

GOVERNMENT STRATEGIES FOR MARKET INVOLVEMENT IN ROAD INFRASTRUCTURE PLANNING: AN INTERNATIONAL OVERVIEW

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Abstract

The role of government in planning is changing as the private sector gets more involved in road infrastructure provision in the developed world. This paper aims to provide an overview of these changes in infrastructure planning in the United States of America, the United Kingdom and the Netherlands. The approaches in the different countries are compared for (1) the goals to be achieved in the planning process and product, (2) the distribution of public and private responsibilities and the allocation of risks, and (3) the timing of market involvement and the information availability. This paper argues that the approaches differ substantially with regard to market involvement: the goals differ between attracting private funding and stimulating innovative solutions, the timing differs between early and late involvement and the risks and responsibilities could be distributed by outsourcing or shared by partnering. A strategy for the Dutch government could be to focus less on contracts and more on contacts, leading to more cooperation with the market in partnering arrangements.

Keywords: Infrastructure planning, public-private partnerships, international comparative analysis, private sector involvement, innovative contracting, alliances, market-oriented planning.

INTRODUCTIONⁱ

The strategy of government in approaching market parties is changing. In recent years there has been a shift in the forms of competition between market parties and their cooperation with the coordinating government. More market-oriented planning approaches are being developed, in order to gain greater access to private capital for maintenance and expansion and to achieve greater efficiency by reducing lifetime costs and generating higher revenues (see EC, 1996; Panayotou, 1998). A third reason, not always recognized, is that the private sector can be more innovative in the design, maintenance and operation of a project (Liddle, 1997; Arts et al., 2006). These changes have become visible in a growth of public-private partnerships (PPPs), life-cycle contracts and partnering arrangements over the last decades (OECD, 2008). These can make infrastructure projects viable by enhancing the value for money through “reduced life-cycle costs, better allocation of risk, faster implementation, improved service quality and generation of additional revenues” (EC, 2003, p.36). This is done by involving private sector parties in the whole life-cycle of infrastructure planning (i.e.

plan-making, design, financing, construction, management and operation), instead of limiting their involvement to construction only.

These new approaches lead to a change in roles of both government and market. However, the new approaches have to deal with problems and issues that need to be solved. For instance, in Western societies, increasing complexity has resulted in increasing scarcity of space, complex environmental issues and substantial local public resistance. These factors make infrastructure development difficult (Banister, 2002). As a consequence negative process-related risks such as cost overruns and exceeded timeframes are a rule rather than an exception, in the Netherlands (TCI, 2005; Elverding, 2008) as well as in many other countries (Flyvbjerg et al., 2003; Ahadzi & Bowles, 2004). These authors all indicate that the organization and role of government needs change in order to address the issues mentioned.

Therefore, the different roles of government in market-oriented road infrastructure planning deserve a closer look. These could provide lessons for improving Dutch national infrastructure planning, as well as abroad. Taking a closer look at the market-oriented strategies in infrastructure planning could provide answers to questions such as: what is the goal of private sector involvement in infrastructure planning across different countries? Which arrangements are applied to distribute public and private risks and responsibilities? When, during the planning process, is the private sector involved? This paper explores various approaches of national governments to infrastructure planning to answer these questions and come up with solutions for some of the problems that occur. Additionally, it aims to provide some direction for the Dutch approach to private sector involvement.

METHODOLOGY

This paper investigates practice in the United States, the United Kingdom and the Netherlands. To this end, policy documents and findings of research committees have been examined. The countries selected have a tradition in market involvement in infrastructure planning and can therefore provide relevant state-of-the-art experience. Information access is another reason to choose these countries. The selected countries have a well-documented infrastructure planning process and procurement procedure, which is available in either English or Dutch. Because of time constraints, the description has been limited to the aforementioned countries. However, this paper could easily be extended to more countries, using the framework as worked out in the next section. In the subsequent sections, the various approaches and strategies to infrastructure planning in the United States, the United Kingdom and the Netherlands are discussed, followed by a comparison of these strategies. The paper ends with conclusions.

