).	COPASA	Parking lot	NO	1
Construcción y Explotación de un aparcamiento subterráneo en la Glorieta de las Ánimas (A Coruña).	COPASA	Parking lot	YES	1
Construcción y Explotación de un colegio concertado en Paracuellos del Jarama (Madrid).	COPASA	School	YES	1
Construcción y Explotación de un centro de ocio y comercial, área de esparcimiento y aparcamiento subterráneo (Pontevedra)	COPASA	Leasure centre + parking lot	YES	2
Redacción de Proyecto, Construcción y Explotación de la EDAR de Ares Mugardos (A Coruña).	COPASA	Waste-water treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de la EDAR de Baiona (Pontevedra)	COPASA	Waste-water treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de EDAR de Melide (A Coruña)	COPASA	Waste-water treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de la EDAR de Muros (A Coruña).	COPASA	Waste-water treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de EDAR de Moraña (Pontevedra).	COPASA	Waste-water treatment plant	NO	1
Construcción y Explotación del área de servicio de Ponferrada (León).	COPASA	Service area	NO	1
Construcción y Explotación del área de servicio de Torre del Valle (Zamora)	COPASA	Service area	NO	1
Construcción y Explotación del área de servicio de Orihuela (Alicante).	COPASA	Service area	NO	1
Construcción y Explotación del área de servicio de Onzonilla (León)	COPASA	Service area	NO	1
Construcción y Explotación del eje transversal C-25, Cervera-Caldes de Malavella.	COPCISA-COPISA	Highway	NO	1
Construcción y Explotación de la vía preferente C-17, Centelles - Vic - Ripoll, en la provincia de Barcelona.	COPCISA-COPISA	Highway	NO	1
Explotación de la zona 2 de la red de carreteras dependiente de la diputación provincial de Toledo.	COPCISA	Roads	NO	1
Construcción y Explotación del eje Maçanet-Platja d'Aro.	COPCISA-COPISA	Roads	NO	1
Construcción y Explotación del tramo de autovía entre Puig-Reig y Berga de la C-16 (Eje del LLobregat).	COPCISA-COPISA	Highway	NO	1
Tres derechos de superficie para la construcción y conservación de 3 edificios y la explotación de los mismos mediante su arrendamiento a la Generalitat de Catalunya, que los destinará a las sedes de los juzgados de Igualada, Vilafranca del Penedès y Vilanova i la Geltrú	COPCISA	Court building (3)	YES	3

Construcción y Explotación de la red de regadío Segarra-Garrigues, en la provincia de Lérida.	COPCISA	Irrigation infrastruictures	NO	1
Construcción de instalaciones y Gestión de la nueva marina del Puerto Deportivo en Vilanova i la Geltrú (Barcelona).	COPISA	Port	NO	1
Derecho de superficie para la construcción y conservación del módulo para jóvenes en la prisión de Quatre Camins (Barcelona).	COPISA	Prison	NO	1
Construcción y Explotación de juzgados y oficinas así como un aparcamiento subterráneo (1.800 plazas) para la Ciudad Judicial de Barcelona y L'Hospitalet de Llobregat.	COPISA	Court house + offices +parking lot	YES	3
Construcción y Explotación de dos Residencias Universitarias de estudiantes en Barcelona y Terrassa.	COPISA	Students residence	YES	1
Construcción y Explotación estacionamiento subterráneo para vehículos en Hospital Arnau de Vilanova (Lleida).	COPISA	Parking lot	YES	1
Construcción y Explotación de dos estacionamientos subterráneos para vehículos (228 y 240 plazas) en L'Hospitalet de Llobregat.	COPISA	Parking lot (2)	YES	2
Construcción y Explotación de estacionamiento subterráneo para vehículos (182 plazas) en Mollet del Valles (Barcelona).	COPISA	Parking lot	YES	1
Redacción de Proyecto, Construcción y Explotación de E.D.A.R. en varios municipios de la zona 10 de la C.A. de Aragón.	COPISA	Waste-water treatment plant	NO	1
Concesión de obra pública para la redacción del proyecto, construcción y explotación de la instalación desaladora de agua marina de Andratx (Mallorca).	COPISA	Desalination plant	NO	1