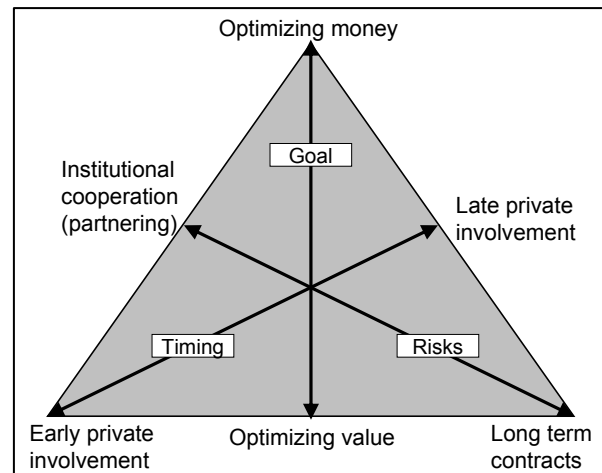
ANALYTICAL FRAMEWORK

Recently, a trend towards more market-oriented policies in infrastructure planning can be noticed. These policies are in line with the neoliberal range of thought (e.g. Harvey, 2005; Roy et al., 2007). The market-oriented policies include new public management, which is described by (Common, 1998) as the collection of core values and instruments that suppose that governmental agencies can be run more efficiently by applying privatization and business management techniques (Saint-Martin, 2000). In the market-oriented infrastructure planning also new forms of (neo-liberal) contracts play a role. In these life-cycle contracts part of the responsibility is distributed for a great deal to a private party. Finding an optimal balance between public and private roles is essential. This balance can be found with a fitting

market-oriented approach. For determining this approach a framework is used that consists of the goals, the risks and responsibilities, and the timing and information (see figure 1).

Goals

The main goal of private sector involvement can be formulated as achieving more value for money. There seem to be two major strategies for stimulating this: optimizing the (amount of) money and optimizing the (added) value.



- *Optimizing money*: this is a key objective when involving the private sector, in the sense that private sector involvement is generally aimed at funding of infrastructure projects. A common rule is that the construction of new infrastructure is preferably partly funded by the private sector. Another aspect in the optimization of the money is project control. As Flyvbjerg et al. (2002) demonstrated, infrastructure projects often have to deal with time and budget overruns. In response, market-oriented policies are introduced to improve project control.
- *Optimizing value*: at first sight, this goal seems to be only a secondary goal in infrastructure planning practice. Optimizing the value means that investments should be made to stimulate innovative projects. Many studies and reports point at the importance of innovation for keeping an industry sector sustainable (see e.g. Cox, 2005).

Risks and responsibilities

Another factor that determines the approach can be found in the distribution of risks and responsibilities. In practice, infrastructure is often delivered in a public-private partnership arrangement. Hodge and Greve (2007) distinguish five different families of arrangements, of which two seem relevant in the context of infrastructure planning:

- *Institutional co-operation for joint production and risk sharing* that aims at co-operation, partnering. Partnering is a long-term agreement, with a high degree of inter-firm cooperation, which is set-up for achieving specific business goals (Bresnen & Marshall, 2000). This means that risks and responsibilities are shared. In infrastructure planning practice this type of arrangement is applied in alliances (Faith-Ell & Arts, 2009).
- *Long term contracts, specified in long term legal contracts*, in which arrangements are made from the standpoint of “contractualism”, assigning the legal risks and responsibilities to one of the parties; either public or private.

Timing and information

The timing and the information availability also determines the approach to private sector involvement:

- *Late private involvement* means that more information is available which can make investments less risky. However, opportunities to improve the project or the process will be more limited, because of the selective character of (public) planning procedures.
- *Early private involvement* offers more chances to increase the added value, but also adds to uncertainty. This uncertainty is caused by limited availability of information early in the planning process – e.g. on risks and opportunities in construction, financing, and operation (Lenferink, 2007).

The introduction of more market-oriented approaches has some concrete implications for the infrastructure planning practice. Therefore, the approach to market involvement in the infrastructure planning process is now discussed in practice.

AMERICAN INFRASTRUCTURE PLANNING ROLES

Background: decentralized highway planning

The Department of Transportation (DoT) is responsible for USA's transportation system. Its Federal Highway Agency (FHWA) is the agency responsible for the safety and condition of USA's highways. Most of the highways are owned by State, local and tribal governments. This makes infrastructure planning in the USA decentralized (to State DoTs) and limits the role of the FHWA to providing financial and technical support to those lower-level governments for constructing, improving, and preserving the highway system (FHWA, 2009b).

In the USA only scarce public funding is available to improve the ageing infrastructure network. As a consequence, private investment is sought in infrastructure planning (FHWA, 2007). In 2005 the SAFETEA-LU act (Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users) was signed by the President. This act stimulates, among other things, innovative financing methods by making it easier and more attractive for the private sector to participate in highway infrastructure projects bringing new ideas and resources to the table (FHWA, 2005). It also aims to increase the use of Design and Build contracts to complete projects and help the funding of infrastructure projects by setting up State infrastructure banks.

. There are several instruments for evaluating private sector involvement in US infrastructure planning that aim at assessing the public benefits of investments in an infrastructure project. For instance, the public sector comparator, which is however, only used limitedly (GAO, 2008a). Also, only few other systematic selection processes are used to guide the selection and implementation of the approach to private sector involvement (Anderson & Damnjanovic, 2008). A reason for the limited use of systematic processes can be found in the decentralized character of US infrastructure planning, which makes that the existing tools are not consistently applied (GAO, 2008b). Although the FHWA plays a supporting role, State DoTs are considerably free in planning their infrastructure, especially since the last national infrastructure strategy was formulated in the 1950s (Miller, 2009).

Approach: attracting private investments & outsourcing

The major *goal* of private involvement in USA infrastructure planning is attracting private funding. However, it is questioned whether such funding actually exists and if it is actually preferable. Private funding is not for free: investors are being repaid by collecting tolls. Since there has to be a return on investment, the private funding can be regarded as a debt that must be repaid (GAO, 2008a). Another way of funding infrastructure is found by "extracting value from existing facilities for reinvestment in transportation and other public programs" (GAO, 2008a, p.7). This can, for example, be done by bringing existing highway links on the market in lease contracts. The generated revenues of the lease contracts can then be used to improve the transportation network. The sustainability of such constructs on the longer term has been questioned because of intergenerational inequities: future users may be forced to pay higher tolls to finance the current investments and the current (short-term) benefits (Hecker, 2008). To provide more funding possibilities, it has been proposed to establish an American Infrastructure Bank for financing national networks, attracting more private capital, and advancing public/private partnerships (Miller, 2009).

Recently, it has been argued that private sector involvement can serve more goals than just funding. Therefore the SEP-15 regulation is introduced, which aims at, among others, increasing project delivery flexibility and encourage innovation. To further this goal FHWA has to identify its “current laws, regulations, and practices that inhibit greater use of public private partnerships (PPPs) and private investment in transportation improvements” (FHWA, 2009a). This shows that, while SEP-15 is supposed to aim at flexibility and innovation, it focuses especially at attracting investments, and not at improving the quality or value of the product.

With respect to *risks and responsibilities*, governmental agencies that are traditionally responsible for the design, now either use consultants or include the design in integrated contracts. Many State DOTs are increasingly giving consultants and contractors more responsibility in ensuring the quality and delivery of highway infrastructure and services (GAO, 2008b). This is needed to ensure access to manpower and expertise that the state departments cannot provide due to in-house resource constraints. The demand for infrastructure and servicing is rising, while the departments have fewer staff. The contracting out is not limited to the design. Private sector involvement occurs over the total life cycle of the infrastructure planning process. However, outsourcing as a form of private sector involvement can have negative consequences: absence of aggressive price negotiations, failure to consistently assess the quality of consultant and contractor work, and failure to comply fully with quality assurance procedures (GAO, 2008b). The decreasing number of staff at the government-side could cause oversight challenges. There is often a lack of human resources to support alternative contracting, which may affect implementation (Anderson & Damnjanovic, 2008). This could end up in lower-quality highway construction and inefficient use of public funds.