Construcción y Explotación de colectores en alta y E.D.A.R en Pineda de Mar (Barcelona).	COPISA	Waste-water treatment plant	NO	1
Construcción y Explotación de la red de regadío Segarra-Garrigues, en la provincia de Lérida.	COPISA	Irrigation infrastruictures	NO	1
Construcción y Explotación de instalaciones de saneamiento (14 depuradoras) de aguas residuales en la Cuenca del Tordera (Cataluña).	COPISA	Waste-water treatment plant (14)	NO	14
Conservación y Explotación de la autovía A-31, del P.K. 29,80 al P.K.124,00. Tramo: La Roda-Bonete (Albacete).	CYOPSA-SISOCIA	Highway	NO	1
Construcción, Explotación y Mantenimiento de la autovía Valladolid-Segovia. Tramo: Valladolid-Cuellar, de 50 km	CYOPSA-SISOCIA	Highway	NO	1
Construcción, Conservación y Explotación de la autovía CM-400. Tramo: Toledo-Consuegra, de 52,2 Km.	CYOPSA-SISOCIA	Highway	NO	1
Construcción y explotación de geriátrico en Motril (Granada).	DETEA	Geriatric	YES	1
Construcción y explotación de edificio de oficinas en el Parque Tecnológico de Andalucía en Málaga, que alberga también la sede del Instituto de Innovación para el bienestar ciudadano.	DETEA	Office building	NO	1
Construcción y explotación de oficinas en el Parque Cartuja 93 (Sevilla).	DETEA	Office building	NO	1
Construcción y explotación de geriátrico en Canena (Jaén).	DETEA	Geriatric	YES	1
Construcción y explotación de 600 plazas de aparcamiento en régimen de alquiler y rotación en el edificio CIBIC en el Parque Tecnológico de Andalucía en Málaga.	DETEA	Parking lot	NO	1

Redacción de Proyecto, Construcción y Explotación de las actuaciones incluidas en la zona 09 del Plan Especial de Depuración de Aragón (11 EDAR's y sus correspondientes colectores en poblaciones del sur de Zaragoza y norte de Teruel).	JOCA	Waste-water treatment plant (11) + collectors	NO	11
Construcción, Conservación y Explotación de la Autovía CV-95, tramo Orihuela-Costa (Alicante).	LUBASA	Highway	NO	1
Construccion y Explotación Aeropuerto Costa de Azahar (Castellón).	LUBASA	Airport	NO	1
Construcción y Explotación de una Terminal de Graneles Sólidos en la Dársena Sur del Puerto de Castellón	LUBASA	Port	NO	1
Construcción y Explotación de la Terminal Polivalente de Castellón: Terminal B de mercancías en la ampliación Norte del Puerto de Castellón	LUBASA	Port	NO	1
Construcción y Explotación de Aparcamiento Pere Cornell en Almazora (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Paseo de la Feria (Albacete).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Ctra. Húmera en Pozuelo (Madrid).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Plaza Mayor en Vila-real (Castellón)	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Avenida del Mar II (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Patronato de los Deportes (Castellón)	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Hospital General (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Hospital Provincial nº2 (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento junto al Hospital Arnau de Vilanova (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la calle Pintor Navarro Llorens (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la calle Chile (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la calle Jerónimo Muñoz (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Clavé/ San Félix (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento en Avda. España (Albacete).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Plaza del Sembrador (Albacete).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la Avda. de la Horchata en Alboraya (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la calle Logroño en Salou (Tarragona).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento Hospital Joan XXIII (Tarragona	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento en la Avenida President Lluis Companys (Tarragona)	LUBASA	Parking lot	YES	1