With regard to *timing and information*, in the USA, private sector involvement enables governments to benefit from increased efficiencies in operations and life-cycle management, e.g. innovative technologies (Anderson & Damnjanovic, 2008). Especially in maintenance and operation, the market is more involved (GAO, 2008b). The involvement is usually limited as a great deal of the activities is outsourced separately. Since private sector involvement is mainly aimed at attracting funding and investors want certainty, the involvement does not start until after the preplanning and acquisition phase.

BRITISH INFRASTRUCTURE PLANNING ROLES

Background: Customer orientation & monitoring

The Department for Transport (DfT) is responsible for the highway network in the United Kingdom. The DfT has an executive agency, the Highway Agency (HA) that operates, maintains and improves the strategic road network. In 2003, following the publication *Managing our Roads*, the HA was required to transform from an organization focused on managing assets into a 24/7 operator focused on the customer (Nichols, 2007).

Since the mid-1990s, the size of the HA staff working on major projects has decreased, in part reflecting the reduced size of the program. By introducing new types of contracts that included management and financing responsibilities (e.g. DB-contracts (Design & Build) and DBFM-contracts (Design, Build, Finance & Management)) the HA was forced to focus more on *contract management, instead of project management*. This implied the sourcing out of responsibilities to contractors and consultants. This seems to have stimulated a customer service culture in the HA (Nichols, 2007). The transformation caused a greater demand for

experienced project and commercial managers. Contractors have an obvious concern to ensure that estimates and target prices are sufficient to minimize their risks and maximize their potential profit under the pain/gain share formula in the Early Contractor Involvement (ECI) form of contract. A major cause of concern is that the level of experience and expertise within HA is inadequate to review and challenge effectively the cost estimates produced by consultants and contractors, especially the Target Price used in the contract (Nichols, 2007). The Office of Government Commerce and Treasury (OGC) monitors all the processes and products related to market involvement. This independent executive agency of HM Treasury helps the government to deliver best value from its spending. The National Audit Office (NAO) audits the accounts of the DfT and its executive agencies and it reports on the value for money of PPPs in the transport and infrastructure sector (see NAO, 2008).

Approach: Early involvement & partnering

Innovation has only been a limited *goal* in infrastructure tender procedures in the UK until now. This seems to be caused by ingrained thinking and behavior, a lack of skills and the fragmented nature of the procurement practice with numerous governmental procuring authorities. It proves to be more difficult to mandate positive behavior, instead of setting rules to constrain the procurement practice. As a result, often the safe and proven option is chosen, which could be at the expense of the public interest (Cox, 2005). Currently, more effort is put in looking for more value as a consequence of the *Cox review of creativity in business: building on the UK's strengths* (Cox, 2005). This report states that innovation is necessary in order to efficiently address the problems society faces today. Stimulating innovation is therefore considered to be the only route to creating genuine value for money. Suppliers should therefore be challenged to come up with innovative solutions. To this end, the approach to procurement should be adapted (Cox, 2005). This resulted in Early Contractor Involvement (ECI) as a preferred form of procurement. ECI can be applied in the initial "options stage" when the best option is selected and published in a preferred route announcement. On the basis of this announcement, a contractor can be appointed in case ECI is applied. In the subsequent "development stage" the design is completed for the preferred route. In case of ECI, an agreement over the initial costs has to be reached early in the development stage and a target price has to be set in the construction preparation. ECI is expected to lead to better quality infrastructure, faster delivery and reduced whole life-cycle costs.

Since ECI is the preferred procurement procedure, different contracting models are applied in order to deal with *risks and responsibilities*. Especially partnerships have become popular. In the Egan-report on cooperation in the infrastructure supply-chain partnering is defined as involving two or more organizations working together to improve performance through agreeing mutual objectives, devising a way for resolving any disputes and committing themselves to continuous improvement, measuring progress and sharing the gains (Egan, 1998). Partnering can lead to both cost- and time reductions. However, the capacity of the public sector to accommodate new partnering arrangements is limited (Diamond, 2006): there is a risk of overloading the system. Also, there is an increasing potential for partnership fatigue (Rowe, 2005). It is also recognized that there is room for improvement in the use of contract cost data in HA's partnering form of contracts (Nichols, 2007).

The *timing* of market involvement is essential for its success. The stage of the planning process in which the private sector is approached determines (and limits) the role of the private sector and subsequently influences the goal of the involvement. It is argued that innovation should be stimulated by the British government (Cox, 2005). To this end market

involvement is essential for all stages of the infrastructure planning process. Especially the first stage of the planning process, the so-called “options stage” in the British planning context, has the greatest potential for innovation (OGC, 2004). In this stage government formulates new policy, shapes programmes and projects, and formulates the procurement strategy, resulting in a preferred route announcement. Therefore, planning process and product can benefit the most by involving the private sector in this early stage (Cox, 2005).

DUTCH INFRASTRUCTURE PLANNING ROLES

Background: Hierarchical planning supported by assessment instruments

The Netherlands has a strong hierarchical approach to infrastructure planning with a dominant governmental actor, the ministry of Transport, Public Works and Water Management. The ministries’ executive agency, Rijkswaterstaat, has local offices and an in-house engineering department. This is supported by a ‘strong’ Dutch Infrastructure Act (“Tracéwet”), which provides the ministry authority to decide on plans and projects over other actors at other levels and from other sectors like land use and environmental planning. It is remarkable that this hierarchical approach with such a dominant governmental actor is practice in infrastructure planning in the Netherlands, where spatial planning became famous because of the so-called ‘polder model’ of consultation and negotiating on government action.

Several points regarding the hierarchical nature of infrastructure planning can be made (see Koppenjan, 2001). First, although the polder model of negotiation in the Netherlands was successful, it was not applied in every sector to the same extent (Van Putten, 1982). Especially in the infrastructure sector, the politicians, administrators and the general public were in need for certainty and decisive simple solutions. There was a demand for strong leadership. Therefore hierarchical policy-styles were adopted to deal with complexity (Koppenjan, 2001). Additionally, the opposition to the hierarchical approach, for example in the form of protests from action groups, is actually used as an argument against using a more open and negotiative approach. A last reason for the hierarchical approach can be found in problems with tender procedures in construction projects (Enquetecommissie Bouwnijverheid, 2002; TCI, 2005; V&W, 2007b).

However, a changing trend can be seen in the approach to infrastructure planning. The downsides of the hierarchical approach became visible as illustrated by various projects that have been halted because of negative court cases in the Netherlands (V&W, 2008b). The committee Elverding (Elverding, 2008) investigated the possibilities to speed up the planning process and make it more robust. The committee advised that more effort should be put in the initial ‘explorative stage’ after which the subsequent ‘project study’ stage can be performed quicker and more focused (Elverding, 2008). Curiously, the committee disregarded the potential of market involvement for strengthening and focusing the planning process (Lenferink & Arts, 2009). Another major governmental research committee was the committee Ruding (2008), looked into the possibilities for privately financing infrastructure, and concluded that, although added value could be achieved, private financing of infrastructure seems impossible because the limited possibilities for tolling in the Netherlands. However, the committee sees possibilities to develop infrastructure privately by *combining infrastructure projects with real estate development* (Ruding, 2008).