Construcción y Explotación de Aparcamiento en la Avenida Catalunya (Tarragona).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento en el barrio del Serrallo, bajo la calle Trafalgar (Tarragona).	LUBASA	Parking lot	YES	1
Construcción y Explotación del Aparcamiento en la C/ Casa de la Misericordia (Valencia).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Plaza Mayor de Calpe (Alicante).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Hospital Provincial I (Castellón).	LUBASA	Parking lot	YES	1
Construcción y Explotación de Aparcamiento Pl. Borrull (Castellón).	LUBASA	Parking lot	YES	1
Gestión de centro de ocio con salas de cine aparcamiento y locales comerciales (Castellón).	LUBASA	Leasure centre + parking lot	YES	2
Construcción, Equipamiento y Gestión de hospital de la población del Departamento 11 de la Comunidad Valenciana, con criterios de excelencia y eficiencia en la gestión (Valencia).	LUBASA	Hospital	YES	1
Explotación de la Instalación de Valorización y Eliminación correspondiente al plan Zonal III y VIII-Área de Gestión 2-Vall d'Uixó (Castellón).	LUBASA	Waste treatment plant	NO	1
Explotación de la Instalación de Valorización y Eliminación correspondiente al plan Zonal III y VIII-Área de Gestión 2-Algimia de Alfara (Valencia).	LUBASA	Waste treatment plant	NO	1
Explotación de la Instalación de Valorización y Eliminación correspondiente al plan Zonal II, IV y V-Onda (Castellón).	LUBASA	Waste treatment plant	NO	1
Explotación de la Instalación de Valorización correspondiente al plan Zonal X, XI y XII-Guadassuar (Valencia)	LUBASA	Waste treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de aparcamiento en Monzón (Huesca)	MARCOR EBRO	Parking lot	YES	1
Redacción de Proyecto, Contrucción y Explotación de aparcamiento subterráneo en Jaca (Huesca).	MARCOR EBRO	Parking lot	YES	1
Redacción de Proyecto, Construcción y Explotación de las depuradoras de aguas residuales en zona 3 en Zaragoza y Huesca.	MARCOR EBRO	Waste-water treatment plant	NO	1
Redacción de Proyecto, Construcción y Explotación de las depuradoras de aguas residuales en zona 2 en Zaragoza y Huesca.	MARCOR EBRO	Waste-water treatment plant	NO	1
Gestión del servicio público de eliminación de residuos industriales no peligrosos no susceptibles de valorización de la zona III (C.A. Aragón).	MARCOR EBRO	Industrial waste treatment plant	NO	1
Gestión del servicio público de eliminación de residuos industriales no peligrosos no susceptibles de valorización de la zona IV (C.A. Aragón)	MARCOR EBRO	Industrial waste treatment plant	NO	1
Construcción, Conservación y Explotación de la autopista de peaje AP-7. Tramo Cartagena-Vera (Murcia).	PLODER	Toll Highway	NO	1
Construcción, Conservación y Explotación de la autopista de peaje AP-7. Tramo Alicante-Cartagena (Alicante y Murcia).	PLODER	Toll Highway	NO	1
Explotación del aparcamiento del Hospital Infanta Leonor en Vallecas (Madrid).	PLODER	Parking lot	YES	1

Rehabilitación del edificio de la antigua casa consistorial y ampliación como nuevo centro cultural así como la construcción y explotación del aparcamiento en la plaza Padre Vallet en Pozuelo de Alarcón (Madrid).	PLODER	Cultural centre + parking lot	YES	2
Redacción de Proyecto, Construcción y Explotación de servicios no sanitarios del Hospital de Vallecas (Madrid).	PLODER	Hospital (non-health services)	YES	1
Construcción y Explotación de la autovía del Salnes (conversión en autovía de la VRG-4.1), tramo: PO-531 - Sanxenxo de 17 km (Pontevedra).	GRUPO PUENTES	Highway	NO	1
Construcción y explotación de aparcamiento subterráneo bajo el futuro Centro regional de expresión artística de Castilla-La Mancha "Quixote Crea" en Toledo	GRUPO PUENTES	Parking lot	YES	1