The change in approach is noticeable in the role of Rijkswaterstaat (RWS), which is being transformed into an agency. In line with the market-oriented trend in infrastructure planning, the principle of “market, unless” was introduced and translated into the corporate procurement strategy of RWS (RWS 2009; V&W, 2008a). This business strategy includes a

call for a more open approach, especially aimed at involving market parties in the planning process. To this end, several instruments are developed that play a role in the planning stages of the infrastructure planning process.

In the 'explorative stage' of will-shaping two major market-oriented instruments are applied:

- *Market scan*: an 'in-house' analysis whether market involvement may provide opportunities for added value (potential value for money). Additionally the market parties that might offer this added value are identified. This serves as a basis for how and when to approach the market parties (V&W, 2006; Arts et al., 2009).
- *Market consultation*: government tests whether certain preconditions for the infrastructure project are correct, workable and applicable. Market consultations require an active participation by the market parties, as opposed to the market scan. The input of the market parties can serve as a basis for the decision on the preferred alternative, at the end of the explorative stage.

In the 'project study stage' the project is worked out in more detail and the preparations for a tender are made. Here, instruments are:

- *Public-Private Comparator (PPC)*. In a PPC the delivery methods are assessed and compared. This comparison also includes the option of delivering infrastructure publicly. Using the PPC the most cost efficient delivery method is identified, including the most suitable contract. Although the PPC is usually applied in the project study stage, it is used increasingly in the explorative stage as well.
- *Intertwinement* In so-called 'intertwined' processes, the tender procedure is started earlier, parallel to the public planning procedure. By performing these planning procedures parallel instead of serial, interaction between government and market parties is possible. This makes that market parties can influence the plan-making (vice versa) and create more room for innovative solutions, before a formal planning consent decision is taken. Also, through the early market involvement, the bidding authority can receive more committed bids from the market parties (V&W, 2007a; Arts et al., 2009).
- *Public Sector Comparator (PSC)*. The PSC compares the market bids to the (hypothetical) costs of constructing a project through the government. Market bids that exceed this government-bid are dropped out of the procurement procedure.

Although the stages of construction and management and operation have always incorporated government-market interaction, the development of a more market-oriented strategy has changed the character of these stages. Different life-cycle contracts have been developed to facilitate the changed relations; contracts that include management and operation responsibilities. These *innovative contracts* are considered in almost all the earlier mentioned instruments. The contracts comprise of a distributed responsibility of different activities to private parties. In such integral contracts like Design and Construct-contracts (D&C), Design, Build, Finance, Maintain and Operate-contracts (DBFMO), the market parties acquire the responsibility for the infrastructure over a longer time span.

Approach: innovative involvement & contractualism

As can be distinguished from the previous sections, the *goals* in Dutch infrastructure planning have changed. Instead of building infrastructure projects as such, the aim is to find ways to deliver projects by combining infrastructure with real estate development, e.g. in a so-called area-oriented approach (Arts, 2007; Struiksma et al. 2008). The goal is to improve the spatial quality of a whole area. This focus results in a more important explorative stage (see Elverding, 2008). By stimulating the search for market involvement in the earlier stages of

the planning process, before a formal planning consent decision, innovative solutions could be generated. In relation to the goal of the approach to infrastructure planning, it must be mentioned that until recently the funding of infrastructure was not so much an issue in the Netherlands. A reason for this is that the revenues from exploitation of the gas fields in the Netherlands are used for financing infrastructure. However, since the effectiveness of public infrastructure investments is increasingly being questioned, finding private ways of financing initiatives is stimulated (see e.g. the combination of road development with real-estate development).

There can be seen a change in the division of *risks and responsibilities* in the infrastructure planning process. The role of the private sector changes as it is assigned with plan development, management or operation of infrastructure. In the early stages, market parties can have a consulting role, or even be distributed the responsibility of generating own plans and ideas. In practice however, the market is often limited to mere consultation. Even if more responsibilities are distributed to market parties, this usually just means that a detailed contract will be formulated restricting the room for innovative solutions. ‘Real’ public-private partnerships, applying concession like forms and in which responsibilities and risks are shared by public and private parties, have been applied only very limited for infrastructure provision in the Netherlands.

Timing of market involvement has changed considerably. The applied instruments in the Netherlands search for the possibilities or the added value of market involvement earlier in the planning process, in the plan study stage or even already in the explorative stage. Also, market parties are being involved longer, meaning that they are assigned responsibilities in the management and operation stages (see EC, 1996; Arts et al., 2006).

APPROACHES COMPARED

The approaches in the USA, UK and the Netherlands are summarized in figure 2 and will be compared in this section for the three factors: goals, risks and responsibilities and timing and information.

	USA	UK	The Netherlands
Goals and values	Funding	Funding and innovativeness	Innovativeness, Project control and Time gains
Risks and responsibilities	Outsourcing, long-term contracts	Co-operative agreements	Long term contracts
Timing and Information	Diffuse, decentralised	Early start, early selection of private party	Early start, late selection of private party

Figure 2: Market-orientation in the USA, the UK and the Netherlands.

Goals

Several goals in market-oriented approaches can be distinguished (Arts et al., 2006; Pakkala et al., 2007):

- *Project control* - Increase control over the planning by using private sector methods.
- *Funding* - Use the private sector to finance infrastructure.
- *Innovation* - Utilize the innovations practices and systems of the private sector.
- *Time gains* - Introduce businesslike methods to speed up planning and construction

In the UK and the USA the focus of the process is on the money (contracts), whereas the value (e.g. innovation) is only sparsely examined. The approach is more geared towards the contract specifications such as performance of the infrastructure and the height of the toll rates. For the Netherlands this is different. Much more effort is put into time gains (Elverding, 2008) and project control, which are therefore stressed as objectives. Innovativeness gets increased attention, as in the United Kingdom (Cox, 2005). The use of private sector involvement is not primarily aimed at funding in the Netherlands because of restricted possibilities for tolling. The funding in the Netherlands is mainly provided publicly, however efforts are increasing to attract private funding by combining real estate development with infrastructure planning in order to apply value capturing and also to stimulate a better checks and balances at the private party side (e.g. role of financial institutions in monitoring and auditing in DBFM-contracting).

For now PPPs in the United Kingdom perform better than traditional procurement. However, this performance might be attributed to the fact that governments choose PPP-projects where they are assured of more value for money. This kind of cherry-picking occurs on the basis of expectation of fewer technical difficulties or other problems (OECD, 2008). In the Netherlands this seems not the case, since especially in complex projects, the help of the private sector is sought, albeit with different goals: to provide innovative solutions in order to increase project control and prevent time and budget overruns.

Risks and Responsibilities

For successful PPPs efficient risk transfer is a prerequisite (OECD, 2008): financial risk sharing gives private companies an incentive to finish projects on time and within budget, to improve efficiency, and to provide a more accurate forecast of expenditure. This helps in solving Leiringers dilemma: to allocate risks at the party best able to influence the probability of occurrence.

Two types of arrangements for distributing the risks and responsibilities can be recognized from theory. In *long-term contracts*, activities and responsibilities are distributed from the primary authority (a governmental agency, usually the department of transport) in a certain stage of the infrastructure planning process to other governmental levels (provinces and regions) and/or private companies. Consequently, the risks related to these activities are transferred too. Innovative contracts, like D&C, DB(F)M and BOT (Build, Operate and Transfer), are examples of outsourcing. These types of contracts are commonly applied in the UK, the USA and the Netherlands. However, in the specific case of the Netherlands another type of contracting, as applied in the UK, could also be worthwhile. The second type, *institutional cooperation for joint production and risk sharing*, involves a partial distribution of activities and responsibilities (from the authority to public and/or private parties). This distribution leads to partnering agreements that include shared risks and benefits in the sense that a long-term relationship or partnership for the mutual benefit of both the public and the private sector parties is established.