Gestión de servicio público de aparcamientos subterráneos de uso mixto en diferentes lugares de la ciudad de Vigo (Pontevedra).	GRUPO PUENTES	Parking lot	YES	1
Construcción y Explotación de aparcamiento subterráneo ubicado en la calle Constitución (Sanxenxo), provincia de Pontevedra	GRUPO PUENTES	Parking lot	YES	1
Construcción y Explotación de aparcamiento subterráneo ubicado en Camiño da Perla (Portonovo), provincia de Pontevedra.	GRUPO PUENTES	Parking lot	YES	1
Construcción y Explotación de un auditorio-palacio de congresos con zonas complementarias (Hotel, Centro Comercial, Aparcamiento) en Vigo	GRUPO PUENTES	Congress Centre + Hotel + Leuisure Centre+ Parking lot	YES	4
Construcción, Conservación y Explotación de la Autovía CV-95, tramo Orihuela-Costa (Alicante).	ROVER ALCISA	Highway	NO	1
Conservación y Explotación de la Autovía A-31 Tramo Bonete-Alicante	RUBAU	Highway	NO	1
Construcción, Promoción y Explotación del puerto deportivo de Calafell (Tarragona).	RUBAU	Leisure docks	YES	1
Construcción y Explotación del aparcamiento Plaza del Mar (500 plazas) en Barcelona.	RUBAU	Parking lot	YES	1
Construcción y Conservación de un edificio, y la explotación del mismo mediante su arrendamiento a la Generalitat de Catalunya, que lo destinará a la sede de la Audiencia Provincial de Girona y otras dependencias judiciales en Girona.	RUBAU	Court building	YES	1
Construcción y Conservación de un edificio y la explotación del mismo mediante su alquiler a la Generalitat de Catalunya, que lo destinará a la sede de los juzgados de Granollers (Barcelona).	RUBAU	Court building	YES	1
Derecho de superficie para la construcción y conservación mediante alquiler al IVIMA de 67 viviendas y plazas de aparcamiento en La Ventilla en Madrid.	RUBAU	Social housing + parking lot	YES	2
Derecho de superficie para la construcción y conservación mediante alquiler al IVIMA de 111 viviendas y plazas de aparcamiento en Vallecas en Madrid	RUBAU	Social housing + parking lot	YES	2
Derecho de superficie para la construcción y conservación mediante alquiler al IVIMA de 122 viviendas y plazas de aparcamiento en La Ventilla en Madrid.	RUBAU	Social housing + parking lot	YES	2

Obras de acondicionamiento, modernización y mejora y conservación y explotación de la autovía A-4 del p.k. 138,0 al p.k. 245,0. Tramo: Puerto Lápice-Venta de Cárdenas (Ciudad Real).	SANDO	Highway	NO	1
Construcción, Explotación y Mantenimiento de la Autopista de Peaje Madrid - Toledo y Autovía Libre de Peaje A-41 de Castilla - La Mancha. Tramo: Circunvalación Norte de Toledo.	SANDO	Toll Highway	NO	1
Explotación del servicio público de transporte de viajeros Vélez - Málaga (Málaga).	SANDO	Light-rail	YES	1
Construcción, Explotación y Mantenimiento de las líneas 1 y 2 del Metro de Málaga.	SANDO	Underground	YES	1
Construcción y Explotación de un aparcamiento subterráneo (723 plazas) en el Rincón de la Victoria (Málaga).	SANDO	Parking lot	YES	1
Construcción y Explotación de un aparcamiento subterráneo (447 plazas) en el Paseo de la Victoria (Córdoba).	SANDO	Parking lot	YES	1
Construcción y Explotación del aparcamiento (678 plazas) del Hospital Virgen del Rocío (Sevilla).	SANDO	Parking lot	YES	1
Construcción y Explotación de un aparcamiento subterráneo (535 plazas) en el Paseo de Colón (Sevilla).	SANDO	Parking lot	YES	1
Construcción y Explotación de equipamiento público: adecuación de la antigua Estación de Cádiz para usos de Sistema Dotacional, rehabilitación estructural del antiguo Mercado de la Puerta de la Carne y construcción y explotación de un aparcamiento subterráneo de 827 plazas (Sevilla).	SANDO	Public building + market+parking lot	YES	3
Construcción y Explotación de un centro de investigación biomédica, aparcamiento subterráneo de 1.000 plazas del Hospital Virgen del Rocío y reforma del Hospital Infantil (Sevilla).	SANDO	Investigation centre + Hospital (only reform) + Parking lot	YES	3
Construcción y explotación de conjunto edificatorio destinado a uso terciario, hotel y oficinas, aparcamiento subterráneo de 1.000 plazas e intercambiador de transportes en Mairena del Aljarafe (Sevilla).	SANDO	Tertiary use building+hotel+ offices+ parking lot	YES	4
Redacción de Proyecto, Construcción y Gestión de servicios no hospitalarios del Hospital del Tajo en Aranjuez (Madrid).	SANDO	Hospital (non-health services)	YES	1
Construcción, Explotación y posterior desmantelamiento y restauración de una planta solar fotovoltaica de 500 kW de potencia instalada en La Rinconada (Sevilla).	SANDO	Solar energy plant	NO	1
Conservación y Explotación de la autovía A-31, del P.K. 29,80 al P.K.124,00. Tramo: La Roda-Bonete (Albacete).	SARRION	Highway	NO	1
Redacción de Proyecto, Construcción y Explotación de la Autovía M-407. Tramo: M-404 a M-506 (Griñón - Fuenlabrada).	SARRION	Highway	NO	1
Redacción de Proyecto, Construcción y Explotación de la Autovía CM-400 (Autovía de los Viñedos). Tramo: Consuegra (Toledo) - Tomelloso (Ciudad Real).	SARRION	Highway	NO	1
Gestión de aparcamientos en la ciudad de Cuenca.	SARRION	Parking lot	YES	1
Construcción de infraestructuras y Explotación del servicio de valoración y eliminación de los residuos de construcción y demolición en la provincia de Cuenca.	SARRION	Construction waste treatment plant	NO	1
A-308 Iznalloz Darro	IRIDIUM	Highway	NO	1
A21- Autovía del Pirineo	IRIDIUM	Highway	NO	1

Accesos de Madrid (R3/R5 y M50)	IRIDIUM	Highway	NO	1
Aparcamiento de la Estación Marítima de Ceuta	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento en el Ayuntamiento de Zaragoza	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento en la calle César Augusto de Zaragoza	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento en la Plaza del Pilar frente a los Juzgados de Zaragoza	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento en Aguadulce (Roquetas de Mar, Almería)	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento de Residentes en la calle Ortega y Gasset (Madrid)	IRIDIUM - URBASER	Parking lot	YES	1
Aparcamiento en calle Corazón de María en Madrid	IRIDIUM - DRAGADOS	Parking lot	YES	1
Aparcamiento Centro Comercial Las Ramblas en Coslada (Madrid)	IRIDIUM - DRAGADOS	Parking lot	YES	1
Aparcamiento del nuevo Hospital de Majadahonda (Madrid)	IRIDIUM	Parking lot	YES	1
Aumancha. Redacción del proyecto, construcción, explotación, mantenimiento y conservación de la autovía CM-400 tramo Toledo - Consuegra (52,25 km	IRIDIUM	Highway	NO	1
Autovía de los Pinares	IRIDIUM	Highway	NO	1
Autovía del Camp del Turia (CV 50)	IRIDIUM	Highway	NO	1
Autovía Medinaceli-Calatayud (Aumecsa)	IRIDIUM	Highway	NO	1
Cárcel de Brians	IRIDIUM	Prison	NO	1
Centros de Salud Mallorca. Construcción, conservación y explotación de los Centros de Salud (CS) de Muro, Esporles, Sa Pobla, Son Servera y Andratx y las Unidades Básicas de Salud (UBS) de Ses Salines, Porreres, Ariany, Es Molinar y María de la Salut en Mallorca (Islas Baleares - España	IRIDIUM	Health centre (10)	YES	10
Ciralsa. construcción, conservación y explotación de la autopista de peaje Circunvalación de Alicante y de la variante libre de peaje de "El Campello", del tercer carril en la autovía libre de peaje A-7, entre Elche y Crevillente; conservación y explotación de la autovía libre de peaje "Camino del Castilla; y construcción de las siguientes actuaciones libres de peaje: adecuación y reforma del corredor de Levante (N-330), tramo Alicante-límite Provincia Albacete; Elche-Crevillente, acceso a Crevillente por el Norte y por el Sur; ronda Este de Elche; y Torrellano-Alicante, Camino Viejo de Elche. En total son 148 km, de los cuales 33,2 km corresponden a la autopista de peaje.	IRIDIUM	Toll Highway + roads	NO	2