Different arrangements lead to different contracts. Because of the loss of knowledge at the governmental side, the new market-oriented approaches need to be monitored for their efficiency more than ever. Both the UK and the USA have an agency that audits the infrastructure planning process and its resulting contracts. For the UK this is the Office of Government Commerce and Treasury, which aims at contract, project and risk management. In the USA the Government Accountability Office provides such independent oversight. In the Netherlands such a monitoring agency does not exist on a structural basis. Projects and instruments are reviewed ad-hoc by the Netherlands Court of Audit (“Rekenkamer”) or private accountants. In the case of the Netherlands, a structural use of an independent audit office has, until now, only been recommended to monitor the effectiveness (TCI, 2005).

Timing and information

In most countries the private sector involvement starts after the planning stage. This implies that there is limited room for creativity and 'standard' DC or DBFM contracts tend to be chosen. This is the case in the USA, although the timing of the private sector involvement differs considerably because of the decentralized planning system. Early private involvement, as in the UK's ECI, serves improved possibilities to come up with innovative products and adaptive processes. This innovative strength can then be materialized in an innovative and adaptive approach as well: in partnering agreements. In the UK this is common practice. For the Netherlands early private sector involvement is also structurally considered. However, in practice, this usually leads to 'standard' agreements. Partnering agreements (i.e. alliances) are only applied on a limited scale, albeit with success – e.g. "Alliantie A2 Hooggelegen" near Utrecht.

A problem that arises with partnering is that an early choice for a private sector party has to be made. In the Netherlands, where political and administrative processes progress rather slowly, this can be a problem. The government does not want to commit to a private sector party, or even a project, early in the planning process. It wants to take its time and keep the competitive forces intact by making a definitive choice late in the planning process although transaction costs keep rising. Accordingly, the Netherlands are the only country which is positive in applying the competitive dialogue, a procurement procedure over several rounds of negotiation between the public and private parties (see Davies and Eustice, 2005).

CONCLUSIONS: IT TAKES TWO TO TANGO

This paper explored different international market-oriented infrastructure planning approaches. It is obvious that it is difficult to compare performance, since the approaches are new and the set-ups differ. Also issues play a role at different levels and infrastructure planning is performed by different actors. For the future of private sector involvement some points of attention can be seen. The first is that it is essential to monitor the market-oriented planning approaches by an independent party. This becomes even more crucial as the governmental bodies are losing knowledge because of downsizing their organizations and the risks of forming an implementation gap (White & Patton, 2002) between planning and practice becomes higher. A second point regards the future of the contracts that include management responsibilities. Including considerable parts of the highway network into long-term contracts could restrict the open market. From a new public management perspective, such long-term partnerships may be suspected of undermining competition between potential providers (Bovaird, 2004).

It can be concluded that private sector involvement focuses generally on attracting private funding. In the USA and the UK this seems to be the prime objective. In the Netherlands however, private sector involvement aims at stimulating the innovativeness. As a consequence the government should aim to strengthen the *contact instead of the contracts* with the private sector, which is the aim in other countries. In the UK early partnering approaches, like alliances, provide positive results. Also in the Netherlands the private sector is approached early, partly because of the links between infrastructure and real estate development, but in the end often more traditional contracts are chosen (DBFM instead of alliance). It could therefore be recommended for the Dutch case to look into the possibilities for alliances, especially as these fit with the Dutch polder culture of collaborative planning (see Woltjer, 2000; Koppenjan, 2001).

Especially for the Dutch case, it becomes clear that the role of the government in infrastructure planning is still changing. The optimal roles and the optimal arrangement (the optimal 'tango') have not been found. Only the standard steps are taken. There is still limited room for improvisation, a necessary ingredient to improve the quality of the dance over a longer time period. Trust in the partner, the market, seems to be insufficient. Since trust has to come from both sides, it is recommended to perform additional research into the role of the market in infrastructure planning as well as the interaction between the two dancing partners. It takes two to tango.

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