Construcción y mantenimiento de 3 edificios y su arrendamiento a la Generalitat de Catalunya, así como la conservación de un cuarto edificio. Los edificios albergan la comisaría central de los mossos d´Esquadra en Sabadell.	IRIDIUM	Police station (3)	YES	3

Comisarías del Vallés (Barberá). Construcción, mantenimiento y alquiler a la Generalitat de Catalunya de 5 edificios destinados a ser comisarías del cuerpo de los Mossos de Esquadra a la Generalitat de Catalunya en 5 localidades (Barberà del Vallès, Sant Cugat del Vallès, Rubí, Esplugues de Llobregat i Cornellà de Llobregat.).	IRIDIUM	Police station (5)	YES	5
Comisarías del Vallés (Terrasa). Construcción, mantenimiento y alquiler a la Generalitat de Catalunya de 5 edificios destinados a comisarías del cuerpo de los Mossos de Esquadra a la Generalitat de Catalunya en 5 localidades (Montcada i Reixac, Ripollet, Terrassa, Cerdanyola del Vallès i Santa Perpètua de la Mogoda).	IRIDIUM	Police station (5)	YES	5
Eje Diagonal. Financiación, diseño, construcción, operación y mantenimiento de la carretera L'Eix Diagonal de peaje en sombra	IRIDIUM	Shadow toll highway	NO	1
Empresa Mantenimiento y Explotación M-30, SA	IRIDIUM	Highway	NO	1
Construcción, conservación y explotación del nuevo complejo asistencial de Can Misses y dos centros de salud vinculados al mismo en Ibiza (España).	IRIDIUM	Hospital + health centre (2)	YES	3
Hospital de Toledo. Diseño, construcción, financiación y explotación del Complejo Hospitalario Universitario de Toledo, que incluye, no solo la redacción del proyecto y finalización de las obras del Nuevo Hospital de Toledo, sino también la prestación de varios servicios no clínicos en tres centros hospitalarios más así como en 4 centros de especialidades de la provincia de Toledo	IRIDIUM	Hospital (5) (non-health services)	YES	5
Hospital Majadahonda. Proyecto de ejecución, construcción y explotación de la obra pública Hospital Puerta de Hierro de Majadahonda	IRIDIUM	Hospital	YES	1
Hospital Son Espases. Financiación, construcción, conservación y explotación del nuevo Hospital Universitario Son Espases	IRIDIUM	Hospital (non-health services)	YES	1
Intercambiador de Transportes Avenida de América. Explotación y gestión del servicio público del intercambiador de transportes y aparcamientos de residentes y de rotación situados en al Avenida América	IRIDIUM	Public transport interchanger + parking lot	YES	2
Intercambiador de Transportes Plaza de Castilla. Concesión de obra pública y gestión del servicio público de explotación del intercambiador de transportes de Plaza de Castilla	IRIDIUM	Public transport interchanger + parking lot	YES	2
Intercambiador de Transportes Príncipe Pío	IRIDIUM	Public transport interchanger	YES	1
Metro de Arganda. Construcción y explotación de la ampliación de la línea 9 de la red de Metro de Madrid, desde la estación Puerta de Arganda, hasta el municipio de Arganda del Rey	IRIDIUM	Underground	YES	1
Parking de Serrano. Ejecución de las obras de Remodelación de la calle Serrano entre la calle María de Molina y la Plaza de la Independencia y de las calles laterales del ámbito de influencia, construcción y explotación de los tres aparcamientos	IRIDIUM - CINTRA	Parking lot (3)+ civil works	YES	3
Radial 2. Construcción conservación y explotación de la autopista de peaje R-2, de Madrid a Guadalajara, y de la circunvalación a Madrid M-50 subtramo desde la carretera NII hasta la carretera NI.	IRIDIUM	Toll Highway + highway	NO	1

Reus-Alcover. Construcción, mantenimiento y explotación de una carretera de dos carriles por sentido entre las localidades de Reus y Alcover	IRIDIUM	Highway	NO	1
Construcción y explotación de la Autovía AG-56 Santiago Brión, incluida la variante de población As Galanas (N-550) - Pardiñas (AG-56) mediante sistema de canon de demanda pagado por la Administración	IRIDIUM	Highway (availability)	NO	1
TP Ferro. Construcción, explotación y mantenimiento de una línea ferroviaria de alta velocidad, de tráfico mixto (pasajeros y mercancías) y con doble vía entre Figueras y Perpiñán	IRIDIUM	Railway	NO	1
Tramo II Línea 9 Metro de Barcelona	IRIDIUM	Underground	YES	1
Tramo IV Línea 9 Metro de Barcelona	IRIDIUM	Underground	YES	1
Autema Sant Cugat del Vallés-Terrassa-Manresa	CINTRA	Toll highway	NO	1
Autopista del SolMálaga-Estepona-Guadiano	CINTRA	Toll highway	NO	1
Autovía de la PlataBenavente-Zamora	CINTRA	Highway	NO	1
Autovía AlmanzoraAlmanzora - Almería	CINTRA	Highway	NO	1
Accesos de Madrid	SACYR	Toll Highway (2) + Highway	NO	3
Aunor	SACYR	Highway	NO	1
Autopista del Guadalmedina	SACYR	Toll Highway	NO	1
Autopista Madrid Levante	SACYR	Toll Highway	NO	1
Autopista Madrid Sur	SACYR	Toll Highway	NO	1
Autovía del Arlanzón, S.A	SACYR	Highway	NO	1
Autovía del Barbanza	SACYR	Highway	NO	1
Autovía del Eresma	SACYR	Highway	NO	1
Autovía del Turia	SACYR	Highway	NO	1
Hospital de Parla	SACYR	Hospital (non-health services)	YES	1
Hospital del Noreste	SACYR	Hospital (non-health services)	YES	1
Itemosa. Construcción, conservación y explotación del nuevo intercambiador de transportes de Moncloa.	SACYR	Public transport interchanger	YES	1
Itepesa. Intercambiador Plaza Elíptica	SACYR	Public transport interchanger	YES	1
Metropolitano de Tenerife. Construcción y puesta en marcha, gestión y explotación de la Línea 1 y 2 del Servicio de Red de Metro Ligero del Área Metropolitana de Tenerife conectando Santa Cruz de Tenerife con La Laguna.	SACYR	Light-rail	YES	1
Pamasa. Construcción del desdoblamiento de la carretera C-715 (Tramo: Camí Sa Síquia-Manacor) y la conservación y explotacion de la carretera desdoblada (Tramo: San Ferriol-Manacor).	SACYR	Roads	NO	1
Viastur	SACYR	Roads	NO	1
AP-7 La Jonquera-Barcelona, Barcelona-Tarragona	ABERTIS	Toll highway	NO	1
AP-7 Montmeló- El Papiol	ABERTIS	Toll highway	NO	1
AP-2 Zaragoza-Mediterráneo	ABERTIS	Toll highway	NO	1
C-31 / C-32 Montgat-Palafolls	ABERTIS	Highway	NO	1

C-33 Barcelona-Granollers	ABERTIS	Highway	NO	1
AP-7 Tarragona-Alicante	ABERTIS	Toll highway	NO	1
AP-4 Sevilla-Cádiz	ABERTIS	Toll highway	NO	1
AP-68 Bilbao-Zaragoza	ABERTIS	Toll highway	NO	1
AP-6 Villalba-Adanero	ABERTIS	Toll highway	NO	1
C-32 Castelldefels-Sitges-El Vendrell	ABERTIS	Highway	NO	1
AP-51 Villacastín-Ávila	ABERTIS	Toll highway	NO	1
AP-61 San Rafael-Segovia	ABERTIS	Toll highway	NO	1
AP-71 León-Astorga	ABERTIS	Toll highway	NO	1
M-45 Tramo II	ABERTIS	Highway	NO	1
R-5 Madrid-Navalcarnero	ABERTIS	Toll highway	NO	1
R-3 Madrid-Arganda	ABERTIS	Toll highway	NO	1
Túnel de Vallvidrera	ABERTIS	Tunnel	NO	1
Túnel del Cadí	ABERTIS	Tunnel	NO	1
R-2 Madrid-Guadalajara	ABERTIS	Toll highway	NO	1
Circunvalación de Alicante	ABERTIS	Highway	NO	1
C-16 Sant Cugat-Terrasa-Manresa	ABERTIS	Highway	NO	1
Metro Barajas	GLOBALVIA	Underground	YES	1
Metro de Málaga	GLOBALVIA	Underground	YES	1
Metro de Sevilla	GLOBALVIA	Underground	YES	1
Metros Ligeros de Madrid	GLOBALVIA	Light-rail	YES	1
Tramvia Metropolità	GLOBALVIA	Light-rail	YES	1
Tramvia Metropolità del Besòs	GLOBALVIA	Light-rail	YES	1
Transportes Ferroviarios de Madrid. Prolongación de la línea 9 del Metropolitano de Madrid, entre Vicálvaro y Arganda	GLOBALVIA	Light-rail	YES	1
Tranvía de Parla	GLOBALVIA	Light-rail	YES	1
Autopista Cartagena - Vera	GLOBALVIA	Toll highway	NO	1
Autopista Central Gallega	GLOBALVIA	Toll highway	NO	1
Circunvalación de Alicante	GLOBALVIA	Highway	NO	1
Concesiones de Madrid	GLOBALVIA	Toll highway	NO	1
M-407	GLOBALVIA	Highway	NO	1
R2, Autopista del Henares	GLOBALVIA	Toll highway	NO	1
Ruta de los Pantanos	GLOBALVIA	Highway	NO	1
Túnel de Sóller	GLOBALVIA	Tunnel	NO	1

338